

Name: _____

Cell Transport Packet

For questions 1-10, use Figure 1.

Match the structure/process to the letter:

1. Phospholipid bilayer _____
2. Osmosis _____
3. Simple Diffusion _____
4. Facilitated Diffusion _____
5. Channel protein _____
6. This cell would be in a [hypertonic / hypotonic / isotonic] solution.
7. All of the processes in the image are examples of [active / passive] transport.
8. The cell membrane can be described as [semi-permeable / impermeable]
9. There is more glucose [inside / outside] the cell. (Hint: Look at the direction it is moving)
10. Over time, this cell will [shrink / swell]



Diffusion and Osmosis

11. Label the three images in Figure 2 as **isotonic**, **hypertonic**, or **hypotonic** (with regard to the solution the cell is placed in)

Figure 2



12. Movement across the cell membrane that does not require energy is called [active / passive] transport.
13. The difference in the concentration of a substance across a space is called a concentration [equilibrium / gradient].
14. If there is a concentration gradient, substances will move from an area of high concentration to an area of [equal / low] concentration.
15. The cell membrane is [selectively permeable / impermeable].
16. [Equilibrium / Diffusion] is the simplest type of passive transport.
17. The diffusion of water through a selectively permeable membrane is called [osmosis / diffusion].
18. The direction of water movement across the cell membrane depends on the concentration of free water [molecules / solutions].
19. A solution that causes a cell to swell is called a [hypertonic / hypotonic] solution.
20. Organelles that collect excess water inside the cell and force water out are called [diffusion organelles / contractile vacuoles].
21. The process of taking material into the cell by infolding the cell membrane is called [endocytosis / exocytosis].
22. In [facilitated / molecular] diffusion, membrane proteins help molecules across the membrane.
23. In diffusion, molecules [spread out / condense].
24. The lipid bilayer describes [a type of transport / the cell membrane].
25. Facilitated diffusion moves substances down their concentration gradient [with / without] using the cell's energy.

Cell Transport

26. Know the parts of a solution

Define SOLUTE _____

Define SOLVENT _____

27. Explain what will happen to cells when placed in isotonic, hypertonic, and hypotonic solutions.

28. In Figure 3, draw the direction that **WATER** will move in each of the beakers.

Figure 3



29. Using Figure 3, label each beaker whether it is isotonic, hypertonic, or hypotonic.

30. **Define** the following terms:

Diffusion:

Equilibrium:

Osmosis:

Isotonic:

Hypertonic:

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Facilitated diffusion:

Endocytosis:

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Exocytosis



Across

1. type of transport that requires energy
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13. a molecule composed of two hydrogens and one oxygen
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6. This cell would be in a [hypertonic / hypotonic / isotonic] solution.
7. All of the processes in the image are examples of [active / passive] transport.
8. The cell membrane can be described as [semi-permeable / impermeable]
9. There is more glucose [inside / outside] the cell. (Hint: Look at the direction it is moving)
10. Over time, this cell will [shrink / swell]



Diffusion and Osmosis

11. Label the three images in Figure 2 as **isotonic**, **hypertonic**, or **hypotonic** (with regard to the solution the cell is placed in)

Figure 2



12. Movement across the cell membrane that does not require energy is called [active / passive] transport.
13. The difference in the concentration of a substance across a space is called a concentration [equilibrium / gradient].
14. If there is a concentration gradient, substances will move from an area of high concentration to an area of [equal / low] concentration.
15. The cell membrane is [selectively permeable / impermeable].
16. [Equilibrium / Diffusion] is the simplest type of passive transport.
17. The diffusion of water through a selectively permeable membrane is called [osmosis / diffusion].
18. The direction of water movement across the cell membrane depends on the concentration of free water [molecules / solutions].
19. A solution that causes a cell to swell is called a [hypertonic / hypotonic] solution.
20. Organelles that collect excess water inside the cell and force water out are called [diffusion organelles / contractile vacuoles].
21. The process of taking material into the cell by infolding the cell membrane is called [endocytosis / exocytosis].
22. In [facilitated / molecular] diffusion, membrane proteins help molecules across the membrane.
23. In diffusion, molecules [spread out / condense].
24. The lipid bilayer describes [a type of transport / the cell membrane].
25. Facilitated diffusion moves substances down their concentration gradient [with / without] using the cell's energy.

Cell Transport

26. Know the parts of a solution

Define SOLUTE _____

Define SOLVENT _____

27. Explain what will happen to cells when placed in isotonic, hypertonic, and hypotonic solutions.

28. In Figure 3, draw the direction that **WATER** will move in each of the beakers.

Figure 3



29. Using Figure 3, label each beaker whether it is isotonic, hypertonic, or hypotonic.

30. **Define** the following terms:

Diffusion:

Equilibrium:

Osmosis:

Isotonic:

Hypertonic:

Hypotonic:

Facilitated diffusion:

Endocytosis:

Phagocytosis:

:

Exocytosis



Across

- 1. type of transport that requires energy
- 3. when a solution has a lesser concentration of particles
- 6. type of transport that does not require energy
- 8. prefix that means "inside"
- 10. movement of molecules from high to low concentration
- 13. a molecule composed of two hydrogens and one oxygen
- 14. a solution that has an equal amount of particles
- 15. membranes that let some things through, called selectively _____
- 17. the maintaining of an internal balance
- 19. word that means "cell"
- 20. a difference in concentration creates a concentration _

Down

- 2. condition achieved when molecules are evenly spread in an area
- 3. when a solution has a greater concentration of particles
- 4. turns color in the presence of starch
- 5. the engulfing of large particles
- 7. prefix that means "outside"
- 9. the diffusion of water
- 11. active transport will remove ___ ions, while taking in potassium ions
- 12. channel ___ can help move things across the membrane
- 16. organelle that helps remove excess water; _____ vacuole
- 18. the outer boundary of the cell

Name: _____

Cell Transport Packet

For questions 1-10, use Figure 1.

Match the structure/process to the letter:

1. Phospholipid bilayer _____
2. Osmosis _____
3. Simple Diffusion _____
4. Facilitated Diffusion _____
5. Channel protein _____
6. This cell would be in a [hypertonic / hypotonic / isotonic] solution.
7. All of the processes in the image are examples of [active / passive] transport.
8. The cell membrane can be described as [semi-permeable / impermeable]
9. There is more glucose [inside / outside] the cell. (Hint: Look at the direction it is moving)
10. Over time, this cell will [shrink / swell]



Diffusion and Osmosis

11. Label the three images in Figure 2 as **isotonic**, **hypertonic**, or **hypotonic** (with regard to the solution the cell is placed in)

Figure 2



12. Movement across the cell membrane that does not require energy is called [active / passive] transport.
13. The difference in the concentration of a substance across a space is called a concentration [equilibrium / gradient].
14. If there is a concentration gradient, substances will move from an area of high concentration to an area of [equal / low] concentration.
15. The cell membrane is [selectively permeable / impermeable].
16. [Equilibrium / Diffusion] is the simplest type of passive transport.
17. The diffusion of water through a selectively permeable membrane is called [osmosis / diffusion].
18. The direction of water movement across the cell membrane depends on the concentration of free water [molecules / solutions].
19. A solution that causes a cell to swell is called a [hypertonic / hypotonic] solution.
20. Organelles that collect excess water inside the cell and force water out are called [diffusion organelles / contractile vacuoles].
21. The process of taking material into the cell by infolding the cell membrane is called [endocytosis / exocytosis].
22. In [facilitated / molecular] diffusion, membrane proteins help molecules across the membrane.
23. In diffusion, molecules [spread out / condense].
24. The lipid bilayer describes [a type of transport / the cell membrane].
25. Facilitated diffusion moves substances down their concentration gradient [with / without] using the cell's energy.

Cell Transport

26. Know the parts of a solution

Define SOLUTE _____

Define SOLVENT _____

27. Explain what will happen to cells when placed in isotonic, hypertonic, and hypotonic solutions.

28. In Figure 3, draw the direction that **WATER** will move in each of the beakers.

Figure 3



29. Using Figure 3, label each beaker whether it is isotonic, hypertonic, or hypotonic.

30. **Define** the following terms:

Diffusion:

Equilibrium:

Osmosis:

Isotonic:

Hypertonic:

Hypotonic:

Facilitated diffusion:

Endocytosis:

Phagocytosis:

:

Exocytosis



Across

1. type of transport that requires energy
3. when a solution has a lesser concentration of particles
6. type of transport that does not require energy
8. prefix that means "inside"
10. movement of molecules from high to low concentration
13. a molecule composed of two hydrogens and one oxygen
14. a solution that has an equal amount of particles
15. membranes that let some things through, called selectively _____
17. the maintaining of an internal balance
19. word that means "cell"
20. a difference in concentration creates a concentration _

Down

2. condition achieved when molecules are evenly spread in an area
3. when a solution has a greater concentration of particles
4. turns color in the presence of starch
5. the engulfing of large particles
7. prefix that means "outside"
9. the diffusion of water
11. active transport will remove ___ ions, while taking in potassium ions
12. channel ___ can help move things across the membrane
16. organelle that helps remove excess water; _____ vacuole
18. the outer boundary of the cell

Name: _____

Cell Transport Packet

For questions 1-10, use Figure 1.

Match the structure/process to the letter:

1. Phospholipid bilayer _____
2. Osmosis _____
3. Simple Diffusion _____
4. Facilitated Diffusion _____
5. Channel protein _____
6. This cell would be in a [hypertonic / hypotonic / isotonic] solution.
7. All of the processes in the image are examples of [active / passive] transport.
8. The cell membrane can be described as [semi-permeable / impermeable]
9. There is more glucose [inside / outside] the cell. (Hint: Look at the direction it is moving)
10. Over time, this cell will [shrink / swell]



Diffusion and Osmosis

11. Label the three images in Figure 2 as **isotonic**, **hypertonic**, or **hypotonic** (with regard to the solution the cell is placed in)

Figure 2



12. Movement across the cell membrane that does not require energy is called [active / passive] transport.
13. The difference in the concentration of a substance across a space is called a concentration [equilibrium / gradient].
14. If there is a concentration gradient, substances will move from an area of high concentration to an area of [equal / low] concentration.
15. The cell membrane is [selectively permeable / impermeable].
16. [Equilibrium / Diffusion] is the simplest type of passive transport.
17. The diffusion of water through a selectively permeable membrane is called [osmosis / diffusion].
18. The direction of water movement across the cell membrane depends on the concentration of free water [molecules / solutions].
19. A solution that causes a cell to swell is called a [hypertonic / hypotonic] solution.
20. Organelles that collect excess water inside the cell and force water out are called [diffusion organelles / contractile vacuoles].
21. The process of taking material into the cell by infolding the cell membrane is called [endocytosis / exocytosis].
22. In [facilitated / molecular] diffusion, membrane proteins help molecules across the membrane.
23. In diffusion, molecules [spread out / condense].
24. The lipid bilayer describes [a type of transport / the cell membrane].
25. Facilitated diffusion moves substances down their concentration gradient [with / without] using the cell's energy.

Cell Transport

26. Know the parts of a solution

Define SOLUTE _____

Define SOLVENT _____

27. Explain what will happen to cells when placed in isotonic, hypertonic, and hypotonic solutions.

28. In Figure 3, draw the direction that **WATER** will move in each of the beakers.

Figure 3



29. Using Figure 3, label each beaker whether it is isotonic, hypertonic, or hypotonic.

30. **Define** the following terms:

Diffusion:

Equilibrium:

Osmosis:

Isotonic:

Hypertonic:

Hypotonic:

Facilitated diffusion:

Endocytosis:

Phagocytosis:

:

Exocytosis



Across

- 1. type of transport that requires energy
- 3. when a solution has a lesser concentration of particles
- 6. type of transport that does not require energy
- 8. prefix that means "inside"
- 10. movement of molecules from high to low concentration
- 13. a molecule composed of two hydrogens and one oxygen
- 14. a solution that has an equal amount of particles
- 15. membranes that let some things through, called selectively _____
- 17. the maintaining of an internal balance
- 19. word that means "cell"
- 20. a difference in concentration creates a concentration _

Down

- 2. condition achieved when molecules are evenly spread in an area
- 3. when a solution has a greater concentration of particles
- 4. turns color in the presence of starch
- 5. the engulfing of large particles
- 7. prefix that means "outside"
- 9. the diffusion of water
- 11. active transport will remove ___ ions, while taking in potassium ions
- 12. channel ___ can help move things across the membrane
- 16. organelle that helps remove excess water; _____ vacuole
- 18. the outer boundary of the cell

Name: _____

Cell Transport Packet

For questions 1-10, use Figure 1.

Match the structure/process to the letter:

1. Phospholipid bilayer _____
2. Osmosis _____
3. Simple Diffusion _____
4. Facilitated Diffusion _____
5. Channel protein _____
6. This cell would be in a [hypertonic / hypotonic / isotonic] solution.
7. All of the processes in the image are examples of [active / passive] transport.
8. The cell membrane can be described as [semi-permeable / impermeable]
9. There is more glucose [inside / outside] the cell. (Hint: Look at the direction it is moving)
10. Over time, this cell will [shrink / swell]



Diffusion and Osmosis

11. Label the three images in Figure 2 as **isotonic**, **hypertonic**, or **hypotonic** (with regard to the solution the cell is placed in)

Figure 2



12. Movement across the cell membrane that does not require energy is called [active / passive] transport.
13. The difference in the concentration of a substance across a space is called a concentration [equilibrium / gradient].
14. If there is a concentration gradient, substances will move from an area of high concentration to an area of [equal / low] concentration.
15. The cell membrane is [selectively permeable / impermeable].
16. [Equilibrium / Diffusion] is the simplest type of passive transport.
17. The diffusion of water through a selectively permeable membrane is called [osmosis / diffusion].
18. The direction of water movement across the cell membrane depends on the concentration of free water [molecules / solutions].
19. A solution that causes a cell to swell is called a [hypertonic / hypotonic] solution.
20. Organelles that collect excess water inside the cell and force water out are called [diffusion organelles / contractile vacuoles].
21. The process of taking material into the cell by infolding the cell membrane is called [endocytosis / exocytosis].
22. In [facilitated / molecular] diffusion, membrane proteins help molecules across the membrane.
23. In diffusion, molecules [spread out / condense].
24. The lipid bilayer describes [a type of transport / the cell membrane].
25. Facilitated diffusion moves substances down their concentration gradient [with / without] using the cell's energy.

Cell Transport

26. Know the parts of a solution

Define SOLUTE _____

Define SOLVENT _____

27. Explain what will happen to cells when placed in isotonic, hypertonic, and hypotonic solutions.

28. In Figure 3, draw the direction that **WATER** will move in each of the beakers.

Figure 3



29. Using Figure 3, label each beaker whether it is isotonic, hypertonic, or hypotonic.

30. **Define** the following terms:

Diffusion:

Equilibrium:

Osmosis:

Isotonic:

Hypertonic:

Hypotonic:

Facilitated diffusion:

Endocytosis:

Phagocytosis:

:

Exocytosis



Across

- 1. type of transport that requires energy
- 3. when a solution has a lesser concentration of particles
- 6. type of transport that does not require energy
- 8. prefix that means "inside"
- 10. movement of molecules from high to low concentration
- 13. a molecule composed of two hydrogens and one oxygen
- 14. a solution that has an equal amount of particles
- 15. membranes that let some things through, called selectively _____
- 17. the maintaining of an internal balance
- 19. word that means "cell"
- 20. a difference in concentration creates a concentration _

Down

- 2. condition achieved when molecules are evenly spread in an area
- 3. when a solution has a greater concentration of particles
- 4. turns color in the presence of starch
- 5. the engulfing of large particles
- 7. prefix that means "outside"
- 9. the diffusion of water
- 11. active transport will remove ___ ions, while taking in potassium ions
- 12. channel ___ can help move things across the membrane
- 16. organelle that helps remove excess water; _____ vacuole
- 18. the outer boundary of the cell

Name: _____

Cell Transport Packet

For questions 1-10, use Figure 1.

Match the structure/process to the letter:

1. Phospholipid bilayer _____
2. Osmosis _____
3. Simple Diffusion _____
4. Facilitated Diffusion _____
5. Channel protein _____
6. This cell would be in a [hypertonic / hypotonic / isotonic] solution.
7. All of the processes in the image are examples of [active / passive] transport.
8. The cell membrane can be described as [semi-permeable / impermeable]
9. There is more glucose [inside / outside] the cell. (Hint: Look at the direction it is moving)
10. Over time, this cell will [shrink / swell]



Diffusion and Osmosis

11. Label the three images in Figure 2 as **isotonic**, **hypertonic**, or **hypotonic** (with regard to the solution the cell is placed in)

Figure 2



12. Movement across the cell membrane that does not require energy is called [active / passive] transport.
13. The difference in the concentration of a substance across a space is called a concentration [equilibrium / gradient].
14. If there is a concentration gradient, substances will move from an area of high concentration to an area of [equal / low] concentration.
15. The cell membrane is [selectively permeable / impermeable].
16. [Equilibrium / Diffusion] is the simplest type of passive transport.
17. The diffusion of water through a selectively permeable membrane is called [osmosis / diffusion].
18. The direction of water movement across the cell membrane depends on the concentration of free water [molecules / solutions].
19. A solution that causes a cell to swell is called a [hypertonic / hypotonic] solution.
20. Organelles that collect excess water inside the cell and force water out are called [diffusion organelles / contractile vacuoles].
21. The process of taking material into the cell by infolding the cell membrane is called [endocytosis / exocytosis].
22. In [facilitated / molecular] diffusion, membrane proteins help molecules across the membrane.
23. In diffusion, molecules [spread out / condense].
24. The lipid bilayer describes [a type of transport / the cell membrane].
25. Facilitated diffusion moves substances down their concentration gradient [with / without] using the cell's energy.

Cell Transport

26. Know the parts of a solution

Define SOLUTE _____

Define SOLVENT _____

27. Explain what will happen to cells when placed in isotonic, hypertonic, and hypotonic solutions.

28. In Figure 3, draw the direction that **WATER** will move in each of the beakers.

Figure 3



29. Using Figure 3, label each beaker whether it is isotonic, hypertonic, or hypotonic.

30. **Define** the following terms:

Diffusion:

Equilibrium:

Osmosis:

Isotonic:

Hypertonic:

Hypotonic:

Facilitated diffusion:

Endocytosis:

Phagocytosis:

:

Exocytosis



Across

- 1. type of transport that requires energy
- 3. when a solution has a lesser concentration of particles
- 6. type of transport that does not require energy
- 8. prefix that means "inside"
- 10. movement of molecules from high to low concentration
- 13. a molecule composed of two hydrogens and one oxygen
- 14. a solution that has an equal amount of particles
- 15. membranes that let some things through, called selectively _____
- 17. the maintaining of an internal balance
- 19. word that means "cell"
- 20. a difference in concentration creates a concentration _

Down

- 2. condition achieved when molecules are evenly spread in an area
- 3. when a solution has a greater concentration of particles
- 4. turns color in the presence of starch
- 5. the engulfing of large particles
- 7. prefix that means "outside"
- 9. the diffusion of water
- 11. active transport will remove ___ ions, while taking in potassium ions
- 12. channel ___ can help move things across the membrane
- 16. organelle that helps remove excess water; _____ vacuole
- 18. the outer boundary of the cell

Name: _____

Cell Transport Packet

For questions 1-10, use Figure 1.

Match the structure/process to the letter:

1. Phospholipid bilayer _____
2. Osmosis _____
3. Simple Diffusion _____
4. Facilitated Diffusion _____
5. Channel protein _____
6. This cell would be in a [hypertonic / hypotonic / isotonic] solution.
7. All of the processes in the image are examples of [active / passive] transport.
8. The cell membrane can be described as [semi-permeable / impermeable]
9. There is more glucose [inside / outside] the cell. (Hint: Look at the direction it is moving)
10. Over time, this cell will [shrink / swell]



Diffusion and Osmosis

11. Label the three images in Figure 2 as **isotonic**, **hypertonic**, or **hypotonic** (with regard to the solution the cell is placed in)

Figure 2



12. Movement across the cell membrane that does not require energy is called [active / passive] transport.
13. The difference in the concentration of a substance across a space is called a concentration [equilibrium / gradient].
14. If there is a concentration gradient, substances will move from an area of high concentration to an area of [equal / low] concentration.
15. The cell membrane is [selectively permeable / impermeable].
16. [Equilibrium / Diffusion] is the simplest type of passive transport.
17. The diffusion of water through a selectively permeable membrane is called [osmosis / diffusion].
18. The direction of water movement across the cell membrane depends on the concentration of free water [molecules / solutions].
19. A solution that causes a cell to swell is called a [hypertonic / hypotonic] solution.
20. Organelles that collect excess water inside the cell and force water out are called [diffusion organelles / contractile vacuoles].
21. The process of taking material into the cell by infolding the cell membrane is called [endocytosis / exocytosis].
22. In [facilitated / molecular] diffusion, membrane proteins help molecules across the membrane.
23. In diffusion, molecules [spread out / condense].
24. The lipid bilayer describes [a type of transport / the cell membrane].
25. Facilitated diffusion moves substances down their concentration gradient [with / without] using the cell's energy.

Cell Transport

26. Know the parts of a solution

Define SOLUTE _____

Define SOLVENT _____

27. Explain what will happen to cells when placed in isotonic, hypertonic, and hypotonic solutions.

28. In Figure 3, draw the direction that **WATER** will move in each of the beakers.

Figure 3



29. Using Figure 3, label each beaker whether it is isotonic, hypertonic, or hypotonic.

30. **Define** the following terms:

Diffusion:

Equilibrium:

Osmosis:

Isotonic:

Hypertonic:

Hypotonic:

Facilitated diffusion:

Endocytosis:

Phagocytosis:

:

Exocytosis



Across

- 1. type of transport that requires energy
- 3. when a solution has a lesser concentration of particles
- 6. type of transport that does not require energy
- 8. prefix that means "inside"
- 10. movement of molecules from high to low concentration
- 13. a molecule composed of two hydrogens and one oxygen
- 14. a solution that has an equal amount of particles
- 15. membranes that let some things through, called selectively _____
- 17. the maintaining of an internal balance
- 19. word that means "cell"
- 20. a difference in concentration creates a concentration _

Down

- 2. condition achieved when molecules are evenly spread in an area
- 3. when a solution has a greater concentration of particles
- 4. turns color in the presence of starch
- 5. the engulfing of large particles
- 7. prefix that means "outside"
- 9. the diffusion of water
- 11. active transport will remove ___ ions, while taking in potassium ions
- 12. channel ___ can help move things across the membrane
- 16. organelle that helps remove excess water; _____ vacuole
- 18. the outer boundary of the cell

Name: _____

Cell Transport Packet

For questions 1-10, use Figure 1.

Match the structure/process to the letter:

1. Phospholipid bilayer _____
2. Osmosis _____
3. Simple Diffusion _____
4. Facilitated Diffusion _____
5. Channel protein _____
6. This cell would be in a [hypertonic / hypotonic / isotonic] solution.
7. All of the processes in the image are examples of [active / passive] transport.
8. The cell membrane can be described as [semi-permeable / impermeable]
9. There is more glucose [inside / outside] the cell. (Hint: Look at the direction it is moving)
10. Over time, this cell will [shrink / swell]



Diffusion and Osmosis

11. Label the three images in Figure 2 as **isotonic**, **hypertonic**, or **hypotonic** (with regard to the solution the cell is placed in)

Figure 2



12. Movement across the cell membrane that does not require energy is called [active / passive] transport.
13. The difference in the concentration of a substance across a space is called a concentration [equilibrium / gradient].
14. If there is a concentration gradient, substances will move from an area of high concentration to an area of [equal / low] concentration.
15. The cell membrane is [selectively permeable / impermeable].
16. [Equilibrium / Diffusion] is the simplest type of passive transport.
17. The diffusion of water through a selectively permeable membrane is called [osmosis / diffusion].
18. The direction of water movement across the cell membrane depends on the concentration of free water [molecules / solutions].
19. A solution that causes a cell to swell is called a [hypertonic / hypotonic] solution.
20. Organelles that collect excess water inside the cell and force water out are called [diffusion organelles / contractile vacuoles].
21. The process of taking material into the cell by infolding the cell membrane is called [endocytosis / exocytosis].
22. In [facilitated / molecular] diffusion, membrane proteins help molecules across the membrane.
23. In diffusion, molecules [spread out / condense].
24. The lipid bilayer describes [a type of transport / the cell membrane].
25. Facilitated diffusion moves substances down their concentration gradient [with / without] using the cell's energy.

Cell Transport

26. Know the parts of a solution

Define SOLUTE _____

Define SOLVENT _____

27. Explain what will happen to cells when placed in isotonic, hypertonic, and hypotonic solutions.

28. In Figure 3, draw the direction that **WATER** will move in each of the beakers.

Figure 3



29. Using Figure 3, label each beaker whether it is isotonic, hypertonic, or hypotonic.

30. **Define** the following terms:

Diffusion:

Equilibrium:

Osmosis:

Isotonic:

Hypertonic:

Hypotonic:

Facilitated diffusion:

Endocytosis:

Phagocytosis:

:

Exocytosis



Across

1. type of transport that requires energy
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19. word that means "cell"
20. a difference in concentration creates a concentration _

Down

2. condition achieved when molecules are evenly spread in an area
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4. turns color in the presence of starch
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18. the outer boundary of the cell

Name: _____

Cell Transport Packet

For questions 1-10, use Figure 1.

Match the structure/process to the letter:

1. Phospholipid bilayer _____
2. Osmosis _____
3. Simple Diffusion _____
4. Facilitated Diffusion _____
5. Channel protein _____
6. This cell would be in a [hypertonic / hypotonic / isotonic] solution.
7. All of the processes in the image are examples of [active / passive] transport.
8. The cell membrane can be described as [semi-permeable / impermeable]
9. There is more glucose [inside / outside] the cell. (Hint: Look at the direction it is moving)
10. Over time, this cell will [shrink / swell]



Diffusion and Osmosis

11. Label the three images in Figure 2 as **isotonic**, **hypertonic**, or **hypotonic** (with regard to the solution the cell is placed in)

Figure 2



12. Movement across the cell membrane that does not require energy is called [active / passive] transport.
13. The difference in the concentration of a substance across a space is called a concentration [equilibrium / gradient].
14. If there is a concentration gradient, substances will move from an area of high concentration to an area of [equal / low] concentration.
15. The cell membrane is [selectively permeable / impermeable].
16. [Equilibrium / Diffusion] is the simplest type of passive transport.
17. The diffusion of water through a selectively permeable membrane is called [osmosis / diffusion].
18. The direction of water movement across the cell membrane depends on the concentration of free water [molecules / solutions].
19. A solution that causes a cell to swell is called a [hypertonic / hypotonic] solution.
20. Organelles that collect excess water inside the cell and force water out are called [diffusion organelles / contractile vacuoles].
21. The process of taking material into the cell by infolding the cell membrane is called [endocytosis / exocytosis].
22. In [facilitated / molecular] diffusion, membrane proteins help molecules across the membrane.
23. In diffusion, molecules [spread out / condense].
24. The lipid bilayer describes [a type of transport / the cell membrane].
25. Facilitated diffusion moves substances down their concentration gradient [with / without] using the cell's energy.

Cell Transport

26. Know the parts of a solution

Define SOLUTE _____

Define SOLVENT _____

27. Explain what will happen to cells when placed in isotonic, hypertonic, and hypotonic solutions.

28. In Figure 3, draw the direction that **WATER** will move in each of the beakers.

Figure 3



29. Using Figure 3, label each beaker whether it is isotonic, hypertonic, or hypotonic.

30. **Define** the following terms:

Diffusion:

Equilibrium:

Osmosis:

Isotonic:

Hypertonic:

Hypotonic:

Facilitated diffusion:

Endocytosis:

Phagocytosis:

:

Exocytosis



Across

1. type of transport that requires energy
3. when a solution has a lesser concentration of particles
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15. membranes that let some things through, called selectively _____
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Down

2. condition achieved when molecules are evenly spread in an area
3. when a solution has a greater concentration of particles
4. turns color in the presence of starch
5. the engulfing of large particles
7. prefix that means "outside"
9. the diffusion of water
11. active transport will remove ___ ions, while taking in potassium ions
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16. organelle that helps remove excess water; _____ vacuole
18. the outer boundary of the cell

Name: _____

Cell Transport Packet

For questions 1-10, use Figure 1.

Match the structure/process to the letter:

1. Phospholipid bilayer _____
2. Osmosis _____
3. Simple Diffusion _____
4. Facilitated Diffusion _____
5. Channel protein _____
6. This cell would be in a [hypertonic / hypotonic / isotonic] solution.
7. All of the processes in the image are examples of [active / passive] transport.
8. The cell membrane can be described as [semi-permeable / impermeable]
9. There is more glucose [inside / outside] the cell. (Hint: Look at the direction it is moving)
10. Over time, this cell will [shrink / swell]



Diffusion and Osmosis

11. Label the three images in Figure 2 as **isotonic**, **hypertonic**, or **hypotonic** (with regard to the solution the cell is placed in)

Figure 2



12. Movement across the cell membrane that does not require energy is called [active / passive] transport.
13. The difference in the concentration of a substance across a space is called a concentration [equilibrium / gradient].
14. If there is a concentration gradient, substances will move from an area of high concentration to an area of [equal / low] concentration.
15. The cell membrane is [selectively permeable / impermeable].
16. [Equilibrium / Diffusion] is the simplest type of passive transport.
17. The diffusion of water through a selectively permeable membrane is called [osmosis / diffusion].
18. The direction of water movement across the cell membrane depends on the concentration of free water [molecules / solutions].
19. A solution that causes a cell to swell is called a [hypertonic / hypotonic] solution.
20. Organelles that collect excess water inside the cell and force water out are called [diffusion organelles / contractile vacuoles].
21. The process of taking material into the cell by infolding the cell membrane is called [endocytosis / exocytosis].
22. In [facilitated / molecular] diffusion, membrane proteins help molecules across the membrane.
23. In diffusion, molecules [spread out / condense].
24. The lipid bilayer describes [a type of transport / the cell membrane].
25. Facilitated diffusion moves substances down their concentration gradient [with / without] using the cell's energy.

Cell Transport

26. Know the parts of a solution

Define SOLUTE _____

Define SOLVENT _____

27. Explain what will happen to cells when placed in isotonic, hypertonic, and hypotonic solutions.

28. In Figure 3, draw the direction that **WATER** will move in each of the beakers.

Figure 3



29. Using Figure 3, label each beaker whether it is isotonic, hypertonic, or hypotonic.

30. **Define** the following terms:

Diffusion:

Equilibrium:

Osmosis:

Isotonic:

Hypertonic:

Hypotonic:

Facilitated diffusion:

Endocytosis:

Phagocytosis:

:

Exocytosis



Across

1. type of transport that requires energy
3. when a solution has a lesser concentration of particles
6. type of transport that does not require energy
8. prefix that means "inside"
10. movement of molecules from high to low concentration
13. a molecule composed of two hydrogens and one oxygen
14. a solution that has an equal amount of particles
15. membranes that let some things through, called selectively _____
17. the maintaining of an internal balance
19. word that means "cell"
20. a difference in concentration creates a concentration _

Down

2. condition achieved when molecules are evenly spread in an area
3. when a solution has a greater concentration of particles
4. turns color in the presence of starch
5. the engulfing of large particles
7. prefix that means "outside"
9. the diffusion of water
11. active transport will remove ___ ions, while taking in potassium ions
12. channel ___ can help move things across the membrane
16. organelle that helps remove excess water; _____ vacuole
18. the outer boundary of the cell

Name: _____

Cell Transport Packet

For questions 1-10, use Figure 1.

Match the structure/process to the letter:

1. Phospholipid bilayer _____
2. Osmosis _____
3. Simple Diffusion _____
4. Facilitated Diffusion _____
5. Channel protein _____
6. This cell would be in a [hypertonic / hypotonic / isotonic] solution.
7. All of the processes in the image are examples of [active / passive] transport.
8. The cell membrane can be described as [semi-permeable / impermeable]
9. There is more glucose [inside / outside] the cell. (Hint: Look at the direction it is moving)
10. Over time, this cell will [shrink / swell]



Diffusion and Osmosis

11. Label the three images in Figure 2 as **isotonic**, **hypertonic**, or **hypotonic** (with regard to the solution the cell is placed in)

Figure 2



12. Movement across the cell membrane that does not require energy is called [active / passive] transport.
13. The difference in the concentration of a substance across a space is called a concentration [equilibrium / gradient].
14. If there is a concentration gradient, substances will move from an area of high concentration to an area of [equal / low] concentration.
15. The cell membrane is [selectively permeable / impermeable].
16. [Equilibrium / Diffusion] is the simplest type of passive transport.
17. The diffusion of water through a selectively permeable membrane is called [osmosis / diffusion].
18. The direction of water movement across the cell membrane depends on the concentration of free water [molecules / solutions].
19. A solution that causes a cell to swell is called a [hypertonic / hypotonic] solution.
20. Organelles that collect excess water inside the cell and force water out are called [diffusion organelles / contractile vacuoles].
21. The process of taking material into the cell by infolding the cell membrane is called [endocytosis / exocytosis].
22. In [facilitated / molecular] diffusion, membrane proteins help molecules across the membrane.
23. In diffusion, molecules [spread out / condense].
24. The lipid bilayer describes [a type of transport / the cell membrane].
25. Facilitated diffusion moves substances down their concentration gradient [with / without] using the cell's energy.

Cell Transport

26. Know the parts of a solution

Define SOLUTE _____

Define SOLVENT _____

27. Explain what will happen to cells when placed in isotonic, hypertonic, and hypotonic solutions.

28. In Figure 3, draw the direction that **WATER** will move in each of the beakers.

Figure 3



29. Using Figure 3, label each beaker whether it is isotonic, hypertonic, or hypotonic.

30. **Define** the following terms:

Diffusion:

Equilibrium:

Osmosis:

Isotonic:

Hypertonic:

Hypotonic:

Facilitated diffusion:

Endocytosis:

Phagocytosis:

:

Exocytosis



Across

- 1. type of transport that requires energy
- 3. when a solution has a lesser concentration of particles
- 6. type of transport that does not require energy
- 8. prefix that means "inside"
- 10. movement of molecules from high to low concentration
- 13. a molecule composed of two hydrogens and one oxygen
- 14. a solution that has an equal amount of particles
- 15. membranes that let some things through, called selectively _____
- 17. the maintaining of an internal balance
- 19. word that means "cell"
- 20. a difference in concentration creates a concentration _

Down

- 2. condition achieved when molecules are evenly spread in an area
- 3. when a solution has a greater concentration of particles
- 4. turns color in the presence of starch
- 5. the engulfing of large particles
- 7. prefix that means "outside"
- 9. the diffusion of water
- 11. active transport will remove ___ ions, while taking in potassium ions
- 12. channel ___ can help move things across the membrane
- 16. organelle that helps remove excess water; _____ vacuole
- 18. the outer boundary of the cell

Name: _____

Cell Transport Packet

For questions 1-10, use Figure 1.

Match the structure/process to the letter:

1. Phospholipid bilayer _____
2. Osmosis _____
3. Simple Diffusion _____
4. Facilitated Diffusion _____
5. Channel protein _____
6. This cell would be in a [hypertonic / hypotonic / isotonic] solution.
7. All of the processes in the image are examples of [active / passive] transport.
8. The cell membrane can be described as [semi-permeable / impermeable]
9. There is more glucose [inside / outside] the cell. (Hint: Look at the direction it is moving)
10. Over time, this cell will [shrink / swell]



Diffusion and Osmosis

11. Label the three images in Figure 2 as **isotonic**, **hypertonic**, or **hypotonic** (with regard to the solution the cell is placed in)

Figure 2



12. Movement across the cell membrane that does not require energy is called [active / passive] transport.
13. The difference in the concentration of a substance across a space is called a concentration [equilibrium / gradient].
14. If there is a concentration gradient, substances will move from an area of high concentration to an area of [equal / low] concentration.
15. The cell membrane is [selectively permeable / impermeable].
16. [Equilibrium / Diffusion] is the simplest type of passive transport.
17. The diffusion of water through a selectively permeable membrane is called [osmosis / diffusion].
18. The direction of water movement across the cell membrane depends on the concentration of free water [molecules / solutions].
19. A solution that causes a cell to swell is called a [hypertonic / hypotonic] solution.
20. Organelles that collect excess water inside the cell and force water out are called [diffusion organelles / contractile vacuoles].
21. The process of taking material into the cell by infolding the cell membrane is called [endocytosis / exocytosis].
22. In [facilitated / molecular] diffusion, membrane proteins help molecules across the membrane.
23. In diffusion, molecules [spread out / condense].
24. The lipid bilayer describes [a type of transport / the cell membrane].
25. Facilitated diffusion moves substances down their concentration gradient [with / without] using the cell's energy.

Cell Transport

26. Know the parts of a solution

Define SOLUTE _____

Define SOLVENT _____

27. Explain what will happen to cells when placed in isotonic, hypertonic, and hypotonic solutions.

28. In Figure 3, draw the direction that **WATER** will move in each of the beakers.

Figure 3



29. Using Figure 3, label each beaker whether it is isotonic, hypertonic, or hypotonic.

30. **Define** the following terms:

Diffusion:

Equilibrium:

Osmosis:

Isotonic:

Hypertonic:

Hypotonic:

Facilitated diffusion:

Endocytosis:

Phagocytosis:

:

Exocytosis



Across

1. type of transport that requires energy
3. when a solution has a lesser concentration of particles
6. type of transport that does not require energy
8. prefix that means "inside"
10. movement of molecules from high to low concentration
13. a molecule composed of two hydrogens and one oxygen
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15. membranes that let some things through, called selectively _____
17. the maintaining of an internal balance
19. word that means "cell"
20. a difference in concentration creates a concentration _

Down

2. condition achieved when molecules are evenly spread in an area
3. when a solution has a greater concentration of particles
4. turns color in the presence of starch
5. the engulfing of large particles
7. prefix that means "outside"
9. the diffusion of water
11. active transport will remove ___ ions, while taking in potassium ions
12. channel ___ can help move things across the membrane
16. organelle that helps remove excess water; _____ vacuole
18. the outer boundary of the cell

Name: _____

Cell Transport Packet

For questions 1-10, use Figure 1.

Match the structure/process to the letter:

1. Phospholipid bilayer _____
2. Osmosis _____
3. Simple Diffusion _____
4. Facilitated Diffusion _____
5. Channel protein _____
6. This cell would be in a [hypertonic / hypotonic / isotonic] solution.
7. All of the processes in the image are examples of [active / passive] transport.
8. The cell membrane can be described as [semi-permeable / impermeable]
9. There is more glucose [inside / outside] the cell. (Hint: Look at the direction it is moving)
10. Over time, this cell will [shrink / swell]



Diffusion and Osmosis

11. Label the three images in Figure 2 as **isotonic**, **hypertonic**, or **hypotonic** (with regard to the solution the cell is placed in)

Figure 2



12. Movement across the cell membrane that does not require energy is called [active / passive] transport.
13. The difference in the concentration of a substance across a space is called a concentration [equilibrium / gradient].
14. If there is a concentration gradient, substances will move from an area of high concentration to an area of [equal / low] concentration.
15. The cell membrane is [selectively permeable / impermeable].
16. [Equilibrium / Diffusion] is the simplest type of passive transport.
17. The diffusion of water through a selectively permeable membrane is called [osmosis / diffusion].
18. The direction of water movement across the cell membrane depends on the concentration of free water [molecules / solutions].
19. A solution that causes a cell to swell is called a [hypertonic / hypotonic] solution.
20. Organelles that collect excess water inside the cell and force water out are called [diffusion organelles / contractile vacuoles].
21. The process of taking material into the cell by infolding the cell membrane is called [endocytosis / exocytosis].
22. In [facilitated / molecular] diffusion, membrane proteins help molecules across the membrane.
23. In diffusion, molecules [spread out / condense].
24. The lipid bilayer describes [a type of transport / the cell membrane].
25. Facilitated diffusion moves substances down their concentration gradient [with / without] using the cell's energy.

Cell Transport

26. Know the parts of a solution

Define SOLUTE _____

Define SOLVENT _____

27. Explain what will happen to cells when placed in isotonic, hypertonic, and hypotonic solutions.

28. In Figure 3, draw the direction that **WATER** will move in each of the beakers.

Figure 3



29. Using Figure 3, label each beaker whether it is isotonic, hypertonic, or hypotonic.

30. **Define** the following terms:

Diffusion:

Equilibrium:

Osmosis:

Isotonic:

Hypertonic:

Hypotonic:

Facilitated diffusion:

Endocytosis:

Phagocytosis:

:

Exocytosis



Across

- 1. type of transport that requires energy
- 3. when a solution has a lesser concentration of particles
- 6. type of transport that does not require energy
- 8. prefix that means "inside"
- 10. movement of molecules from high to low concentration
- 13. a molecule composed of two hydrogens and one oxygen
- 14. a solution that has an equal amount of particles
- 15. membranes that let some things through, called selectively _____
- 17. the maintaining of an internal balance
- 19. word that means "cell"
- 20. a difference in concentration creates a concentration _

Down

- 2. condition achieved when molecules are evenly spread in an area
- 3. when a solution has a greater concentration of particles
- 4. turns color in the presence of starch
- 5. the engulfing of large particles
- 7. prefix that means "outside"
- 9. the diffusion of water
- 11. active transport will remove ___ ions, while taking in potassium ions
- 12. channel ___ can help move things across the membrane
- 16. organelle that helps remove excess water; _____ vacuole
- 18. the outer boundary of the cell

Name: _____

Cell Transport Packet

For questions 1-10, use Figure 1.

Match the structure/process to the letter:

1. Phospholipid bilayer _____
2. Osmosis _____
3. Simple Diffusion _____
4. Facilitated Diffusion _____
5. Channel protein _____
6. This cell would be in a [hypertonic / hypotonic / isotonic] solution.
7. All of the processes in the image are examples of [active / passive] transport.
8. The cell membrane can be described as [semi-permeable / impermeable]
9. There is more glucose [inside / outside] the cell. (Hint: Look at the direction it is moving)
10. Over time, this cell will [shrink / swell]



Diffusion and Osmosis

11. Label the three images in Figure 2 as **isotonic**, **hypertonic**, or **hypotonic** (with regard to the solution the cell is placed in)

Figure 2



12. Movement across the cell membrane that does not require energy is called [active / passive] transport.
13. The difference in the concentration of a substance across a space is called a concentration [equilibrium / gradient].
14. If there is a concentration gradient, substances will move from an area of high concentration to an area of [equal / low] concentration.
15. The cell membrane is [selectively permeable / impermeable].
16. [Equilibrium / Diffusion] is the simplest type of passive transport.
17. The diffusion of water through a selectively permeable membrane is called [osmosis / diffusion].
18. The direction of water movement across the cell membrane depends on the concentration of free water [molecules / solutions].
19. A solution that causes a cell to swell is called a [hypertonic / hypotonic] solution.
20. Organelles that collect excess water inside the cell and force water out are called [diffusion organelles / contractile vacuoles].
21. The process of taking material into the cell by infolding the cell membrane is called [endocytosis / exocytosis].
22. In [facilitated / molecular] diffusion, membrane proteins help molecules across the membrane.
23. In diffusion, molecules [spread out / condense].
24. The lipid bilayer describes [a type of transport / the cell membrane].
25. Facilitated diffusion moves substances down their concentration gradient [with / without] using the cell's energy.

Cell Transport

26. Know the parts of a solution

Define SOLUTE _____

Define SOLVENT _____

27. Explain what will happen to cells when placed in isotonic, hypertonic, and hypotonic solutions.

28. In Figure 3, draw the direction that WATER will move in each of the beakers.

Figure 3



29. Using Figure 3, label each beaker whether it is isotonic, hypertonic, or hypotonic.

30. **Define** the following terms:

Diffusion:

Equilibrium:

Osmosis:

Isotonic:

Hypertonic:

Hypotonic:

Facilitated diffusion:

Endocytosis:

Phagocytosis:

:

Exocytosis



Across

1. type of transport that requires energy
3. when a solution has a lesser concentration of particles
6. type of transport that does not require energy
8. prefix that means "inside"
10. movement of molecules from high to low concentration
13. a molecule composed of two hydrogens and one oxygen
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15. membranes that let some things through, called selectively _____
17. the maintaining of an internal balance
19. word that means "cell"
20. a difference in concentration creates a concentration _

Down

2. condition achieved when molecules are evenly spread in an area
3. when a solution has a greater concentration of particles
4. turns color in the presence of starch
5. the engulfing of large particles
7. prefix that means "outside"
9. the diffusion of water
11. active transport will remove ___ ions, while taking in potassium ions
12. channel ___ can help move things across the membrane
16. organelle that helps remove excess water; _____ vacuole
18. the outer boundary of the cell

Name: _____

Cell Transport Packet

For questions 1-10, use Figure 1.

Match the structure/process to the letter:

1. Phospholipid bilayer _____
2. Osmosis _____
3. Simple Diffusion _____
4. Facilitated Diffusion _____
5. Channel protein _____
6. This cell would be in a [hypertonic / hypotonic / isotonic] solution.
7. All of the processes in the image are examples of [active / passive] transport.
8. The cell membrane can be described as [semi-permeable / impermeable]
9. There is more glucose [inside / outside] the cell. (Hint: Look at the direction it is moving)
10. Over time, this cell will [shrink / swell]



Diffusion and Osmosis

11. Label the three images in Figure 2 as **isotonic**, **hypertonic**, or **hypotonic** (with regard to the solution the cell is placed in)

Figure 2



12. Movement across the cell membrane that does not require energy is called [active / passive] transport.
13. The difference in the concentration of a substance across a space is called a concentration [equilibrium / gradient].
14. If there is a concentration gradient, substances will move from an area of high concentration to an area of [equal / low] concentration.
15. The cell membrane is [selectively permeable / impermeable].
16. [Equilibrium / Diffusion] is the simplest type of passive transport.
17. The diffusion of water through a selectively permeable membrane is called [osmosis / diffusion].
18. The direction of water movement across the cell membrane depends on the concentration of free water [molecules / solutions].
19. A solution that causes a cell to swell is called a [hypertonic / hypotonic] solution.
20. Organelles that collect excess water inside the cell and force water out are called [diffusion organelles / contractile vacuoles].
21. The process of taking material into the cell by infolding the cell membrane is called [endocytosis / exocytosis].
22. In [facilitated / molecular] diffusion, membrane proteins help molecules across the membrane.
23. In diffusion, molecules [spread out / condense].
24. The lipid bilayer describes [a type of transport / the cell membrane].
25. Facilitated diffusion moves substances down their concentration gradient [with / without] using the cell's energy.

Cell Transport

26. Know the parts of a solution

Define SOLUTE _____

Define SOLVENT _____

27. Explain what will happen to cells when placed in isotonic, hypertonic, and hypotonic solutions.

28. In Figure 3, draw the direction that **WATER** will move in each of the beakers.

Figure 3



29. Using Figure 3, label each beaker whether it is isotonic, hypertonic, or hypotonic.

30. **Define** the following terms:

Diffusion:

Equilibrium:

Osmosis:

Isotonic:

Hypertonic:

Hypotonic:

Facilitated diffusion:

Endocytosis:

Phagocytosis:

:

Exocytosis



Across

- 1. type of transport that requires energy
- 3. when a solution has a lesser concentration of particles
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- 8. prefix that means "inside"
- 10. movement of molecules from high to low concentration
- 13. a molecule composed of two hydrogens and one oxygen
- 14. a solution that has an equal amount of particles
- 15. membranes that let some things through, called selectively _____
- 17. the maintaining of an internal balance
- 19. word that means "cell"
- 20. a difference in concentration creates a concentration _

Down

- 2. condition achieved when molecules are evenly spread in an area
- 3. when a solution has a greater concentration of particles
- 4. turns color in the presence of starch
- 5. the engulfing of large particles
- 7. prefix that means "outside"
- 9. the diffusion of water
- 11. active transport will remove ___ ions, while taking in potassium ions
- 12. channel ___ can help move things across the membrane
- 16. organelle that helps remove excess water; _____ vacuole
- 18. the outer boundary of the cell

Name: _____

Cell Transport Packet

For questions 1-10, use Figure 1.

Match the structure/process to the letter:

1. Phospholipid bilayer _____
2. Osmosis _____
3. Simple Diffusion _____
4. Facilitated Diffusion _____
5. Channel protein _____
6. This cell would be in a [hypertonic / hypotonic / isotonic] solution.
7. All of the processes in the image are examples of [active / passive] transport.
8. The cell membrane can be described as [semi-permeable / impermeable]
9. There is more glucose [inside / outside] the cell. (Hint: Look at the direction it is moving)
10. Over time, this cell will [shrink / swell]



Diffusion and Osmosis

11. Label the three images in Figure 2 as **isotonic**, **hypertonic**, or **hypotonic** (with regard to the solution the cell is placed in)

Figure 2



12. Movement across the cell membrane that does not require energy is called [active / passive] transport.
13. The difference in the concentration of a substance across a space is called a concentration [equilibrium / gradient].
14. If there is a concentration gradient, substances will move from an area of high concentration to an area of [equal / low] concentration.
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18. The direction of water movement across the cell membrane depends on the concentration of free water [molecules / solutions].
19. A solution that causes a cell to swell is called a [hypertonic / hypotonic] solution.
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22. In [facilitated / molecular] diffusion, membrane proteins help molecules across the membrane.
23. In diffusion, molecules [spread out / condense].
24. The lipid bilayer describes [a type of transport / the cell membrane].
25. Facilitated diffusion moves substances down their concentration gradient [with / without] using the cell's energy.

Cell Transport

26. Know the parts of a solution

Define SOLUTE _____

Define SOLVENT _____

27. Explain what will happen to cells when placed in isotonic, hypertonic, and hypotonic solutions.

28. In Figure 3, draw the direction that **WATER** will move in each of the beakers.

Figure 3



29. Using Figure 3, label each beaker whether it is isotonic, hypertonic, or hypotonic.

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Diffusion:

Equilibrium:

Osmosis:

Isotonic:

Hypertonic:

Hypotonic:

Facilitated diffusion:

Endocytosis:

Phagocytosis:

:

Exocytosis



Across

1. type of transport that requires energy
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Down

2. condition achieved when molecules are evenly spread in an area
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Name: _____

Cell Transport Packet

For questions 1-10, use Figure 1.

Match the structure/process to the letter:

1. Phospholipid bilayer _____
2. Osmosis _____
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5. Channel protein _____
6. This cell would be in a [hypertonic / hypotonic / isotonic] solution.
7. All of the processes in the image are examples of [active / passive] transport.
8. The cell membrane can be described as [semi-permeable / impermeable]
9. There is more glucose [inside / outside] the cell. (Hint: Look at the direction it is moving)
10. Over time, this cell will [shrink / swell]



Diffusion and Osmosis

11. Label the three images in Figure 2 as **isotonic**, **hypertonic**, or **hypotonic** (with regard to the solution the cell is placed in)

Figure 2



12. Movement across the cell membrane that does not require energy is called [active / passive] transport.
13. The difference in the concentration of a substance across a space is called a concentration [equilibrium / gradient].
14. If there is a concentration gradient, substances will move from an area of high concentration to an area of [equal / low] concentration.
15. The cell membrane is [selectively permeable / impermeable].
16. [Equilibrium / Diffusion] is the simplest type of passive transport.
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23. In diffusion, molecules [spread out / condense].
24. The lipid bilayer describes [a type of transport / the cell membrane].
25. Facilitated diffusion moves substances down their concentration gradient [with / without] using the cell's energy.

Cell Transport

26. Know the parts of a solution

Define SOLUTE _____

Define SOLVENT _____

27. Explain what will happen to cells when placed in isotonic, hypertonic, and hypotonic solutions.

28. In Figure 3, draw the direction that **WATER** will move in each of the beakers.

Figure 3



29. Using Figure 3, label each beaker whether it is isotonic, hypertonic, or hypotonic.

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Diffusion:

Equilibrium:

Osmosis:

Isotonic:

Hypertonic:

Hypotonic:

Facilitated diffusion:

Endocytosis:

Phagocytosis:

:

Exocytosis



Across

1. type of transport that requires energy
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Down

2. condition achieved when molecules are evenly spread in an area
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16. organelle that helps remove excess water; _____ vacuole
18. the outer boundary of the cell

Name: _____

Cell Transport Packet

For questions 1-10, use Figure 1.

Match the structure/process to the letter:

1. Phospholipid bilayer _____
2. Osmosis _____
3. Simple Diffusion _____
4. Facilitated Diffusion _____
5. Channel protein _____
6. This cell would be in a [hypertonic / hypotonic / isotonic] solution.
7. All of the processes in the image are examples of [active / passive] transport.
8. The cell membrane can be described as [semi-permeable / impermeable]
9. There is more glucose [inside / outside] the cell. (Hint: Look at the direction it is moving)
10. Over time, this cell will [shrink / swell]



Diffusion and Osmosis

11. Label the three images in Figure 2 as **isotonic**, **hypertonic**, or **hypotonic** (with regard to the solution the cell is placed in)

Figure 2



12. Movement across the cell membrane that does not require energy is called [active / passive] transport.
13. The difference in the concentration of a substance across a space is called a concentration [equilibrium / gradient].
14. If there is a concentration gradient, substances will move from an area of high concentration to an area of [equal / low] concentration.
15. The cell membrane is [selectively permeable / impermeable].
16. [Equilibrium / Diffusion] is the simplest type of passive transport.
17. The diffusion of water through a selectively permeable membrane is called [osmosis / diffusion].
18. The direction of water movement across the cell membrane depends on the concentration of free water [molecules / solutions].
19. A solution that causes a cell to swell is called a [hypertonic / hypotonic] solution.
20. Organelles that collect excess water inside the cell and force water out are called [diffusion organelles / contractile vacuoles].
21. The process of taking material into the cell by infolding the cell membrane is called [endocytosis / exocytosis].
22. In [facilitated / molecular] diffusion, membrane proteins help molecules across the membrane.
23. In diffusion, molecules [spread out / condense].
24. The lipid bilayer describes [a type of transport / the cell membrane].
25. Facilitated diffusion moves substances down their concentration gradient [with / without] using the cell's energy.

Cell Transport

26. Know the parts of a solution

Define SOLUTE _____

Define SOLVENT _____

27. Explain what will happen to cells when placed in isotonic, hypertonic, and hypotonic solutions.

28. In Figure 3, draw the direction that **WATER** will move in each of the beakers.

Figure 3



29. Using Figure 3, label each beaker whether it is isotonic, hypertonic, or hypotonic.

30. **Define** the following terms:

Diffusion:

Equilibrium:

Osmosis:

Isotonic:

Hypertonic:

Hypotonic:

Facilitated diffusion:

Endocytosis:

Phagocytosis:

:

Exocytosis



Across

1. type of transport that requires energy
3. when a solution has a lesser concentration of particles
6. type of transport that does not require energy
8. prefix that means "inside"
10. movement of molecules from high to low concentration
13. a molecule composed of two hydrogens and one oxygen
14. a solution that has an equal amount of particles
15. membranes that let some things through, called selectively _____
17. the maintaining of an internal balance
19. word that means "cell"
20. a difference in concentration creates a concentration _

Down

2. condition achieved when molecules are evenly spread in an area
3. when a solution has a greater concentration of particles
4. turns color in the presence of starch
5. the engulfing of large particles
7. prefix that means "outside"
9. the diffusion of water
11. active transport will remove ___ ions, while taking in potassium ions
12. channel ___ can help move things across the membrane
16. organelle that helps remove excess water; _____ vacuole
18. the outer boundary of the cell

Name: _____

Cell Transport Packet

For questions 1-10, use Figure 1.

Match the structure/process to the letter:

1. Phospholipid bilayer _____
2. Osmosis _____
3. Simple Diffusion _____
4. Facilitated Diffusion _____
5. Channel protein _____
6. This cell would be in a [hypertonic / hypotonic / isotonic] solution.
7. All of the processes in the image are examples of [active / passive] transport.
8. The cell membrane can be described as [semi-permeable / impermeable]
9. There is more glucose [inside / outside] the cell. (Hint: Look at the direction it is moving)
10. Over time, this cell will [shrink / swell]



Diffusion and Osmosis

11. Label the three images in Figure 2 as **isotonic**, **hypertonic**, or **hypotonic** (with regard to the solution the cell is placed in)

Figure 2



12. Movement across the cell membrane that does not require energy is called [active / passive] transport.
13. The difference in the concentration of a substance across a space is called a concentration [equilibrium / gradient].
14. If there is a concentration gradient, substances will move from an area of high concentration to an area of [equal / low] concentration.
15. The cell membrane is [selectively permeable / impermeable].
16. [Equilibrium / Diffusion] is the simplest type of passive transport.
17. The diffusion of water through a selectively permeable membrane is called [osmosis / diffusion].
18. The direction of water movement across the cell membrane depends on the concentration of free water [molecules / solutions].
19. A solution that causes a cell to swell is called a [hypertonic / hypotonic] solution.
20. Organelles that collect excess water inside the cell and force water out are called [diffusion organelles / contractile vacuoles].
21. The process of taking material into the cell by infolding the cell membrane is called [endocytosis / exocytosis].
22. In [facilitated / molecular] diffusion, membrane proteins help molecules across the membrane.
23. In diffusion, molecules [spread out / condense].
24. The lipid bilayer describes [a type of transport / the cell membrane].
25. Facilitated diffusion moves substances down their concentration gradient [with / without] using the cell's energy.

Cell Transport

26. Know the parts of a solution

Define SOLUTE _____

Define SOLVENT _____

27. Explain what will happen to cells when placed in isotonic, hypertonic, and hypotonic solutions.

28. In Figure 3, draw the direction that **WATER** will move in each of the beakers.

Figure 3



29. Using Figure 3, label each beaker whether it is isotonic, hypertonic, or hypotonic.

30. **Define** the following terms:

Diffusion:

Equilibrium:

Osmosis:

Isotonic:

Hypertonic:

Hypotonic:

Facilitated diffusion:

Endocytosis:

Phagocytosis:

:

Exocytosis



Across

1. type of transport that requires energy
3. when a solution has a lesser concentration of particles
6. type of transport that does not require energy
8. prefix that means "inside"
10. movement of molecules from high to low concentration
13. a molecule composed of two hydrogens and one oxygen
14. a solution that has an equal amount of particles
15. membranes that let some things through, called selectively _____
17. the maintaining of an internal balance
19. word that means "cell"
20. a difference in concentration creates a concentration _

Down

2. condition achieved when molecules are evenly spread in an area
3. when a solution has a greater concentration of particles
4. turns color in the presence of starch
5. the engulfing of large particles
7. prefix that means "outside"
9. the diffusion of water
11. active transport will remove ___ ions, while taking in potassium ions
12. channel ___ can help move things across the membrane
16. organelle that helps remove excess water; _____ vacuole
18. the outer boundary of the cell

Name: _____

Cell Transport Packet

For questions 1-10, use Figure 1.

Match the structure/process to the letter:

1. Phospholipid bilayer _____
2. Osmosis _____
3. Simple Diffusion _____
4. Facilitated Diffusion _____
5. Channel protein _____
6. This cell would be in a [hypertonic / hypotonic / isotonic] solution.
7. All of the processes in the image are examples of [active / passive] transport.
8. The cell membrane can be described as [semi-permeable / impermeable]
9. There is more glucose [inside / outside] the cell. (Hint: Look at the direction it is moving)
10. Over time, this cell will [shrink / swell]



Diffusion and Osmosis

11. Label the three images in Figure 2 as **isotonic**, **hypertonic**, or **hypotonic** (with regard to the solution the cell is placed in)

Figure 2



12. Movement across the cell membrane that does not require energy is called [active / passive] transport.
13. The difference in the concentration of a substance across a space is called a concentration [equilibrium / gradient].
14. If there is a concentration gradient, substances will move from an area of high concentration to an area of [equal / low] concentration.
15. The cell membrane is [selectively permeable / impermeable].
16. [Equilibrium / Diffusion] is the simplest type of passive transport.
17. The diffusion of water through a selectively permeable membrane is called [osmosis / diffusion].
18. The direction of water movement across the cell membrane depends on the concentration of free water [molecules / solutions].
19. A solution that causes a cell to swell is called a [hypertonic / hypotonic] solution.
20. Organelles that collect excess water inside the cell and force water out are called [diffusion organelles / contractile vacuoles].
21. The process of taking material into the cell by infolding the cell membrane is called [endocytosis / exocytosis].
22. In [facilitated / molecular] diffusion, membrane proteins help molecules across the membrane.
23. In diffusion, molecules [spread out / condense].
24. The lipid bilayer describes [a type of transport / the cell membrane].
25. Facilitated diffusion moves substances down their concentration gradient [with / without] using the cell's energy.

Cell Transport

26. Know the parts of a solution

Define SOLUTE _____

Define SOLVENT _____

27. Explain what will happen to cells when placed in isotonic, hypertonic, and hypotonic solutions.

28. In Figure 3, draw the direction that **WATER** will move in each of the beakers.

Figure 3



29. Using Figure 3, label each beaker whether it is isotonic, hypertonic, or hypotonic.

30. **Define** the following terms:

Diffusion:

Equilibrium:

Osmosis:

Isotonic:

Hypertonic:

Hypotonic:

Facilitated diffusion:

Endocytosis:

Phagocytosis:

:

Exocytosis



Across

1. type of transport that requires energy
3. when a solution has a lesser concentration of particles
6. type of transport that does not require energy
8. prefix that means "inside"
10. movement of molecules from high to low concentration
13. a molecule composed of two hydrogens and one oxygen
14. a solution that has an equal amount of particles
15. membranes that let some things through, called selectively _____
17. the maintaining of an internal balance
19. word that means "cell"
20. a difference in concentration creates a concentration _

Down

2. condition achieved when molecules are evenly spread in an area
3. when a solution has a greater concentration of particles
4. turns color in the presence of starch
5. the engulfing of large particles
7. prefix that means "outside"
9. the diffusion of water
11. active transport will remove ___ ions, while taking in potassium ions
12. channel ___ can help move things across the membrane
16. organelle that helps remove excess water; _____ vacuole
18. the outer boundary of the cell

Name: _____

Cell Transport Packet

For questions 1-10, use Figure 1.

Match the structure/process to the letter:

1. Phospholipid bilayer _____
2. Osmosis _____
3. Simple Diffusion _____
4. Facilitated Diffusion _____
5. Channel protein _____
6. This cell would be in a [hypertonic / hypotonic / isotonic] solution.
7. All of the processes in the image are examples of [active / passive] transport.
8. The cell membrane can be described as [semi-permeable / impermeable]
9. There is more glucose [inside / outside] the cell. (Hint: Look at the direction it is moving)
10. Over time, this cell will [shrink / swell]



Diffusion and Osmosis

11. Label the three images in Figure 2 as **isotonic**, **hypertonic**, or **hypotonic** (with regard to the solution the cell is placed in)

Figure 2



12. Movement across the cell membrane that does not require energy is called [active / passive] transport.
13. The difference in the concentration of a substance across a space is called a concentration [equilibrium / gradient].
14. If there is a concentration gradient, substances will move from an area of high concentration to an area of [equal / low] concentration.
15. The cell membrane is [selectively permeable / impermeable].
16. [Equilibrium / Diffusion] is the simplest type of passive transport.
17. The diffusion of water through a selectively permeable membrane is called [osmosis / diffusion].
18. The direction of water movement across the cell membrane depends on the concentration of free water [molecules / solutions].
19. A solution that causes a cell to swell is called a [hypertonic / hypotonic] solution.
20. Organelles that collect excess water inside the cell and force water out are called [diffusion organelles / contractile vacuoles].
21. The process of taking material into the cell by infolding the cell membrane is called [endocytosis / exocytosis].
22. In [facilitated / molecular] diffusion, membrane proteins help molecules across the membrane.
23. In diffusion, molecules [spread out / condense].
24. The lipid bilayer describes [a type of transport / the cell membrane].
25. Facilitated diffusion moves substances down their concentration gradient [with / without] using the cell's energy.

Cell Transport

26. Know the parts of a solution

Define SOLUTE _____

Define SOLVENT _____

27. Explain what will happen to cells when placed in isotonic, hypertonic, and hypotonic solutions.

28. In Figure 3, draw the direction that **WATER** will move in each of the beakers.

Figure 3



29. Using Figure 3, label each beaker whether it is isotonic, hypertonic, or hypotonic.

30. **Define** the following terms:

Diffusion:

Equilibrium:

Osmosis:

Isotonic:

Hypertonic:

Hypotonic:

Facilitated diffusion:

Endocytosis:

Phagocytosis:

:

Exocytosis



Across

1. type of transport that requires energy
3. when a solution has a lesser concentration of particles
6. type of transport that does not require energy
8. prefix that means "inside"
10. movement of molecules from high to low concentration
13. a molecule composed of two hydrogens and one oxygen
14. a solution that has an equal amount of particles
15. membranes that let some things through, called selectively _____
17. the maintaining of an internal balance
19. word that means "cell"
20. a difference in concentration creates a concentration _

Down

2. condition achieved when molecules are evenly spread in an area
3. when a solution has a greater concentration of particles
4. turns color in the presence of starch
5. the engulfing of large particles
7. prefix that means "outside"
9. the diffusion of water
11. active transport will remove ___ ions, while taking in potassium ions
12. channel ___ can help move things across the membrane
16. organelle that helps remove excess water; _____ vacuole
18. the outer boundary of the cell

Name: _____

Cell Transport Packet

For questions 1-10, use Figure 1.

Match the structure/process to the letter:

1. Phospholipid bilayer _____
2. Osmosis _____
3. Simple Diffusion _____
4. Facilitated Diffusion _____
5. Channel protein _____
6. This cell would be in a [hypertonic / hypotonic / isotonic] solution.
7. All of the processes in the image are examples of [active / passive] transport.
8. The cell membrane can be described as [semi-permeable / impermeable]
9. There is more glucose [inside / outside] the cell. (Hint: Look at the direction it is moving)
10. Over time, this cell will [shrink / swell]



Diffusion and Osmosis

11. Label the three images in Figure 2 as **isotonic**, **hypertonic**, or **hypotonic** (with regard to the solution the cell is placed in)

Figure 2



12. Movement across the cell membrane that does not require energy is called [active / passive] transport.
13. The difference in the concentration of a substance across a space is called a concentration [equilibrium / gradient].
14. If there is a concentration gradient, substances will move from an area of high concentration to an area of [equal / low] concentration.
15. The cell membrane is [selectively permeable / impermeable].
16. [Equilibrium / Diffusion] is the simplest type of passive transport.
17. The diffusion of water through a selectively permeable membrane is called [osmosis / diffusion].
18. The direction of water movement across the cell membrane depends on the concentration of free water [molecules / solutions].
19. A solution that causes a cell to swell is called a [hypertonic / hypotonic] solution.
20. Organelles that collect excess water inside the cell and force water out are called [diffusion organelles / contractile vacuoles].
21. The process of taking material into the cell by infolding the cell membrane is called [endocytosis / exocytosis].
22. In [facilitated / molecular] diffusion, membrane proteins help molecules across the membrane.
23. In diffusion, molecules [spread out / condense].
24. The lipid bilayer describes [a type of transport / the cell membrane].
25. Facilitated diffusion moves substances down their concentration gradient [with / without] using the cell's energy.

Cell Transport

26. Know the parts of a solution

Define SOLUTE _____

Define SOLVENT _____

27. Explain what will happen to cells when placed in isotonic, hypertonic, and hypotonic solutions.

28. In Figure 3, draw the direction that **WATER** will move in each of the beakers.

Figure 3



29. Using Figure 3, label each beaker whether it is isotonic, hypertonic, or hypotonic.

30. **Define** the following terms:

Diffusion:

Equilibrium:

Osmosis:

Isotonic:

Hypertonic:

Hypotonic:

Facilitated diffusion:

Endocytosis:

Phagocytosis:

:

Exocytosis



Across

1. type of transport that requires energy
3. when a solution has a lesser concentration of particles
6. type of transport that does not require energy
8. prefix that means "inside"
10. movement of molecules from high to low concentration
13. a molecule composed of two hydrogens and one oxygen
14. a solution that has an equal amount of particles
15. membranes that let some things through, called selectively _____
17. the maintaining of an internal balance
19. word that means "cell"
20. a difference in concentration creates a concentration _

Down

2. condition achieved when molecules are evenly spread in an area
3. when a solution has a greater concentration of particles
4. turns color in the presence of starch
5. the engulfing of large particles
7. prefix that means "outside"
9. the diffusion of water
11. active transport will remove ___ ions, while taking in potassium ions
12. channel ___ can help move things across the membrane
16. organelle that helps remove excess water; _____ vacuole
18. the outer boundary of the cell

Name: _____

Cell Transport Packet

For questions 1-10, use Figure 1.

Match the structure/process to the letter:

1. Phospholipid bilayer _____
2. Osmosis _____
3. Simple Diffusion _____
4. Facilitated Diffusion _____
5. Channel protein _____
6. This cell would be in a [hypertonic / hypotonic / isotonic] solution.
7. All of the processes in the image are examples of [active / passive] transport.
8. The cell membrane can be described as [semi-permeable / impermeable]
9. There is more glucose [inside / outside] the cell. (Hint: Look at the direction it is moving)
10. Over time, this cell will [shrink / swell]



Diffusion and Osmosis

11. Label the three images in Figure 2 as **isotonic**, **hypertonic**, or **hypotonic** (with regard to the solution the cell is placed in)

Figure 2



12. Movement across the cell membrane that does not require energy is called [active / passive] transport.
13. The difference in the concentration of a substance across a space is called a concentration [equilibrium / gradient].
14. If there is a concentration gradient, substances will move from an area of high concentration to an area of [equal / low] concentration.
15. The cell membrane is [selectively permeable / impermeable].
16. [Equilibrium / Diffusion] is the simplest type of passive transport.
17. The diffusion of water through a selectively permeable membrane is called [osmosis / diffusion].
18. The direction of water movement across the cell membrane depends on the concentration of free water [molecules / solutions].
19. A solution that causes a cell to swell is called a [hypertonic / hypotonic] solution.
20. Organelles that collect excess water inside the cell and force water out are called [diffusion organelles / contractile vacuoles].
21. The process of taking material into the cell by infolding the cell membrane is called [endocytosis / exocytosis].
22. In [facilitated / molecular] diffusion, membrane proteins help molecules across the membrane.
23. In diffusion, molecules [spread out / condense].
24. The lipid bilayer describes [a type of transport / the cell membrane].
25. Facilitated diffusion moves substances down their concentration gradient [with / without] using the cell's energy.

Cell Transport

26. Know the parts of a solution

Define SOLUTE _____

Define SOLVENT _____

27. Explain what will happen to cells when placed in isotonic, hypertonic, and hypotonic solutions.

28. In Figure 3, draw the direction that **WATER** will move in each of the beakers.

Figure 3



29. Using Figure 3, label each beaker whether it is isotonic, hypertonic, or hypotonic.

30. **Define** the following terms:

Diffusion:

Equilibrium:

Osmosis:

Isotonic:

Hypertonic:

Hypotonic:

Facilitated diffusion:

Endocytosis:

Phagocytosis:

:

Exocytosis



Across

- 1. type of transport that requires energy
- 3. when a solution has a lesser concentration of particles
- 6. type of transport that does not require energy
- 8. prefix that means "inside"
- 10. movement of molecules from high to low concentration
- 13. a molecule composed of two hydrogens and one oxygen
- 14. a solution that has an equal amount of particles
- 15. membranes that let some things through, called selectively _____
- 17. the maintaining of an internal balance
- 19. word that means "cell"
- 20. a difference in concentration creates a concentration _

Down

- 2. condition achieved when molecules are evenly spread in an area
- 3. when a solution has a greater concentration of particles
- 4. turns color in the presence of starch
- 5. the engulfing of large particles
- 7. prefix that means "outside"
- 9. the diffusion of water
- 11. active transport will remove ___ ions, while taking in potassium ions
- 12. channel ___ can help move things across the membrane
- 16. organelle that helps remove excess water; _____ vacuole
- 18. the outer boundary of the cell

Name: _____

Cell Transport Packet

For questions 1-10, use Figure 1.

Match the structure/process to the letter:

1. Phospholipid bilayer _____
2. Osmosis _____
3. Simple Diffusion _____
4. Facilitated Diffusion _____
5. Channel protein _____
6. This cell would be in a [hypertonic / hypotonic / isotonic] solution.
7. All of the processes in the image are examples of [active / passive] transport.
8. The cell membrane can be described as [semi-permeable / impermeable]
9. There is more glucose [inside / outside] the cell. (Hint: Look at the direction it is moving)
10. Over time, this cell will [shrink / swell]



Diffusion and Osmosis

11. Label the three images in Figure 2 as **isotonic**, **hypertonic**, or **hypotonic** (with regard to the solution the cell is placed in)

Figure 2



12. Movement across the cell membrane that does not require energy is called [active / passive] transport.
13. The difference in the concentration of a substance across a space is called a concentration [equilibrium / gradient].
14. If there is a concentration gradient, substances will move from an area of high concentration to an area of [equal / low] concentration.
15. The cell membrane is [selectively permeable / impermeable].
16. [Equilibrium / Diffusion] is the simplest type of passive transport.
17. The diffusion of water through a selectively permeable membrane is called [osmosis / diffusion].
18. The direction of water movement across the cell membrane depends on the concentration of free water [molecules / solutions].
19. A solution that causes a cell to swell is called a [hypertonic / hypotonic] solution.
20. Organelles that collect excess water inside the cell and force water out are called [diffusion organelles / contractile vacuoles].
21. The process of taking material into the cell by infolding the cell membrane is called [endocytosis / exocytosis].
22. In [facilitated / molecular] diffusion, membrane proteins help molecules across the membrane.
23. In diffusion, molecules [spread out / condense].
24. The lipid bilayer describes [a type of transport / the cell membrane].
25. Facilitated diffusion moves substances down their concentration gradient [with / without] using the cell's energy.

Cell Transport

26. Know the parts of a solution

Define SOLUTE _____

Define SOLVENT _____

27. Explain what will happen to cells when placed in isotonic, hypertonic, and hypotonic solutions.

28. In Figure 3, draw the direction that **WATER** will move in each of the beakers.

Figure 3



29. Using Figure 3, label each beaker whether it is isotonic, hypertonic, or hypotonic.

30. **Define** the following terms:

Diffusion:

Equilibrium:

Osmosis:

Isotonic:

Hypertonic:

Hypotonic:

Facilitated diffusion:

Endocytosis:

Phagocytosis:

:

Exocytosis



Across

1. type of transport that requires energy
3. when a solution has a lesser concentration of particles
6. type of transport that does not require energy
8. prefix that means "inside"
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17. the maintaining of an internal balance
19. word that means "cell"
20. a difference in concentration creates a concentration _

Down

2. condition achieved when molecules are evenly spread in an area
3. when a solution has a greater concentration of particles
4. turns color in the presence of starch
5. the engulfing of large particles
7. prefix that means "outside"
9. the diffusion of water
11. active transport will remove ___ ions, while taking in potassium ions
12. channel ___ can help move things across the membrane
16. organelle that helps remove excess water; _____ vacuole
18. the outer boundary of the cell

Name: _____

Cell Transport Packet

For questions 1-10, use Figure 1.

Match the structure/process to the letter:

1. Phospholipid bilayer _____
2. Osmosis _____
3. Simple Diffusion _____
4. Facilitated Diffusion _____
5. Channel protein _____
6. This cell would be in a [hypertonic / hypotonic / isotonic] solution.
7. All of the processes in the image are examples of [active / passive] transport.
8. The cell membrane can be described as [semi-permeable / impermeable]
9. There is more glucose [inside / outside] the cell. (Hint: Look at the direction it is moving)
10. Over time, this cell will [shrink / swell]



Diffusion and Osmosis

11. Label the three images in Figure 2 as **isotonic**, **hypertonic**, or **hypotonic** (with regard to the solution the cell is placed in)

Figure 2



12. Movement across the cell membrane that does not require energy is called [active / passive] transport.
13. The difference in the concentration of a substance across a space is called a concentration [equilibrium / gradient].
14. If there is a concentration gradient, substances will move from an area of high concentration to an area of [equal / low] concentration.
15. The cell membrane is [selectively permeable / impermeable].
16. [Equilibrium / Diffusion] is the simplest type of passive transport.
17. The diffusion of water through a selectively permeable membrane is called [osmosis / diffusion].
18. The direction of water movement across the cell membrane depends on the concentration of free water [molecules / solutions].
19. A solution that causes a cell to swell is called a [hypertonic / hypotonic] solution.
20. Organelles that collect excess water inside the cell and force water out are called [diffusion organelles / contractile vacuoles].
21. The process of taking material into the cell by infolding the cell membrane is called [endocytosis / exocytosis].
22. In [facilitated / molecular] diffusion, membrane proteins help molecules across the membrane.
23. In diffusion, molecules [spread out / condense].
24. The lipid bilayer describes [a type of transport / the cell membrane].
25. Facilitated diffusion moves substances down their concentration gradient [with / without] using the cell's energy.

Cell Transport

26. Know the parts of a solution

Define SOLUTE _____

Define SOLVENT _____

27. Explain what will happen to cells when placed in isotonic, hypertonic, and hypotonic solutions.

28. In Figure 3, draw the direction that **WATER** will move in each of the beakers.

Figure 3



29. Using Figure 3, label each beaker whether it is isotonic, hypertonic, or hypotonic.

30. **Define** the following terms:

Diffusion:

Equilibrium:

Osmosis:

Isotonic:

Hypertonic:

Hypotonic:

Facilitated diffusion:

Endocytosis:

Phagocytosis:

:

Exocytosis



Across

- 1. type of transport that requires energy
- 3. when a solution has a lesser concentration of particles
- 6. type of transport that does not require energy
- 8. prefix that means "inside"
- 10. movement of molecules from high to low concentration
- 13. a molecule composed of two hydrogens and one oxygen
- 14. a solution that has an equal amount of particles
- 15. membranes that let some things through, called selectively _____
- 17. the maintaining of an internal balance
- 19. word that means "cell"
- 20. a difference in concentration creates a concentration _

Down

- 2. condition achieved when molecules are evenly spread in an area
- 3. when a solution has a greater concentration of particles
- 4. turns color in the presence of starch
- 5. the engulfing of large particles
- 7. prefix that means "outside"
- 9. the diffusion of water
- 11. active transport will remove ___ ions, while taking in potassium ions
- 12. channel ___ can help move things across the membrane
- 16. organelle that helps remove excess water; _____ vacuole
- 18. the outer boundary of the cell

Name: _____

Cell Transport Packet

For questions 1-10, use Figure 1.

Match the structure/process to the letter:

1. Phospholipid bilayer _____
2. Osmosis _____
3. Simple Diffusion _____
4. Facilitated Diffusion _____
5. Channel protein _____
6. This cell would be in a [hypertonic / hypotonic / isotonic] solution.
7. All of the processes in the image are examples of [active / passive] transport.
8. The cell membrane can be described as [semi-permeable / impermeable]
9. There is more glucose [inside / outside] the cell. (Hint: Look at the direction it is moving)
10. Over time, this cell will [shrink / swell]



Diffusion and Osmosis

11. Label the three images in Figure 2 as **isotonic**, **hypertonic**, or **hypotonic** (with regard to the solution the cell is placed in)

Figure 2



12. Movement across the cell membrane that does not require energy is called [active / passive] transport.
13. The difference in the concentration of a substance across a space is called a concentration [equilibrium / gradient].
14. If there is a concentration gradient, substances will move from an area of high concentration to an area of [equal / low] concentration.
15. The cell membrane is [selectively permeable / impermeable].
16. [Equilibrium / Diffusion] is the simplest type of passive transport.
17. The diffusion of water through a selectively permeable membrane is called [osmosis / diffusion].
18. The direction of water movement across the cell membrane depends on the concentration of free water [molecules / solutions].
19. A solution that causes a cell to swell is called a [hypertonic / hypotonic] solution.
20. Organelles that collect excess water inside the cell and force water out are called [diffusion organelles / contractile vacuoles].
21. The process of taking material into the cell by infolding the cell membrane is called [endocytosis / exocytosis].
22. In [facilitated / molecular] diffusion, membrane proteins help molecules across the membrane.
23. In diffusion, molecules [spread out / condense].
24. The lipid bilayer describes [a type of transport / the cell membrane].
25. Facilitated diffusion moves substances down their concentration gradient [with / without] using the cell's energy.

Cell Transport

26. Know the parts of a solution

Define SOLUTE _____

Define SOLVENT _____

27. Explain what will happen to cells when placed in isotonic, hypertonic, and hypotonic solutions.

28. In Figure 3, draw the direction that **WATER** will move in each of the beakers.

Figure 3



29. Using Figure 3, label each beaker whether it is isotonic, hypertonic, or hypotonic.

30. **Define** the following terms:

Diffusion:

Equilibrium:

Osmosis:

Isotonic:

Hypertonic:

Hypotonic:

Facilitated diffusion:

Endocytosis:

Phagocytosis:

:

Exocytosis



Across

- 1. type of transport that requires energy
- 3. when a solution has a lesser concentration of particles
- 6. type of transport that does not require energy
- 8. prefix that means "inside"
- 10. movement of molecules from high to low concentration
- 13. a molecule composed of two hydrogens and one oxygen
- 14. a solution that has an equal amount of particles
- 15. membranes that let some things through, called selectively _____
- 17. the maintaining of an internal balance
- 19. word that means "cell"
- 20. a difference in concentration creates a concentration _

Down

- 2. condition achieved when molecules are evenly spread in an area
- 3. when a solution has a greater concentration of particles
- 4. turns color in the presence of starch
- 5. the engulfing of large particles
- 7. prefix that means "outside"
- 9. the diffusion of water
- 11. active transport will remove ___ ions, while taking in potassium ions
- 12. channel ___ can help move things across the membrane
- 16. organelle that helps remove excess water; _____ vacuole
- 18. the outer boundary of the cell

Name: _____

Cell Transport Packet

For questions 1-10, use Figure 1.

Match the structure/process to the letter:

1. Phospholipid bilayer _____
2. Osmosis _____
3. Simple Diffusion _____
4. Facilitated Diffusion _____
5. Channel protein _____
6. This cell would be in a [hypertonic / hypotonic / isotonic] solution.
7. All of the processes in the image are examples of [active / passive] transport.
8. The cell membrane can be described as [semi-permeable / impermeable]
9. There is more glucose [inside / outside] the cell. (Hint: Look at the direction it is moving)
10. Over time, this cell will [shrink / swell]



Diffusion and Osmosis

11. Label the three images in Figure 2 as **isotonic**, **hypertonic**, or **hypotonic** (with regard to the solution the cell is placed in)

Figure 2



12. Movement across the cell membrane that does not require energy is called [active / passive] transport.
13. The difference in the concentration of a substance across a space is called a concentration [equilibrium / gradient].
14. If there is a concentration gradient, substances will move from an area of high concentration to an area of [equal / low] concentration.
15. The cell membrane is [selectively permeable / impermeable].
16. [Equilibrium / Diffusion] is the simplest type of passive transport.
17. The diffusion of water through a selectively permeable membrane is called [osmosis / diffusion].
18. The direction of water movement across the cell membrane depends on the concentration of free water [molecules / solutions].
19. A solution that causes a cell to swell is called a [hypertonic / hypotonic] solution.
20. Organelles that collect excess water inside the cell and force water out are called [diffusion organelles / contractile vacuoles].
21. The process of taking material into the cell by infolding the cell membrane is called [endocytosis / exocytosis].
22. In [facilitated / molecular] diffusion, membrane proteins help molecules across the membrane.
23. In diffusion, molecules [spread out / condense].
24. The lipid bilayer describes [a type of transport / the cell membrane].
25. Facilitated diffusion moves substances down their concentration gradient [with / without] using the cell's energy.

Cell Transport

26. Know the parts of a solution

Define SOLUTE _____

Define SOLVENT _____

27. Explain what will happen to cells when placed in isotonic, hypertonic, and hypotonic solutions.

28. In Figure 3, draw the direction that WATER will move in each of the beakers.

Figure 3



29. Using Figure 3, label each beaker whether it is isotonic, hypertonic, or hypotonic.

30. **Define** the following terms:

Diffusion:

Equilibrium:

Osmosis:

Isotonic:

Hypertonic:

Hypotonic:

Facilitated diffusion:

Endocytosis:

Phagocytosis:

:

Exocytosis



Across

1. type of transport that requires energy
3. when a solution has a lesser concentration of particles
6. type of transport that does not require energy
8. prefix that means "inside"
10. movement of molecules from high to low concentration
13. a molecule composed of two hydrogens and one oxygen
14. a solution that has an equal amount of particles
15. membranes that let some things through, called selectively _____
17. the maintaining of an internal balance
19. word that means "cell"
20. a difference in concentration creates a concentration _

Down

2. condition achieved when molecules are evenly spread in an area
3. when a solution has a greater concentration of particles
4. turns color in the presence of starch
5. the engulfing of large particles
7. prefix that means "outside"
9. the diffusion of water
11. active transport will remove ___ ions, while taking in potassium ions
12. channel ___ can help move things across the membrane
16. organelle that helps remove excess water; _____ vacuole
18. the outer boundary of the cell

Name: _____

Cell Transport Packet

For questions 1-10, use Figure 1.

Match the structure/process to the letter:

1. Phospholipid bilayer _____
2. Osmosis _____
3. Simple Diffusion _____
4. Facilitated Diffusion _____
5. Channel protein _____
6. This cell would be in a [hypertonic / hypotonic / isotonic] solution.
7. All of the processes in the image are examples of [active / passive] transport.
8. The cell membrane can be described as [semi-permeable / impermeable]
9. There is more glucose [inside / outside] the cell. (Hint: Look at the direction it is moving)
10. Over time, this cell will [shrink / swell]



Diffusion and Osmosis

11. Label the three images in Figure 2 as **isotonic**, **hypertonic**, or **hypotonic** (with regard to the solution the cell is placed in)

Figure 2



12. Movement across the cell membrane that does not require energy is called [active / passive] transport.
13. The difference in the concentration of a substance across a space is called a concentration [equilibrium / gradient].
14. If there is a concentration gradient, substances will move from an area of high concentration to an area of [equal / low] concentration.
15. The cell membrane is [selectively permeable / impermeable].
16. [Equilibrium / Diffusion] is the simplest type of passive transport.
17. The diffusion of water through a selectively permeable membrane is called [osmosis / diffusion].
18. The direction of water movement across the cell membrane depends on the concentration of free water [molecules / solutions].
19. A solution that causes a cell to swell is called a [hypertonic / hypotonic] solution.
20. Organelles that collect excess water inside the cell and force water out are called [diffusion organelles / contractile vacuoles].
21. The process of taking material into the cell by infolding the cell membrane is called [endocytosis / exocytosis].
22. In [facilitated / molecular] diffusion, membrane proteins help molecules across the membrane.
23. In diffusion, molecules [spread out / condense].
24. The lipid bilayer describes [a type of transport / the cell membrane].
25. Facilitated diffusion moves substances down their concentration gradient [with / without] using the cell's energy.

Cell Transport

26. Know the parts of a solution

Define SOLUTE _____

Define SOLVENT _____

27. Explain what will happen to cells when placed in isotonic, hypertonic, and hypotonic solutions.

28. In Figure 3, draw the direction that **WATER** will move in each of the beakers.

Figure 3



29. Using Figure 3, label each beaker whether it is isotonic, hypertonic, or hypotonic.

30. **Define** the following terms:

Diffusion:

Equilibrium:

Osmosis:

Isotonic:

Hypertonic:

Hypotonic:

Facilitated diffusion:

Endocytosis:

Phagocytosis:

:

Exocytosis



Across

- 1. type of transport that requires energy
- 3. when a solution has a lesser concentration of particles
- 6. type of transport that does not require energy
- 8. prefix that means "inside"
- 10. movement of molecules from high to low concentration
- 13. a molecule composed of two hydrogens and one oxygen
- 14. a solution that has an equal amount of particles
- 15. membranes that let some things through, called selectively _____
- 17. the maintaining of an internal balance
- 19. word that means "cell"
- 20. a difference in concentration creates a concentration _

Down

- 2. condition achieved when molecules are evenly spread in an area
- 3. when a solution has a greater concentration of particles
- 4. turns color in the presence of starch
- 5. the engulfing of large particles
- 7. prefix that means "outside"
- 9. the diffusion of water
- 11. active transport will remove ___ ions, while taking in potassium ions
- 12. channel ___ can help move things across the membrane
- 16. organelle that helps remove excess water; _____ vacuole
- 18. the outer boundary of the cell

Name: _____

Cell Transport Packet

For questions 1-10, use Figure 1.

Match the structure/process to the letter:

1. Phospholipid bilayer _____
2. Osmosis _____
3. Simple Diffusion _____
4. Facilitated Diffusion _____
5. Channel protein _____
6. This cell would be in a [hypertonic / hypotonic / isotonic] solution.
7. All of the processes in the image are examples of [active / passive] transport.
8. The cell membrane can be described as [semi-permeable / impermeable]
9. There is more glucose [inside / outside] the cell. (Hint: Look at the direction it is moving)
10. Over time, this cell will [shrink / swell]



Diffusion and Osmosis

11. Label the three images in Figure 2 as **isotonic**, **hypertonic**, or **hypotonic** (with regard to the solution the cell is placed in)

Figure 2



12. Movement across the cell membrane that does not require energy is called [active / passive] transport.
13. The difference in the concentration of a substance across a space is called a concentration [equilibrium / gradient].
14. If there is a concentration gradient, substances will move from an area of high concentration to an area of [equal / low] concentration.
15. The cell membrane is [selectively permeable / impermeable].
16. [Equilibrium / Diffusion] is the simplest type of passive transport.
17. The diffusion of water through a selectively permeable membrane is called [osmosis / diffusion].
18. The direction of water movement across the cell membrane depends on the concentration of free water [molecules / solutions].
19. A solution that causes a cell to swell is called a [hypertonic / hypotonic] solution.
20. Organelles that collect excess water inside the cell and force water out are called [diffusion organelles / contractile vacuoles].
21. The process of taking material into the cell by infolding the cell membrane is called [endocytosis / exocytosis].
22. In [facilitated / molecular] diffusion, membrane proteins help molecules across the membrane.
23. In diffusion, molecules [spread out / condense].
24. The lipid bilayer describes [a type of transport / the cell membrane].
25. Facilitated diffusion moves substances down their concentration gradient [with / without] using the cell's energy.

Cell Transport

26. Know the parts of a solution

Define SOLUTE _____

Define SOLVENT _____

27. Explain what will happen to cells when placed in isotonic, hypertonic, and hypotonic solutions.

28. In Figure 3, draw the direction that **WATER** will move in each of the beakers.

Figure 3



29. Using Figure 3, label each beaker whether it is isotonic, hypertonic, or hypotonic.

30. **Define** the following terms:

Diffusion:

Equilibrium:

Osmosis:

Isotonic:

Hypertonic:

Hypotonic:

Facilitated diffusion:

Endocytosis:

Phagocytosis:

:

Exocytosis



Across

1. type of transport that requires energy
3. when a solution has a lesser concentration of particles
6. type of transport that does not require energy
8. prefix that means "inside"
10. movement of molecules from high to low concentration
13. a molecule composed of two hydrogens and one oxygen
14. a solution that has an equal amount of particles
15. membranes that let some things through, called selectively _____
17. the maintaining of an internal balance
19. word that means "cell"
20. a difference in concentration creates a concentration _

Down

2. condition achieved when molecules are evenly spread in an area
3. when a solution has a greater concentration of particles
4. turns color in the presence of starch
5. the engulfing of large particles
7. prefix that means "outside"
9. the diffusion of water
11. active transport will remove ___ ions, while taking in potassium ions
12. channel ___ can help move things across the membrane
16. organelle that helps remove excess water; _____ vacuole
18. the outer boundary of the cell

Name: _____

Cell Transport Packet

For questions 1-10, use Figure 1.

Match the structure/process to the letter:

1. Phospholipid bilayer _____
2. Osmosis _____
3. Simple Diffusion _____
4. Facilitated Diffusion _____
5. Channel protein _____
6. This cell would be in a [hypertonic / hypotonic / isotonic] solution.
7. All of the processes in the image are examples of [active / passive] transport.
8. The cell membrane can be described as [semi-permeable / impermeable]
9. There is more glucose [inside / outside] the cell. (Hint: Look at the direction it is moving)
10. Over time, this cell will [shrink / swell]



Diffusion and Osmosis

11. Label the three images in Figure 2 as **isotonic**, **hypertonic**, or **hypotonic** (with regard to the solution the cell is placed in)

Figure 2



12. Movement across the cell membrane that does not require energy is called [active / passive] transport.
13. The difference in the concentration of a substance across a space is called a concentration [equilibrium / gradient].
14. If there is a concentration gradient, substances will move from an area of high concentration to an area of [equal / low] concentration.
15. The cell membrane is [selectively permeable / impermeable].
16. [Equilibrium / Diffusion] is the simplest type of passive transport.
17. The diffusion of water through a selectively permeable membrane is called [osmosis / diffusion].
18. The direction of water movement across the cell membrane depends on the concentration of free water [molecules / solutions].
19. A solution that causes a cell to swell is called a [hypertonic / hypotonic] solution.
20. Organelles that collect excess water inside the cell and force water out are called [diffusion organelles / contractile vacuoles].
21. The process of taking material into the cell by infolding the cell membrane is called [endocytosis / exocytosis].
22. In [facilitated / molecular] diffusion, membrane proteins help molecules across the membrane.
23. In diffusion, molecules [spread out / condense].
24. The lipid bilayer describes [a type of transport / the cell membrane].
25. Facilitated diffusion moves substances down their concentration gradient [with / without] using the cell's energy.

Cell Transport

26. Know the parts of a solution

Define SOLUTE _____

Define SOLVENT _____

27. Explain what will happen to cells when placed in isotonic, hypertonic, and hypotonic solutions.

28. In Figure 3, draw the direction that WATER will move in each of the beakers.

Figure 3



29. Using Figure 3, label each beaker whether it is isotonic, hypertonic, or hypotonic.

30. **Define** the following terms:

Diffusion:

Equilibrium:

Osmosis:

Isotonic:

Hypertonic:

Hypotonic:

Facilitated diffusion:

Endocytosis:

Phagocytosis:

:

Exocytosis



Across

1. type of transport that requires energy
3. when a solution has a lesser concentration of particles
6. type of transport that does not require energy
8. prefix that means "inside"
10. movement of molecules from high to low concentration
13. a molecule composed of two hydrogens and one oxygen
14. a solution that has an equal amount of particles
15. membranes that let some things through, called selectively _____
17. the maintaining of an internal balance
19. word that means "cell"
20. a difference in concentration creates a concentration _

Down

2. condition achieved when molecules are evenly spread in an area
3. when a solution has a greater concentration of particles
4. turns color in the presence of starch
5. the engulfing of large particles
7. prefix that means "outside"
9. the diffusion of water
11. active transport will remove ___ ions, while taking in potassium ions
12. channel ___ can help move things across the membrane
16. organelle that helps remove excess water; _____ vacuole
18. the outer boundary of the cell

Name: _____

Cell Transport Packet

For questions 1-10, use Figure 1.

Match the structure/process to the letter:

1. Phospholipid bilayer _____
2. Osmosis _____
3. Simple Diffusion _____
4. Facilitated Diffusion _____
5. Channel protein _____
6. This cell would be in a [hypertonic / hypotonic / isotonic] solution.
7. All of the processes in the image are examples of [active / passive] transport.
8. The cell membrane can be described as [semi-permeable / impermeable]
9. There is more glucose [inside / outside] the cell. (Hint: Look at the direction it is moving)
10. Over time, this cell will [shrink / swell]



Diffusion and Osmosis

11. Label the three images in Figure 2 as **isotonic**, **hypertonic**, or **hypotonic** (with regard to the solution the cell is placed in)

Figure 2



12. Movement across the cell membrane that does not require energy is called [active / passive] transport.
13. The difference in the concentration of a substance across a space is called a concentration [equilibrium / gradient].
14. If there is a concentration gradient, substances will move from an area of high concentration to an area of [equal / low] concentration.
15. The cell membrane is [selectively permeable / impermeable].
16. [Equilibrium / Diffusion] is the simplest type of passive transport.
17. The diffusion of water through a selectively permeable membrane is called [osmosis / diffusion].
18. The direction of water movement across the cell membrane depends on the concentration of free water [molecules / solutions].
19. A solution that causes a cell to swell is called a [hypertonic / hypotonic] solution.
20. Organelles that collect excess water inside the cell and force water out are called [diffusion organelles / contractile vacuoles].
21. The process of taking material into the cell by infolding the cell membrane is called [endocytosis / exocytosis].
22. In [facilitated / molecular] diffusion, membrane proteins help molecules across the membrane.
23. In diffusion, molecules [spread out / condense].
24. The lipid bilayer describes [a type of transport / the cell membrane].
25. Facilitated diffusion moves substances down their concentration gradient [with / without] using the cell's energy.

Cell Transport

26. Know the parts of a solution

Define SOLUTE _____

Define SOLVENT _____

27. Explain what will happen to cells when placed in isotonic, hypertonic, and hypotonic solutions.

28. In Figure 3, draw the direction that **WATER** will move in each of the beakers.

Figure 3



29. Using Figure 3, label each beaker whether it is isotonic, hypertonic, or hypotonic.

30. **Define** the following terms:

Diffusion:

Equilibrium:

Osmosis:

Isotonic:

Hypertonic:

Hypotonic:

Facilitated diffusion:

Endocytosis:

Phagocytosis:

:

Exocytosis



Across

- 1. type of transport that requires energy
- 3. when a solution has a lesser concentration of particles
- 6. type of transport that does not require energy
- 8. prefix that means "inside"
- 10. movement of molecules from high to low concentration
- 13. a molecule composed of two hydrogens and one oxygen
- 14. a solution that has an equal amount of particles
- 15. membranes that let some things through, called selectively _____
- 17. the maintaining of an internal balance
- 19. word that means "cell"
- 20. a difference in concentration creates a concentration _

Down

- 2. condition achieved when molecules are evenly spread in an area
- 3. when a solution has a greater concentration of particles
- 4. turns color in the presence of starch
- 5. the engulfing of large particles
- 7. prefix that means "outside"
- 9. the diffusion of water
- 11. active transport will remove ___ ions, while taking in potassium ions
- 12. channel ___ can help move things across the membrane
- 16. organelle that helps remove excess water; _____ vacuole
- 18. the outer boundary of the cell

Name: _____

Cell Transport Packet

For questions 1-10, use Figure 1.

Match the structure/process to the letter:

1. Phospholipid bilayer _____
2. Osmosis _____
3. Simple Diffusion _____
4. Facilitated Diffusion _____
5. Channel protein _____
6. This cell would be in a [hypertonic / hypotonic / isotonic] solution.
7. All of the processes in the image are examples of [active / passive] transport.
8. The cell membrane can be described as [semi-permeable / impermeable]
9. There is more glucose [inside / outside] the cell. (Hint: Look at the direction it is moving)
10. Over time, this cell will [shrink / swell]



Diffusion and Osmosis

11. Label the three images in Figure 2 as **isotonic**, **hypertonic**, or **hypotonic** (with regard to the solution the cell is placed in)

Figure 2



12. Movement across the cell membrane that does not require energy is called [active / passive] transport.
13. The difference in the concentration of a substance across a space is called a concentration [equilibrium / gradient].
14. If there is a concentration gradient, substances will move from an area of high concentration to an area of [equal / low] concentration.
15. The cell membrane is [selectively permeable / impermeable].
16. [Equilibrium / Diffusion] is the simplest type of passive transport.
17. The diffusion of water through a selectively permeable membrane is called [osmosis / diffusion].
18. The direction of water movement across the cell membrane depends on the concentration of free water [molecules / solutions].
19. A solution that causes a cell to swell is called a [hypertonic / hypotonic] solution.
20. Organelles that collect excess water inside the cell and force water out are called [diffusion organelles / contractile vacuoles].
21. The process of taking material into the cell by infolding the cell membrane is called [endocytosis / exocytosis].
22. In [facilitated / molecular] diffusion, membrane proteins help molecules across the membrane.
23. In diffusion, molecules [spread out / condense].
24. The lipid bilayer describes [a type of transport / the cell membrane].
25. Facilitated diffusion moves substances down their concentration gradient [with / without] using the cell's energy.

Cell Transport

26. Know the parts of a solution

Define SOLUTE _____

Define SOLVENT _____

27. Explain what will happen to cells when placed in isotonic, hypertonic, and hypotonic solutions.

28. In Figure 3, draw the direction that **WATER** will move in each of the beakers.

Figure 3



29. Using Figure 3, label each beaker whether it is isotonic, hypertonic, or hypotonic.

30. **Define** the following terms:

Diffusion:

Equilibrium:

Osmosis:

Isotonic:

Hypertonic:

Hypotonic:

Facilitated diffusion:

Endocytosis:

Phagocytosis:

:

Exocytosis



Across

- 1. type of transport that requires energy
- 3. when a solution has a lesser concentration of particles
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- 8. prefix that means "inside"
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- 13. a molecule composed of two hydrogens and one oxygen
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- 15. membranes that let some things through, called selectively _____
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- 19. word that means "cell"
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Down

- 2. condition achieved when molecules are evenly spread in an area
- 3. when a solution has a greater concentration of particles
- 4. turns color in the presence of starch
- 5. the engulfing of large particles
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- 11. active transport will remove ___ ions, while taking in potassium ions
- 12. channel ___ can help move things across the membrane
- 16. organelle that helps remove excess water; _____ vacuole
- 18. the outer boundary of the cell

Name: _____

Cell Transport Packet

For questions 1-10, use Figure 1.

Match the structure/process to the letter:

1. Phospholipid bilayer _____
2. Osmosis _____
3. Simple Diffusion _____
4. Facilitated Diffusion _____
5. Channel protein _____
6. This cell would be in a [hypertonic / hypotonic / isotonic] solution.
7. All of the processes in the image are examples of [active / passive] transport.
8. The cell membrane can be described as [semi-permeable / impermeable]
9. There is more glucose [inside / outside] the cell. (Hint: Look at the direction it is moving)
10. Over time, this cell will [shrink / swell]



Diffusion and Osmosis

11. Label the three images in Figure 2 as **isotonic**, **hypertonic**, or **hypotonic** (with regard to the solution the cell is placed in)

Figure 2



12. Movement across the cell membrane that does not require energy is called [active / passive] transport.
13. The difference in the concentration of a substance across a space is called a concentration [equilibrium / gradient].
14. If there is a concentration gradient, substances will move from an area of high concentration to an area of [equal / low] concentration.
15. The cell membrane is [selectively permeable / impermeable].
16. [Equilibrium / Diffusion] is the simplest type of passive transport.
17. The diffusion of water through a selectively permeable membrane is called [osmosis / diffusion].
18. The direction of water movement across the cell membrane depends on the concentration of free water [molecules / solutions].
19. A solution that causes a cell to swell is called a [hypertonic / hypotonic] solution.
20. Organelles that collect excess water inside the cell and force water out are called [diffusion organelles / contractile vacuoles].
21. The process of taking material into the cell by infolding the cell membrane is called [endocytosis / exocytosis].
22. In [facilitated / molecular] diffusion, membrane proteins help molecules across the membrane.
23. In diffusion, molecules [spread out / condense].
24. The lipid bilayer describes [a type of transport / the cell membrane].
25. Facilitated diffusion moves substances down their concentration gradient [with / without] using the cell's energy.

Cell Transport

26. Know the parts of a solution

Define SOLUTE _____

Define SOLVENT _____

27. Explain what will happen to cells when placed in isotonic, hypertonic, and hypotonic solutions.

28. In Figure 3, draw the direction that **WATER** will move in each of the beakers.

Figure 3



29. Using Figure 3, label each beaker whether it is isotonic, hypertonic, or hypotonic.

30. **Define** the following terms:

Diffusion:

Equilibrium:

Osmosis:

Isotonic:

Hypertonic:

Hypotonic:

Facilitated diffusion:

Endocytosis:

Phagocytosis:

:

Exocytosis



Across

1. type of transport that requires energy
3. when a solution has a lesser concentration of particles
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8. prefix that means "inside"
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13. a molecule composed of two hydrogens and one oxygen
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15. membranes that let some things through, called selectively _____
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19. word that means "cell"
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Down

2. condition achieved when molecules are evenly spread in an area
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4. turns color in the presence of starch
5. the engulfing of large particles
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9. the diffusion of water
11. active transport will remove ___ ions, while taking in potassium ions
12. channel ___ can help move things across the membrane
16. organelle that helps remove excess water; _____ vacuole
18. the outer boundary of the cell

Name: _____

Cell Transport Packet

For questions 1-10, use Figure 1.

Match the structure/process to the letter:

1. Phospholipid bilayer _____
2. Osmosis _____
3. Simple Diffusion _____
4. Facilitated Diffusion _____
5. Channel protein _____
6. This cell would be in a [hypertonic / hypotonic / isotonic] solution.
7. All of the processes in the image are examples of [active / passive] transport.
8. The cell membrane can be described as [semi-permeable / impermeable]
9. There is more glucose [inside / outside] the cell. (Hint: Look at the direction it is moving)
10. Over time, this cell will [shrink / swell]



Diffusion and Osmosis

11. Label the three images in Figure 2 as **isotonic**, **hypertonic**, or **hypotonic** (with regard to the solution the cell is placed in)

Figure 2



12. Movement across the cell membrane that does not require energy is called [active / passive] transport.
13. The difference in the concentration of a substance across a space is called a concentration [equilibrium / gradient].
14. If there is a concentration gradient, substances will move from an area of high concentration to an area of [equal / low] concentration.
15. The cell membrane is [selectively permeable / impermeable].
16. [Equilibrium / Diffusion] is the simplest type of passive transport.
17. The diffusion of water through a selectively permeable membrane is called [osmosis / diffusion].
18. The direction of water movement across the cell membrane depends on the concentration of free water [molecules / solutions].
19. A solution that causes a cell to swell is called a [hypertonic / hypotonic] solution.
20. Organelles that collect excess water inside the cell and force water out are called [diffusion organelles / contractile vacuoles].
21. The process of taking material into the cell by infolding the cell membrane is called [endocytosis / exocytosis].
22. In [facilitated / molecular] diffusion, membrane proteins help molecules across the membrane.
23. In diffusion, molecules [spread out / condense].
24. The lipid bilayer describes [a type of transport / the cell membrane].
25. Facilitated diffusion moves substances down their concentration gradient [with / without] using the cell's energy.

Cell Transport

26. Know the parts of a solution

Define SOLUTE _____

Define SOLVENT _____

27. Explain what will happen to cells when placed in isotonic, hypertonic, and hypotonic solutions.

28. In Figure 3, draw the direction that **WATER** will move in each of the beakers.

Figure 3



29. Using Figure 3, label each beaker whether it is isotonic, hypertonic, or hypotonic.

30. **Define** the following terms:

Diffusion:

Equilibrium:

Osmosis:

Isotonic:

Hypertonic:

Hypotonic:

Facilitated diffusion:

Endocytosis:

Phagocytosis:

:

Exocytosis



Across

- 1. type of transport that requires energy
- 3. when a solution has a lesser concentration of particles
- 6. type of transport that does not require energy
- 8. prefix that means "inside"
- 10. movement of molecules from high to low concentration
- 13. a molecule composed of two hydrogens and one oxygen
- 14. a solution that has an equal amount of particles
- 15. membranes that let some things through, called selectively _____
- 17. the maintaining of an internal balance
- 19. word that means "cell"
- 20. a difference in concentration creates a concentration _

Down

- 2. condition achieved when molecules are evenly spread in an area
- 3. when a solution has a greater concentration of particles
- 4. turns color in the presence of starch
- 5. the engulfing of large particles
- 7. prefix that means "outside"
- 9. the diffusion of water
- 11. active transport will remove ___ ions, while taking in potassium ions
- 12. channel ___ can help move things across the membrane
- 16. organelle that helps remove excess water; _____ vacuole
- 18. the outer boundary of the cell

Name: _____

Cell Transport Packet

For questions 1-10, use Figure 1.

Match the structure/process to the letter:

1. Phospholipid bilayer _____
2. Osmosis _____
3. Simple Diffusion _____
4. Facilitated Diffusion _____
5. Channel protein _____
6. This cell would be in a [hypertonic / hypotonic / isotonic] solution.
7. All of the processes in the image are examples of [active / passive] transport.
8. The cell membrane can be described as [semi-permeable / impermeable]
9. There is more glucose [inside / outside] the cell. (Hint: Look at the direction it is moving)
10. Over time, this cell will [shrink / swell]



Diffusion and Osmosis

11. Label the three images in Figure 2 as **isotonic**, **hypertonic**, or **hypotonic** (with regard to the solution the cell is placed in)

Figure 2



12. Movement across the cell membrane that does not require energy is called [active / passive] transport.
13. The difference in the concentration of a substance across a space is called a concentration [equilibrium / gradient].
14. If there is a concentration gradient, substances will move from an area of high concentration to an area of [equal / low] concentration.
15. The cell membrane is [selectively permeable / impermeable].
16. [Equilibrium / Diffusion] is the simplest type of passive transport.
17. The diffusion of water through a selectively permeable membrane is called [osmosis / diffusion].
18. The direction of water movement across the cell membrane depends on the concentration of free water [molecules / solutions].
19. A solution that causes a cell to swell is called a [hypertonic / hypotonic] solution.
20. Organelles that collect excess water inside the cell and force water out are called [diffusion organelles / contractile vacuoles].
21. The process of taking material into the cell by infolding the cell membrane is called [endocytosis / exocytosis].
22. In [facilitated / molecular] diffusion, membrane proteins help molecules across the membrane.
23. In diffusion, molecules [spread out / condense].
24. The lipid bilayer describes [a type of transport / the cell membrane].
25. Facilitated diffusion moves substances down their concentration gradient [with / without] using the cell's energy.

Cell Transport

26. Know the parts of a solution

Define SOLUTE _____

Define SOLVENT _____

27. Explain what will happen to cells when placed in isotonic, hypertonic, and hypotonic solutions.

28. In Figure 3, draw the direction that **WATER** will move in each of the beakers.

Figure 3



29. Using Figure 3, label each beaker whether it is isotonic, hypertonic, or hypotonic.

30. **Define** the following terms:

Diffusion:

Equilibrium:

Osmosis:

Isotonic:

Hypertonic:

Hypotonic:

Facilitated diffusion:

Endocytosis:

Phagocytosis:

:

Exocytosis



Across

1. type of transport that requires energy
3. when a solution has a lesser concentration of particles
6. type of transport that does not require energy
8. prefix that means "inside"
10. movement of molecules from high to low concentration
13. a molecule composed of two hydrogens and one oxygen
14. a solution that has an equal amount of particles
15. membranes that let some things through, called selectively _____
17. the maintaining of an internal balance
19. word that means "cell"
20. a difference in concentration creates a concentration _

Down

2. condition achieved when molecules are evenly spread in an area
3. when a solution has a greater concentration of particles
4. turns color in the presence of starch
5. the engulfing of large particles
7. prefix that means "outside"
9. the diffusion of water
11. active transport will remove ___ ions, while taking in potassium ions
12. channel ___ can help move things across the membrane
16. organelle that helps remove excess water; _____ vacuole
18. the outer boundary of the cell

Name: _____

Cell Transport Packet

For questions 1-10, use Figure 1.

Match the structure/process to the letter:

1. Phospholipid bilayer _____
2. Osmosis _____
3. Simple Diffusion _____
4. Facilitated Diffusion _____
5. Channel protein _____
6. This cell would be in a [hypertonic / hypotonic / isotonic] solution.
7. All of the processes in the image are examples of [active / passive] transport.
8. The cell membrane can be described as [semi-permeable / impermeable]
9. There is more glucose [inside / outside] the cell. (Hint: Look at the direction it is moving)
10. Over time, this cell will [shrink / swell]



Diffusion and Osmosis

11. Label the three images in Figure 2 as **isotonic**, **hypertonic**, or **hypotonic** (with regard to the solution the cell is placed in)

Figure 2



12. Movement across the cell membrane that does not require energy is called [active / passive] transport.
13. The difference in the concentration of a substance across a space is called a concentration [equilibrium / gradient].
14. If there is a concentration gradient, substances will move from an area of high concentration to an area of [equal / low] concentration.
15. The cell membrane is [selectively permeable / impermeable].
16. [Equilibrium / Diffusion] is the simplest type of passive transport.
17. The diffusion of water through a selectively permeable membrane is called [osmosis / diffusion].
18. The direction of water movement across the cell membrane depends on the concentration of free water [molecules / solutions].
19. A solution that causes a cell to swell is called a [hypertonic / hypotonic] solution.
20. Organelles that collect excess water inside the cell and force water out are called [diffusion organelles / contractile vacuoles].
21. The process of taking material into the cell by infolding the cell membrane is called [endocytosis / exocytosis].
22. In [facilitated / molecular] diffusion, membrane proteins help molecules across the membrane.
23. In diffusion, molecules [spread out / condense].
24. The lipid bilayer describes [a type of transport / the cell membrane].
25. Facilitated diffusion moves substances down their concentration gradient [with / without] using the cell's energy.

Cell Transport

26. Know the parts of a solution

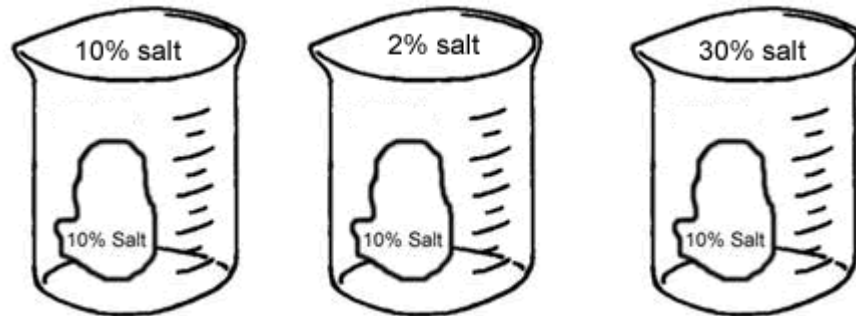
Define SOLUTE _____

Define SOLVENT _____

27. Explain what will happen to cells when placed in isotonic, hypertonic, and hypotonic solutions.

28. In Figure 3, draw the direction that **WATER** will move in each of the beakers.

Figure 3



29. Using Figure 3, label each beaker whether it is isotonic, hypertonic, or hypotonic.

30. **Define** the following terms:

Diffusion:

Equilibrium:

Osmosis:

Isotonic:

Hypertonic:

Hypotonic:

Facilitated diffusion:

Endocytosis:

Phagocytosis:

:

Exocytosis



Across

- 1. type of transport that requires energy
- 3. when a solution has a lesser concentration of particles
- 6. type of transport that does not require energy
- 8. prefix that means "inside"
- 10. movement of molecules from high to low concentration
- 13. a molecule composed of two hydrogens and one oxygen
- 14. a solution that has an equal amount of particles
- 15. membranes that let some things through, called selectively _____
- 17. the maintaining of an internal balance
- 19. word that means "cell"
- 20. a difference in concentration creates a concentration _

Down

- 2. condition achieved when molecules are evenly spread in an area
- 3. when a solution has a greater concentration of particles
- 4. turns color in the presence of starch
- 5. the engulfing of large particles
- 7. prefix that means "outside"
- 9. the diffusion of water
- 11. active transport will remove ___ ions, while taking in potassium ions
- 12. channel ___ can help move things across the membrane
- 16. organelle that helps remove excess water; _____ vacuole
- 18. the outer boundary of the cell

Name: _____

Cell Transport Packet

For questions 1-10, use Figure 1.

Match the structure/process to the letter:

1. Phospholipid bilayer _____
2. Osmosis _____
3. Simple Diffusion _____
4. Facilitated Diffusion _____
5. Channel protein _____
6. This cell would be in a [hypertonic / hypotonic / isotonic] solution.
7. All of the processes in the image are examples of [active / passive] transport.
8. The cell membrane can be described as [semi-permeable / impermeable]
9. There is more glucose [inside / outside] the cell. (Hint: Look at the direction it is moving)
10. Over time, this cell will [shrink / swell]



Diffusion and Osmosis

11. Label the three images in Figure 2 as **isotonic**, **hypertonic**, or **hypotonic** (with regard to the solution the cell is placed in)

Figure 2



12. Movement across the cell membrane that does not require energy is called [active / passive] transport.
13. The difference in the concentration of a substance across a space is called a concentration [equilibrium / gradient].
14. If there is a concentration gradient, substances will move from an area of high concentration to an area of [equal / low] concentration.
15. The cell membrane is [selectively permeable / impermeable].
16. [Equilibrium / Diffusion] is the simplest type of passive transport.
17. The diffusion of water through a selectively permeable membrane is called [osmosis / diffusion].
18. The direction of water movement across the cell membrane depends on the concentration of free water [molecules / solutions].
19. A solution that causes a cell to swell is called a [hypertonic / hypotonic] solution.
20. Organelles that collect excess water inside the cell and force water out are called [diffusion organelles / contractile vacuoles].
21. The process of taking material into the cell by infolding the cell membrane is called [endocytosis / exocytosis].
22. In [facilitated / molecular] diffusion, membrane proteins help molecules across the membrane.
23. In diffusion, molecules [spread out / condense].
24. The lipid bilayer describes [a type of transport / the cell membrane].
25. Facilitated diffusion moves substances down their concentration gradient [with / without] using the cell's energy.

Cell Transport

26. Know the parts of a solution

Define SOLUTE _____

Define SOLVENT _____

27. Explain what will happen to cells when placed in isotonic, hypertonic, and hypotonic solutions.

28. In Figure 3, draw the direction that **WATER** will move in each of the beakers.

Figure 3



29. Using Figure 3, label each beaker whether it is isotonic, hypertonic, or hypotonic.

30. **Define** the following terms:

Diffusion:

Equilibrium:

Osmosis:

Isotonic:

Hypertonic:

Hypotonic:

Facilitated diffusion:

Endocytosis:

Phagocytosis:

:

Exocytosis



Across

- 1. type of transport that requires energy
- 3. when a solution has a lesser concentration of particles
- 6. type of transport that does not require energy
- 8. prefix that means "inside"
- 10. movement of molecules from high to low concentration
- 13. a molecule composed of two hydrogens and one oxygen
- 14. a solution that has an equal amount of particles
- 15. membranes that let some things through, called selectively _____
- 17. the maintaining of an internal balance
- 19. word that means "cell"
- 20. a difference in concentration creates a concentration _

Down

- 2. condition achieved when molecules are evenly spread in an area
- 3. when a solution has a greater concentration of particles
- 4. turns color in the presence of starch
- 5. the engulfing of large particles
- 7. prefix that means "outside"
- 9. the diffusion of water
- 11. active transport will remove ___ ions, while taking in potassium ions
- 12. channel ___ can help move things across the membrane
- 16. organelle that helps remove excess water; _____ vacuole
- 18. the outer boundary of the cell

Name: _____

Cell Transport Packet

For questions 1-10, use Figure 1.

Match the structure/process to the letter:

1. Phospholipid bilayer _____
2. Osmosis _____
3. Simple Diffusion _____
4. Facilitated Diffusion _____
5. Channel protein _____
6. This cell would be in a [hypertonic / hypotonic / isotonic] solution.
7. All of the processes in the image are examples of [active / passive] transport.
8. The cell membrane can be described as [semi-permeable / impermeable]
9. There is more glucose [inside / outside] the cell. (Hint: Look at the direction it is moving)
10. Over time, this cell will [shrink / swell]



Diffusion and Osmosis

11. Label the three images in Figure 2 as **isotonic**, **hypertonic**, or **hypotonic** (with regard to the solution the cell is placed in)

Figure 2



12. Movement across the cell membrane that does not require energy is called [active / passive] transport.
13. The difference in the concentration of a substance across a space is called a concentration [equilibrium / gradient].
14. If there is a concentration gradient, substances will move from an area of high concentration to an area of [equal / low] concentration.
15. The cell membrane is [selectively permeable / impermeable].
16. [Equilibrium / Diffusion] is the simplest type of passive transport.
17. The diffusion of water through a selectively permeable membrane is called [osmosis / diffusion].
18. The direction of water movement across the cell membrane depends on the concentration of free water [molecules / solutions].
19. A solution that causes a cell to swell is called a [hypertonic / hypotonic] solution.
20. Organelles that collect excess water inside the cell and force water out are called [diffusion organelles / contractile vacuoles].
21. The process of taking material into the cell by infolding the cell membrane is called [endocytosis / exocytosis].
22. In [facilitated / molecular] diffusion, membrane proteins help molecules across the membrane.
23. In diffusion, molecules [spread out / condense].
24. The lipid bilayer describes [a type of transport / the cell membrane].
25. Facilitated diffusion moves substances down their concentration gradient [with / without] using the cell's energy.

Cell Transport

26. Know the parts of a solution

Define SOLUTE _____

Define SOLVENT _____

27. Explain what will happen to cells when placed in isotonic, hypertonic, and hypotonic solutions.

28. In Figure 3, draw the direction that **WATER** will move in each of the beakers.

Figure 3



29. Using Figure 3, label each beaker whether it is isotonic, hypertonic, or hypotonic.

30. **Define** the following terms:

Diffusion:

Equilibrium:

Osmosis:

Isotonic:

Hypertonic:

Hypotonic:

Facilitated diffusion:

Endocytosis:

Phagocytosis:

:

Exocytosis



Across

- 1. type of transport that requires energy
- 3. when a solution has a lesser concentration of particles
- 6. type of transport that does not require energy
- 8. prefix that means "inside"
- 10. movement of molecules from high to low concentration
- 13. a molecule composed of two hydrogens and one oxygen
- 14. a solution that has an equal amount of particles
- 15. membranes that let some things through, called selectively _____
- 17. the maintaining of an internal balance
- 19. word that means "cell"
- 20. a difference in concentration creates a concentration _

Down

- 2. condition achieved when molecules are evenly spread in an area
- 3. when a solution has a greater concentration of particles
- 4. turns color in the presence of starch
- 5. the engulfing of large particles
- 7. prefix that means "outside"
- 9. the diffusion of water
- 11. active transport will remove ___ ions, while taking in potassium ions
- 12. channel ___ can help move things across the membrane
- 16. organelle that helps remove excess water; _____ vacuole
- 18. the outer boundary of the cell

Name: _____

Cell Transport Packet

For questions 1-10, use Figure 1.

Match the structure/process to the letter:

1. Phospholipid bilayer _____
2. Osmosis _____
3. Simple Diffusion _____
4. Facilitated Diffusion _____
5. Channel protein _____
6. This cell would be in a [hypertonic / hypotonic / isotonic] solution.
7. All of the processes in the image are examples of [active / passive] transport.
8. The cell membrane can be described as [semi-permeable / impermeable]
9. There is more glucose [inside / outside] the cell. (Hint: Look at the direction it is moving)
10. Over time, this cell will [shrink / swell]



Diffusion and Osmosis

11. Label the three images in Figure 2 as **isotonic**, **hypertonic**, or **hypotonic** (with regard to the solution the cell is placed in)

Figure 2



12. Movement across the cell membrane that does not require energy is called [active / passive] transport.
13. The difference in the concentration of a substance across a space is called a concentration [equilibrium / gradient].
14. If there is a concentration gradient, substances will move from an area of high concentration to an area of [equal / low] concentration.
15. The cell membrane is [selectively permeable / impermeable].
16. [Equilibrium / Diffusion] is the simplest type of passive transport.
17. The diffusion of water through a selectively permeable membrane is called [osmosis / diffusion].
18. The direction of water movement across the cell membrane depends on the concentration of free water [molecules / solutions].
19. A solution that causes a cell to swell is called a [hypertonic / hypotonic] solution.
20. Organelles that collect excess water inside the cell and force water out are called [diffusion organelles / contractile vacuoles].
21. The process of taking material into the cell by infolding the cell membrane is called [endocytosis / exocytosis].
22. In [facilitated / molecular] diffusion, membrane proteins help molecules across the membrane.
23. In diffusion, molecules [spread out / condense].
24. The lipid bilayer describes [a type of transport / the cell membrane].
25. Facilitated diffusion moves substances down their concentration gradient [with / without] using the cell's energy.

Cell Transport

26. Know the parts of a solution

Define SOLUTE _____

Define SOLVENT _____

27. Explain what will happen to cells when placed in isotonic, hypertonic, and hypotonic solutions.

28. In Figure 3, draw the direction that **WATER** will move in each of the beakers.

Figure 3



29. Using Figure 3, label each beaker whether it is isotonic, hypertonic, or hypotonic.

30. **Define** the following terms:

Diffusion:

Equilibrium:

Osmosis:

Isotonic:

Hypertonic:

Hypotonic:

Facilitated diffusion:

Endocytosis:

Phagocytosis:

:

Exocytosis



Across

- 1. type of transport that requires energy
- 3. when a solution has a lesser concentration of particles
- 6. type of transport that does not require energy
- 8. prefix that means "inside"
- 10. movement of molecules from high to low concentration
- 13. a molecule composed of two hydrogens and one oxygen
- 14. a solution that has an equal amount of particles
- 15. membranes that let some things through, called selectively _____
- 17. the maintaining of an internal balance
- 19. word that means "cell"
- 20. a difference in concentration creates a concentration _

Down

- 2. condition achieved when molecules are evenly spread in an area
- 3. when a solution has a greater concentration of particles
- 4. turns color in the presence of starch
- 5. the engulfing of large particles
- 7. prefix that means "outside"
- 9. the diffusion of water
- 11. active transport will remove ___ ions, while taking in potassium ions
- 12. channel ___ can help move things across the membrane
- 16. organelle that helps remove excess water; _____ vacuole
- 18. the outer boundary of the cell

Name: _____

Cell Transport Packet

For questions 1-10, use Figure 1.

Match the structure/process to the letter:

1. Phospholipid bilayer _____
2. Osmosis _____
3. Simple Diffusion _____
4. Facilitated Diffusion _____
5. Channel protein _____
6. This cell would be in a [hypertonic / hypotonic / isotonic] solution.
7. All of the processes in the image are examples of [active / passive] transport.
8. The cell membrane can be described as [semi-permeable / impermeable]
9. There is more glucose [inside / outside] the cell. (Hint: Look at the direction it is moving)
10. Over time, this cell will [shrink / swell]



Diffusion and Osmosis

11. Label the three images in Figure 2 as **isotonic**, **hypertonic**, or **hypotonic** (with regard to the solution the cell is placed in)

Figure 2



12. Movement across the cell membrane that does not require energy is called [active / passive] transport.
13. The difference in the concentration of a substance across a space is called a concentration [equilibrium / gradient].
14. If there is a concentration gradient, substances will move from an area of high concentration to an area of [equal / low] concentration.
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16. [Equilibrium / Diffusion] is the simplest type of passive transport.
17. The diffusion of water through a selectively permeable membrane is called [osmosis / diffusion].
18. The direction of water movement across the cell membrane depends on the concentration of free water [molecules / solutions].
19. A solution that causes a cell to swell is called a [hypertonic / hypotonic] solution.
20. Organelles that collect excess water inside the cell and force water out are called [diffusion organelles / contractile vacuoles].
21. The process of taking material into the cell by infolding the cell membrane is called [endocytosis / exocytosis].
22. In [facilitated / molecular] diffusion, membrane proteins help molecules across the membrane.
23. In diffusion, molecules [spread out / condense].
24. The lipid bilayer describes [a type of transport / the cell membrane].
25. Facilitated diffusion moves substances down their concentration gradient [with / without] using the cell's energy.

Cell Transport

26. Know the parts of a solution

Define SOLUTE _____

Define SOLVENT _____

27. Explain what will happen to cells when placed in isotonic, hypertonic, and hypotonic solutions.

28. In Figure 3, draw the direction that **WATER** will move in each of the beakers.

Figure 3



29. Using Figure 3, label each beaker whether it is isotonic, hypertonic, or hypotonic.

30. **Define** the following terms:

Diffusion:

Equilibrium:

Osmosis:

Isotonic:

Hypertonic:

Hypotonic:

Facilitated diffusion:

Endocytosis:

Phagocytosis:

:

Exocytosis



Across

- 1. type of transport that requires energy
- 3. when a solution has a lesser concentration of particles
- 6. type of transport that does not require energy
- 8. prefix that means "inside"
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- 13. a molecule composed of two hydrogens and one oxygen
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- 15. membranes that let some things through, called selectively _____
- 17. the maintaining of an internal balance
- 19. word that means "cell"
- 20. a difference in concentration creates a concentration _

Down

- 2. condition achieved when molecules are evenly spread in an area
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- 4. turns color in the presence of starch
- 5. the engulfing of large particles
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- 18. the outer boundary of the cell

Name: _____

Cell Transport Packet

For questions 1-10, use Figure 1.

Match the structure/process to the letter:

1. Phospholipid bilayer _____
2. Osmosis _____
3. Simple Diffusion _____
4. Facilitated Diffusion _____
5. Channel protein _____
6. This cell would be in a [hypertonic / hypotonic / isotonic] solution.
7. All of the processes in the image are examples of [active / passive] transport.
8. The cell membrane can be described as [semi-permeable / impermeable]
9. There is more glucose [inside / outside] the cell. (Hint: Look at the direction it is moving)
10. Over time, this cell will [shrink / swell]



Diffusion and Osmosis

11. Label the three images in Figure 2 as **isotonic**, **hypertonic**, or **hypotonic** (with regard to the solution the cell is placed in)

Figure 2



12. Movement across the cell membrane that does not require energy is called [active / passive] transport.
13. The difference in the concentration of a substance across a space is called a concentration [equilibrium / gradient].
14. If there is a concentration gradient, substances will move from an area of high concentration to an area of [equal / low] concentration.
15. The cell membrane is [selectively permeable / impermeable].
16. [Equilibrium / Diffusion] is the simplest type of passive transport.
17. The diffusion of water through a selectively permeable membrane is called [osmosis / diffusion].
18. The direction of water movement across the cell membrane depends on the concentration of free water [molecules / solutions].
19. A solution that causes a cell to swell is called a [hypertonic / hypotonic] solution.
20. Organelles that collect excess water inside the cell and force water out are called [diffusion organelles / contractile vacuoles].
21. The process of taking material into the cell by infolding the cell membrane is called [endocytosis / exocytosis].
22. In [facilitated / molecular] diffusion, membrane proteins help molecules across the membrane.
23. In diffusion, molecules [spread out / condense].
24. The lipid bilayer describes [a type of transport / the cell membrane].
25. Facilitated diffusion moves substances down their concentration gradient [with / without] using the cell's energy.

Cell Transport

26. Know the parts of a solution

Define SOLUTE _____

Define SOLVENT _____

27. Explain what will happen to cells when placed in isotonic, hypertonic, and hypotonic solutions.

28. In Figure 3, draw the direction that **WATER** will move in each of the beakers.

Figure 3



29. Using Figure 3, label each beaker whether it is isotonic, hypertonic, or hypotonic.

30. **Define** the following terms:

Diffusion:

Equilibrium:

Osmosis:

Isotonic:

Hypertonic:

Hypotonic:

Facilitated diffusion:

Endocytosis:

Phagocytosis:

:

Exocytosis



Across

- 1. type of transport that requires energy
- 3. when a solution has a lesser concentration of particles
- 6. type of transport that does not require energy
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- 15. membranes that let some things through, called selectively _____
- 17. the maintaining of an internal balance
- 19. word that means "cell"
- 20. a difference in concentration creates a concentration _

Down

- 2. condition achieved when molecules are evenly spread in an area
- 3. when a solution has a greater concentration of particles
- 4. turns color in the presence of starch
- 5. the engulfing of large particles
- 7. prefix that means "outside"
- 9. the diffusion of water
- 11. active transport will remove ___ ions, while taking in potassium ions
- 12. channel ___ can help move things across the membrane
- 16. organelle that helps remove excess water; _____ vacuole
- 18. the outer boundary of the cell

Name: _____

Cell Transport Packet

For questions 1-10, use Figure 1.

Match the structure/process to the letter:

1. Phospholipid bilayer _____
2. Osmosis _____
3. Simple Diffusion _____
4. Facilitated Diffusion _____
5. Channel protein _____
6. This cell would be in a [hypertonic / hypotonic / isotonic] solution.
7. All of the processes in the image are examples of [active / passive] transport.
8. The cell membrane can be described as [semi-permeable / impermeable]
9. There is more glucose [inside / outside] the cell. (Hint: Look at the direction it is moving)
10. Over time, this cell will [shrink / swell]



Diffusion and Osmosis

11. Label the three images in Figure 2 as **isotonic**, **hypertonic**, or **hypotonic** (with regard to the solution the cell is placed in)

Figure 2



12. Movement across the cell membrane that does not require energy is called [active / passive] transport.
13. The difference in the concentration of a substance across a space is called a concentration [equilibrium / gradient].
14. If there is a concentration gradient, substances will move from an area of high concentration to an area of [equal / low] concentration.
15. The cell membrane is [selectively permeable / impermeable].
16. [Equilibrium / Diffusion] is the simplest type of passive transport.
17. The diffusion of water through a selectively permeable membrane is called [osmosis / diffusion].
18. The direction of water movement across the cell membrane depends on the concentration of free water [molecules / solutions].
19. A solution that causes a cell to swell is called a [hypertonic / hypotonic] solution.
20. Organelles that collect excess water inside the cell and force water out are called [diffusion organelles / contractile vacuoles].
21. The process of taking material into the cell by infolding the cell membrane is called [endocytosis / exocytosis].
22. In [facilitated / molecular] diffusion, membrane proteins help molecules across the membrane.
23. In diffusion, molecules [spread out / condense].
24. The lipid bilayer describes [a type of transport / the cell membrane].
25. Facilitated diffusion moves substances down their concentration gradient [with / without] using the cell's energy.

Cell Transport

26. Know the parts of a solution

Define SOLUTE _____

Define SOLVENT _____

27. Explain what will happen to cells when placed in isotonic, hypertonic, and hypotonic solutions.

28. In Figure 3, draw the direction that **WATER** will move in each of the beakers.

Figure 3



29. Using Figure 3, label each beaker whether it is isotonic, hypertonic, or hypotonic.

30. **Define** the following terms:

Diffusion:

Equilibrium:

Osmosis:

Isotonic:

Hypertonic:

Hypotonic:

Facilitated diffusion:

Endocytosis:

Phagocytosis:

:

Exocytosis



Across

- 1. type of transport that requires energy
- 3. when a solution has a lesser concentration of particles
- 6. type of transport that does not require energy
- 8. prefix that means "inside"
- 10. movement of molecules from high to low concentration
- 13. a molecule composed of two hydrogens and one oxygen
- 14. a solution that has an equal amount of particles
- 15. membranes that let some things through, called selectively _____
- 17. the maintaining of an internal balance
- 19. word that means "cell"
- 20. a difference in concentration creates a concentration _

Down

- 2. condition achieved when molecules are evenly spread in an area
- 3. when a solution has a greater concentration of particles
- 4. turns color in the presence of starch
- 5. the engulfing of large particles
- 7. prefix that means "outside"
- 9. the diffusion of water
- 11. active transport will remove ___ ions, while taking in potassium ions
- 12. channel ___ can help move things across the membrane
- 16. organelle that helps remove excess water; _____ vacuole
- 18. the outer boundary of the cell

Name: _____

Cell Transport Packet

For questions 1-10, use Figure 1.

Match the structure/process to the letter:

1. Phospholipid bilayer _____
2. Osmosis _____
3. Simple Diffusion _____
4. Facilitated Diffusion _____
5. Channel protein _____
6. This cell would be in a [hypertonic / hypotonic / isotonic] solution.
7. All of the processes in the image are examples of [active / passive] transport.
8. The cell membrane can be described as [semi-permeable / impermeable]
9. There is more glucose [inside / outside] the cell. (Hint: Look at the direction it is moving)
10. Over time, this cell will [shrink / swell]



Diffusion and Osmosis

11. Label the three images in Figure 2 as **isotonic**, **hypertonic**, or **hypotonic** (with regard to the solution the cell is placed in)

Figure 2



12. Movement across the cell membrane that does not require energy is called [active / passive] transport.
13. The difference in the concentration of a substance across a space is called a concentration [equilibrium / gradient].
14. If there is a concentration gradient, substances will move from an area of high concentration to an area of [equal / low] concentration.
15. The cell membrane is [selectively permeable / impermeable].
16. [Equilibrium / Diffusion] is the simplest type of passive transport.
17. The diffusion of water through a selectively permeable membrane is called [osmosis / diffusion].
18. The direction of water movement across the cell membrane depends on the concentration of free water [molecules / solutions].
19. A solution that causes a cell to swell is called a [hypertonic / hypotonic] solution.
20. Organelles that collect excess water inside the cell and force water out are called [diffusion organelles / contractile vacuoles].
21. The process of taking material into the cell by infolding the cell membrane is called [endocytosis / exocytosis].
22. In [facilitated / molecular] diffusion, membrane proteins help molecules across the membrane.
23. In diffusion, molecules [spread out / condense].
24. The lipid bilayer describes [a type of transport / the cell membrane].
25. Facilitated diffusion moves substances down their concentration gradient [with / without] using the cell's energy.

Cell Transport

26. Know the parts of a solution

Define SOLUTE _____

Define SOLVENT _____

27. Explain what will happen to cells when placed in isotonic, hypertonic, and hypotonic solutions.

28. In Figure 3, draw the direction that **WATER** will move in each of the beakers.

Figure 3



29. Using Figure 3, label each beaker whether it is isotonic, hypertonic, or hypotonic.

30. **Define** the following terms:

Diffusion:

Equilibrium:

Osmosis:

Isotonic:

Hypertonic:

Hypotonic:

Facilitated diffusion:

Endocytosis:

Phagocytosis:

:

Exocytosis



Across

1. type of transport that requires energy
3. when a solution has a lesser concentration of particles
6. type of transport that does not require energy
8. prefix that means "inside"
10. movement of molecules from high to low concentration
13. a molecule composed of two hydrogens and one oxygen
14. a solution that has an equal amount of particles
15. membranes that let some things through, called selectively _____
17. the maintaining of an internal balance
19. word that means "cell"
20. a difference in concentration creates a concentration _

Down

2. condition achieved when molecules are evenly spread in an area
3. when a solution has a greater concentration of particles
4. turns color in the presence of starch
5. the engulfing of large particles
7. prefix that means "outside"
9. the diffusion of water
11. active transport will remove ___ ions, while taking in potassium ions
12. channel ___ can help move things across the membrane
16. organelle that helps remove excess water; _____ vacuole
18. the outer boundary of the cell

Name: _____

Cell Transport Packet

For questions 1-10, use Figure 1.

Match the structure/process to the letter:

1. Phospholipid bilayer _____
2. Osmosis _____
3. Simple Diffusion _____
4. Facilitated Diffusion _____
5. Channel protein _____
6. This cell would be in a [hypertonic / hypotonic / isotonic] solution.
7. All of the processes in the image are examples of [active / passive] transport.
8. The cell membrane can be described as [semi-permeable / impermeable]
9. There is more glucose [inside / outside] the cell. (Hint: Look at the direction it is moving)
10. Over time, this cell will [shrink / swell]



Diffusion and Osmosis

11. Label the three images in Figure 2 as **isotonic**, **hypertonic**, or **hypotonic** (with regard to the solution the cell is placed in)

Figure 2



12. Movement across the cell membrane that does not require energy is called [active / passive] transport.
13. The difference in the concentration of a substance across a space is called a concentration [equilibrium / gradient].
14. If there is a concentration gradient, substances will move from an area of high concentration to an area of [equal / low] concentration.
15. The cell membrane is [selectively permeable / impermeable].
16. [Equilibrium / Diffusion] is the simplest type of passive transport.
17. The diffusion of water through a selectively permeable membrane is called [osmosis / diffusion].
18. The direction of water movement across the cell membrane depends on the concentration of free water [molecules / solutions].
19. A solution that causes a cell to swell is called a [hypertonic / hypotonic] solution.
20. Organelles that collect excess water inside the cell and force water out are called [diffusion organelles / contractile vacuoles].
21. The process of taking material into the cell by infolding the cell membrane is called [endocytosis / exocytosis].
22. In [facilitated / molecular] diffusion, membrane proteins help molecules across the membrane.
23. In diffusion, molecules [spread out / condense].
24. The lipid bilayer describes [a type of transport / the cell membrane].
25. Facilitated diffusion moves substances down their concentration gradient [with / without] using the cell's energy.

Cell Transport

26. Know the parts of a solution

Define SOLUTE _____

Define SOLVENT _____

27. Explain what will happen to cells when placed in isotonic, hypertonic, and hypotonic solutions.

28. In Figure 3, draw the direction that **WATER** will move in each of the beakers.

Figure 3



29. Using Figure 3, label each beaker whether it is isotonic, hypertonic, or hypotonic.

30. **Define** the following terms:

Diffusion:

Equilibrium:

Osmosis:

Isotonic:

Hypertonic:

Hypotonic:

Facilitated diffusion:

Endocytosis:

Phagocytosis:

:

Exocytosis



Across

- 1. type of transport that requires energy
- 3. when a solution has a lesser concentration of particles
- 6. type of transport that does not require energy
- 8. prefix that means "inside"
- 10. movement of molecules from high to low concentration
- 13. a molecule composed of two hydrogens and one oxygen
- 14. a solution that has an equal amount of particles
- 15. membranes that let some things through, called selectively _____
- 17. the maintaining of an internal balance
- 19. word that means "cell"
- 20. a difference in concentration creates a concentration _

Down

- 2. condition achieved when molecules are evenly spread in an area
- 3. when a solution has a greater concentration of particles
- 4. turns color in the presence of starch
- 5. the engulfing of large particles
- 7. prefix that means "outside"
- 9. the diffusion of water
- 11. active transport will remove ___ ions, while taking in potassium ions
- 12. channel ___ can help move things across the membrane
- 16. organelle that helps remove excess water; _____ vacuole
- 18. the outer boundary of the cell

Name: _____

Cell Transport Packet

For questions 1-10, use Figure 1.

Match the structure/process to the letter:

1. Phospholipid bilayer _____
2. Osmosis _____
3. Simple Diffusion _____
4. Facilitated Diffusion _____
5. Channel protein _____
6. This cell would be in a [hypertonic / hypotonic / isotonic] solution.
7. All of the processes in the image are examples of [active / passive] transport.
8. The cell membrane can be described as [semi-permeable / impermeable]
9. There is more glucose [inside / outside] the cell. (Hint: Look at the direction it is moving)
10. Over time, this cell will [shrink / swell]



Diffusion and Osmosis

11. Label the three images in Figure 2 as **isotonic**, **hypertonic**, or **hypotonic** (with regard to the solution the cell is placed in)

Figure 2



12. Movement across the cell membrane that does not require energy is called [active / passive] transport.
13. The difference in the concentration of a substance across a space is called a concentration [equilibrium / gradient].
14. If there is a concentration gradient, substances will move from an area of high concentration to an area of [equal / low] concentration.
15. The cell membrane is [selectively permeable / impermeable].
16. [Equilibrium / Diffusion] is the simplest type of passive transport.
17. The diffusion of water through a selectively permeable membrane is called [osmosis / diffusion].
18. The direction of water movement across the cell membrane depends on the concentration of free water [molecules / solutions].
19. A solution that causes a cell to swell is called a [hypertonic / hypotonic] solution.
20. Organelles that collect excess water inside the cell and force water out are called [diffusion organelles / contractile vacuoles].
21. The process of taking material into the cell by infolding the cell membrane is called [endocytosis / exocytosis].
22. In [facilitated / molecular] diffusion, membrane proteins help molecules across the membrane.
23. In diffusion, molecules [spread out / condense].
24. The lipid bilayer describes [a type of transport / the cell membrane].
25. Facilitated diffusion moves substances down their concentration gradient [with / without] using the cell's energy.

Cell Transport

26. Know the parts of a solution

Define SOLUTE _____

Define SOLVENT _____

27. Explain what will happen to cells when placed in isotonic, hypertonic, and hypotonic solutions.

28. In Figure 3, draw the direction that **WATER** will move in each of the beakers.

Figure 3



29. Using Figure 3, label each beaker whether it is isotonic, hypertonic, or hypotonic.

30. **Define** the following terms:

Diffusion:

Equilibrium:

Osmosis:

Isotonic:

Hypertonic:

Hypotonic:

Facilitated diffusion:

Endocytosis:

Phagocytosis:

:

Exocytosis



Across

- 1. type of transport that requires energy
- 3. when a solution has a lesser concentration of particles
- 6. type of transport that does not require energy
- 8. prefix that means "inside"
- 10. movement of molecules from high to low concentration
- 13. a molecule composed of two hydrogens and one oxygen
- 14. a solution that has an equal amount of particles
- 15. membranes that let some things through, called selectively _____
- 17. the maintaining of an internal balance
- 19. word that means "cell"
- 20. a difference in concentration creates a concentration _

Down

- 2. condition achieved when molecules are evenly spread in an area
- 3. when a solution has a greater concentration of particles
- 4. turns color in the presence of starch
- 5. the engulfing of large particles
- 7. prefix that means "outside"
- 9. the diffusion of water
- 11. active transport will remove ___ ions, while taking in potassium ions
- 12. channel ___ can help move things across the membrane
- 16. organelle that helps remove excess water; _____ vacuole
- 18. the outer boundary of the cell

Name: _____

Cell Transport Packet

For questions 1-10, use Figure 1.

Match the structure/process to the letter:

1. Phospholipid bilayer _____
2. Osmosis _____
3. Simple Diffusion _____
4. Facilitated Diffusion _____
5. Channel protein _____
6. This cell would be in a [hypertonic / hypotonic / isotonic] solution.
7. All of the processes in the image are examples of [active / passive] transport.
8. The cell membrane can be described as [semi-permeable / impermeable]
9. There is more glucose [inside / outside] the cell. (Hint: Look at the direction it is moving)
10. Over time, this cell will [shrink / swell]



Diffusion and Osmosis

11. Label the three images in Figure 2 as **isotonic**, **hypertonic**, or **hypotonic** (with regard to the solution the cell is placed in)

Figure 2



12. Movement across the cell membrane that does not require energy is called [active / passive] transport.
13. The difference in the concentration of a substance across a space is called a concentration [equilibrium / gradient].
14. If there is a concentration gradient, substances will move from an area of high concentration to an area of [equal / low] concentration.
15. The cell membrane is [selectively permeable / impermeable].
16. [Equilibrium / Diffusion] is the simplest type of passive transport.
17. The diffusion of water through a selectively permeable membrane is called [osmosis / diffusion].
18. The direction of water movement across the cell membrane depends on the concentration of free water [molecules / solutions].
19. A solution that causes a cell to swell is called a [hypertonic / hypotonic] solution.
20. Organelles that collect excess water inside the cell and force water out are called [diffusion organelles / contractile vacuoles].
21. The process of taking material into the cell by infolding the cell membrane is called [endocytosis / exocytosis].
22. In [facilitated / molecular] diffusion, membrane proteins help molecules across the membrane.
23. In diffusion, molecules [spread out / condense].
24. The lipid bilayer describes [a type of transport / the cell membrane].
25. Facilitated diffusion moves substances down their concentration gradient [with / without] using the cell's energy.

Cell Transport

26. Know the parts of a solution

Define SOLUTE _____

Define SOLVENT _____

27. Explain what will happen to cells when placed in isotonic, hypertonic, and hypotonic solutions.

28. In Figure 3, draw the direction that **WATER** will move in each of the beakers.

Figure 3



29. Using Figure 3, label each beaker whether it is isotonic, hypertonic, or hypotonic.

30. **Define** the following terms:

Diffusion:

Equilibrium:

Osmosis:

Isotonic:

Hypertonic:

Hypotonic:

Facilitated diffusion:

Endocytosis:

Phagocytosis:

:

Exocytosis



Across

- 1. type of transport that requires energy
- 3. when a solution has a lesser concentration of particles
- 6. type of transport that does not require energy
- 8. prefix that means "inside"
- 10. movement of molecules from high to low concentration
- 13. a molecule composed of two hydrogens and one oxygen
- 14. a solution that has an equal amount of particles
- 15. membranes that let some things through, called selectively _____
- 17. the maintaining of an internal balance
- 19. word that means "cell"
- 20. a difference in concentration creates a concentration _

Down

- 2. condition achieved when molecules are evenly spread in an area
- 3. when a solution has a greater concentration of particles
- 4. turns color in the presence of starch
- 5. the engulfing of large particles
- 7. prefix that means "outside"
- 9. the diffusion of water
- 11. active transport will remove ___ ions, while taking in potassium ions
- 12. channel ___ can help move things across the membrane
- 16. organelle that helps remove excess water; _____ vacuole
- 18. the outer boundary of the cell

Name: _____

Cell Transport Packet

For questions 1-10, use Figure 1.

Match the structure/process to the letter:

1. Phospholipid bilayer _____
2. Osmosis _____
3. Simple Diffusion _____
4. Facilitated Diffusion _____
5. Channel protein _____
6. This cell would be in a [hypertonic / hypotonic / isotonic] solution.
7. All of the processes in the image are examples of [active / passive] transport.
8. The cell membrane can be described as [semi-permeable / impermeable]
9. There is more glucose [inside / outside] the cell. (Hint: Look at the direction it is moving)
10. Over time, this cell will [shrink / swell]



Diffusion and Osmosis

11. Label the three images in Figure 2 as **isotonic**, **hypertonic**, or **hypotonic** (with regard to the solution the cell is placed in)

Figure 2



12. Movement across the cell membrane that does not require energy is called [active / passive] transport.
13. The difference in the concentration of a substance across a space is called a concentration [equilibrium / gradient].
14. If there is a concentration gradient, substances will move from an area of high concentration to an area of [equal / low] concentration.
15. The cell membrane is [selectively permeable / impermeable].
16. [Equilibrium / Diffusion] is the simplest type of passive transport.
17. The diffusion of water through a selectively permeable membrane is called [osmosis / diffusion].
18. The direction of water movement across the cell membrane depends on the concentration of free water [molecules / solutions].
19. A solution that causes a cell to swell is called a [hypertonic / hypotonic] solution.
20. Organelles that collect excess water inside the cell and force water out are called [diffusion organelles / contractile vacuoles].
21. The process of taking material into the cell by infolding the cell membrane is called [endocytosis / exocytosis].
22. In [facilitated / molecular] diffusion, membrane proteins help molecules across the membrane.
23. In diffusion, molecules [spread out / condense].
24. The lipid bilayer describes [a type of transport / the cell membrane].
25. Facilitated diffusion moves substances down their concentration gradient [with / without] using the cell's energy.

Cell Transport

26. Know the parts of a solution

Define SOLUTE _____

Define SOLVENT _____

27. Explain what will happen to cells when placed in isotonic, hypertonic, and hypotonic solutions.

28. In Figure 3, draw the direction that **WATER** will move in each of the beakers.

Figure 3



29. Using Figure 3, label each beaker whether it is isotonic, hypertonic, or hypotonic.

30. **Define** the following terms:

Diffusion:

Equilibrium:

Osmosis:

Isotonic:

Hypertonic:

Hypotonic:

Facilitated diffusion:

Endocytosis:

Phagocytosis:

:

Exocytosis



Across

1. type of transport that requires energy
3. when a solution has a lesser concentration of particles
6. type of transport that does not require energy
8. prefix that means "inside"
10. movement of molecules from high to low concentration
13. a molecule composed of two hydrogens and one oxygen
14. a solution that has an equal amount of particles
15. membranes that let some things through, called selectively _____
17. the maintaining of an internal balance
19. word that means "cell"
20. a difference in concentration creates a concentration _

Down

2. condition achieved when molecules are evenly spread in an area
3. when a solution has a greater concentration of particles
4. turns color in the presence of starch
5. the engulfing of large particles
7. prefix that means "outside"
9. the diffusion of water
11. active transport will remove ___ ions, while taking in potassium ions
12. channel ___ can help move things across the membrane
16. organelle that helps remove excess water; _____ vacuole
18. the outer boundary of the cell

Name: _____

Cell Transport Packet

For questions 1-10, use Figure 1.

Match the structure/process to the letter:

1. Phospholipid bilayer _____
2. Osmosis _____
3. Simple Diffusion _____
4. Facilitated Diffusion _____
5. Channel protein _____
6. This cell would be in a [hypertonic / hypotonic / isotonic] solution.
7. All of the processes in the image are examples of [active / passive] transport.
8. The cell membrane can be described as [semi-permeable / impermeable]
9. There is more glucose [inside / outside] the cell. (Hint: Look at the direction it is moving)
10. Over time, this cell will [shrink / swell]



Diffusion and Osmosis

11. Label the three images in Figure 2 as **isotonic**, **hypertonic**, or **hypotonic** (with regard to the solution the cell is placed in)

Figure 2



12. Movement across the cell membrane that does not require energy is called [active / passive] transport.
13. The difference in the concentration of a substance across a space is called a concentration [equilibrium / gradient].
14. If there is a concentration gradient, substances will move from an area of high concentration to an area of [equal / low] concentration.
15. The cell membrane is [selectively permeable / impermeable].
16. [Equilibrium / Diffusion] is the simplest type of passive transport.
17. The diffusion of water through a selectively permeable membrane is called [osmosis / diffusion].
18. The direction of water movement across the cell membrane depends on the concentration of free water [molecules / solutions].
19. A solution that causes a cell to swell is called a [hypertonic / hypotonic] solution.
20. Organelles that collect excess water inside the cell and force water out are called [diffusion organelles / contractile vacuoles].
21. The process of taking material into the cell by infolding the cell membrane is called [endocytosis / exocytosis].
22. In [facilitated / molecular] diffusion, membrane proteins help molecules across the membrane.
23. In diffusion, molecules [spread out / condense].
24. The lipid bilayer describes [a type of transport / the cell membrane].
25. Facilitated diffusion moves substances down their concentration gradient [with / without] using the cell's energy.

Cell Transport

26. Know the parts of a solution

Define SOLUTE _____

Define SOLVENT _____

27. Explain what will happen to cells when placed in isotonic, hypertonic, and hypotonic solutions.

28. In Figure 3, draw the direction that **WATER** will move in each of the beakers.

Figure 3



29. Using Figure 3, label each beaker whether it is isotonic, hypertonic, or hypotonic.

30. **Define** the following terms:

Diffusion:

Equilibrium:

Osmosis:

Isotonic:

Hypertonic:

Hypotonic:

Facilitated diffusion:

Endocytosis:

Phagocytosis:

:

Exocytosis



Across

- 1. type of transport that requires energy
- 3. when a solution has a lesser concentration of particles
- 6. type of transport that does not require energy
- 8. prefix that means "inside"
- 10. movement of molecules from high to low concentration
- 13. a molecule composed of two hydrogens and one oxygen
- 14. a solution that has an equal amount of particles
- 15. membranes that let some things through, called selectively _____
- 17. the maintaining of an internal balance
- 19. word that means "cell"
- 20. a difference in concentration creates a concentration _

Down

- 2. condition achieved when molecules are evenly spread in an area
- 3. when a solution has a greater concentration of particles
- 4. turns color in the presence of starch
- 5. the engulfing of large particles
- 7. prefix that means "outside"
- 9. the diffusion of water
- 11. active transport will remove ___ ions, while taking in potassium ions
- 12. channel ___ can help move things across the membrane
- 16. organelle that helps remove excess water; _____ vacuole
- 18. the outer boundary of the cell

Name: _____

Cell Transport Packet

For questions 1-10, use Figure 1.

Match the structure/process to the letter:

1. Phospholipid bilayer _____
2. Osmosis _____
3. Simple Diffusion _____
4. Facilitated Diffusion _____
5. Channel protein _____
6. This cell would be in a [hypertonic / hypotonic / isotonic] solution.
7. All of the processes in the image are examples of [active / passive] transport.
8. The cell membrane can be described as [semi-permeable / impermeable]
9. There is more glucose [inside / outside] the cell. (Hint: Look at the direction it is moving)
10. Over time, this cell will [shrink / swell]



Diffusion and Osmosis

11. Label the three images in Figure 2 as **isotonic**, **hypertonic**, or **hypotonic** (with regard to the solution the cell is placed in)

Figure 2



12. Movement across the cell membrane that does not require energy is called [active / passive] transport.
13. The difference in the concentration of a substance across a space is called a concentration [equilibrium / gradient].
14. If there is a concentration gradient, substances will move from an area of high concentration to an area of [equal / low] concentration.
15. The cell membrane is [selectively permeable / impermeable].
16. [Equilibrium / Diffusion] is the simplest type of passive transport.
17. The diffusion of water through a selectively permeable membrane is called [osmosis / diffusion].
18. The direction of water movement across the cell membrane depends on the concentration of free water [molecules / solutions].
19. A solution that causes a cell to swell is called a [hypertonic / hypotonic] solution.
20. Organelles that collect excess water inside the cell and force water out are called [diffusion organelles / contractile vacuoles].
21. The process of taking material into the cell by infolding the cell membrane is called [endocytosis / exocytosis].
22. In [facilitated / molecular] diffusion, membrane proteins help molecules across the membrane.
23. In diffusion, molecules [spread out / condense].
24. The lipid bilayer describes [a type of transport / the cell membrane].
25. Facilitated diffusion moves substances down their concentration gradient [with / without] using the cell's energy.

Cell Transport

26. Know the parts of a solution

Define SOLUTE _____

Define SOLVENT _____

27. Explain what will happen to cells when placed in isotonic, hypertonic, and hypotonic solutions.

28. In Figure 3, draw the direction that **WATER** will move in each of the beakers.

Figure 3



29. Using Figure 3, label each beaker whether it is isotonic, hypertonic, or hypotonic.

30. **Define** the following terms:

Diffusion:

Equilibrium:

Osmosis:

Isotonic:

Hypertonic:

Hypotonic:

Facilitated diffusion:

Endocytosis:

Phagocytosis:

:

Exocytosis



Across

1. type of transport that requires energy
3. when a solution has a lesser concentration of particles
6. type of transport that does not require energy
8. prefix that means "inside"
10. movement of molecules from high to low concentration
13. a molecule composed of two hydrogens and one oxygen
14. a solution that has an equal amount of particles
15. membranes that let some things through, called selectively _____
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20. a difference in concentration creates a concentration _

Down

2. condition achieved when molecules are evenly spread in an area
3. when a solution has a greater concentration of particles
4. turns color in the presence of starch
5. the engulfing of large particles
7. prefix that means "outside"
9. the diffusion of water
11. active transport will remove ___ ions, while taking in potassium ions
12. channel ___ can help move things across the membrane
16. organelle that helps remove excess water; _____ vacuole
18. the outer boundary of the cell

Name: _____

Cell Transport Packet

For questions 1-10, use Figure 1.

Match the structure/process to the letter:

1. Phospholipid bilayer _____
2. Osmosis _____
3. Simple Diffusion _____
4. Facilitated Diffusion _____
5. Channel protein _____
6. This cell would be in a [hypertonic / hypotonic / isotonic] solution.
7. All of the processes in the image are examples of [active / passive] transport.
8. The cell membrane can be described as [semi-permeable / impermeable]
9. There is more glucose [inside / outside] the cell. (Hint: Look at the direction it is moving)
10. Over time, this cell will [shrink / swell]



Diffusion and Osmosis

11. Label the three images in Figure 2 as **isotonic**, **hypertonic**, or **hypotonic** (with regard to the solution the cell is placed in)

Figure 2



12. Movement across the cell membrane that does not require energy is called [active / passive] transport.
13. The difference in the concentration of a substance across a space is called a concentration [equilibrium / gradient].
14. If there is a concentration gradient, substances will move from an area of high concentration to an area of [equal / low] concentration.
15. The cell membrane is [selectively permeable / impermeable].
16. [Equilibrium / Diffusion] is the simplest type of passive transport.
17. The diffusion of water through a selectively permeable membrane is called [osmosis / diffusion].
18. The direction of water movement across the cell membrane depends on the concentration of free water [molecules / solutions].
19. A solution that causes a cell to swell is called a [hypertonic / hypotonic] solution.
20. Organelles that collect excess water inside the cell and force water out are called [diffusion organelles / contractile vacuoles].
21. The process of taking material into the cell by infolding the cell membrane is called [endocytosis / exocytosis].
22. In [facilitated / molecular] diffusion, membrane proteins help molecules across the membrane.
23. In diffusion, molecules [spread out / condense].
24. The lipid bilayer describes [a type of transport / the cell membrane].
25. Facilitated diffusion moves substances down their concentration gradient [with / without] using the cell's energy.

Cell Transport

26. Know the parts of a solution

Define SOLUTE _____

Define SOLVENT _____

27. Explain what will happen to cells when placed in isotonic, hypertonic, and hypotonic solutions.

28. In Figure 3, draw the direction that **WATER** will move in each of the beakers.

Figure 3



29. Using Figure 3, label each beaker whether it is isotonic, hypertonic, or hypotonic.

30. **Define** the following terms:

Diffusion:

Equilibrium:

Osmosis:

Isotonic:

Hypertonic:

Hypotonic:

Facilitated diffusion:

Endocytosis:

Phagocytosis:

:

Exocytosis



Across

- 1. type of transport that requires energy
- 3. when a solution has a lesser concentration of particles
- 6. type of transport that does not require energy
- 8. prefix that means "inside"
- 10. movement of molecules from high to low concentration
- 13. a molecule composed of two hydrogens and one oxygen
- 14. a solution that has an equal amount of particles
- 15. membranes that let some things through, called selectively _____
- 17. the maintaining of an internal balance
- 19. word that means "cell"
- 20. a difference in concentration creates a concentration _

Down

- 2. condition achieved when molecules are evenly spread in an area
- 3. when a solution has a greater concentration of particles
- 4. turns color in the presence of starch
- 5. the engulfing of large particles
- 7. prefix that means "outside"
- 9. the diffusion of water
- 11. active transport will remove ___ ions, while taking in potassium ions
- 12. channel ___ can help move things across the membrane
- 16. organelle that helps remove excess water; _____ vacuole
- 18. the outer boundary of the cell

Name: _____

Cell Transport Packet

For questions 1-10, use Figure 1.

Match the structure/process to the letter:

1. Phospholipid bilayer _____
2. Osmosis _____
3. Simple Diffusion _____
4. Facilitated Diffusion _____
5. Channel protein _____
6. This cell would be in a [hypertonic / hypotonic / isotonic] solution.
7. All of the processes in the image are examples of [active / passive] transport.
8. The cell membrane can be described as [semi-permeable / impermeable]
9. There is more glucose [inside / outside] the cell. (Hint: Look at the direction it is moving)
10. Over time, this cell will [shrink / swell]



Diffusion and Osmosis

11. Label the three images in Figure 2 as **isotonic**, **hypertonic**, or **hypotonic** (with regard to the solution the cell is placed in)

Figure 2



12. Movement across the cell membrane that does not require energy is called [active / passive] transport.
13. The difference in the concentration of a substance across a space is called a concentration [equilibrium / gradient].
14. If there is a concentration gradient, substances will move from an area of high concentration to an area of [equal / low] concentration.
15. The cell membrane is [selectively permeable / impermeable].
16. [Equilibrium / Diffusion] is the simplest type of passive transport.
17. The diffusion of water through a selectively permeable membrane is called [osmosis / diffusion].
18. The direction of water movement across the cell membrane depends on the concentration of free water [molecules / solutions].
19. A solution that causes a cell to swell is called a [hypertonic / hypotonic] solution.
20. Organelles that collect excess water inside the cell and force water out are called [diffusion organelles / contractile vacuoles].
21. The process of taking material into the cell by infolding the cell membrane is called [endocytosis / exocytosis].
22. In [facilitated / molecular] diffusion, membrane proteins help molecules across the membrane.
23. In diffusion, molecules [spread out / condense].
24. The lipid bilayer describes [a type of transport / the cell membrane].
25. Facilitated diffusion moves substances down their concentration gradient [with / without] using the cell's energy.

Cell Transport

26. Know the parts of a solution

Define SOLUTE _____

Define SOLVENT _____

27. Explain what will happen to cells when placed in isotonic, hypertonic, and hypotonic solutions.

28. In Figure 3, draw the direction that **WATER** will move in each of the beakers.

Figure 3



29. Using Figure 3, label each beaker whether it is isotonic, hypertonic, or hypotonic.

30. **Define** the following terms:

Diffusion:

Equilibrium:

Osmosis:

Isotonic:

Hypertonic:

Hypotonic:

Facilitated diffusion:

Endocytosis:

Phagocytosis:

:

Exocytosis



Across

1. type of transport that requires energy
3. when a solution has a lesser concentration of particles
6. type of transport that does not require energy
8. prefix that means "inside"
10. movement of molecules from high to low concentration
13. a molecule composed of two hydrogens and one oxygen
14. a solution that has an equal amount of particles
15. membranes that let some things through, called selectively _____
17. the maintaining of an internal balance
19. word that means "cell"
20. a difference in concentration creates a concentration _

Down

2. condition achieved when molecules are evenly spread in an area
3. when a solution has a greater concentration of particles
4. turns color in the presence of starch
5. the engulfing of large particles
7. prefix that means "outside"
9. the diffusion of water
11. active transport will remove ___ ions, while taking in potassium ions
12. channel ___ can help move things across the membrane
16. organelle that helps remove excess water; _____ vacuole
18. the outer boundary of the cell

Name: _____

Cell Transport Packet

For questions 1-10, use Figure 1.

Match the structure/process to the letter:

1. Phospholipid bilayer _____
2. Osmosis _____
3. Simple Diffusion _____
4. Facilitated Diffusion _____
5. Channel protein _____
6. This cell would be in a [hypertonic / hypotonic / isotonic] solution.
7. All of the processes in the image are examples of [active / passive] transport.
8. The cell membrane can be described as [semi-permeable / impermeable]
9. There is more glucose [inside / outside] the cell. (Hint: Look at the direction it is moving)
10. Over time, this cell will [shrink / swell]



Diffusion and Osmosis

11. Label the three images in Figure 2 as **isotonic**, **hypertonic**, or **hypotonic** (with regard to the solution the cell is placed in)

Figure 2



12. Movement across the cell membrane that does not require energy is called [active / passive] transport.
13. The difference in the concentration of a substance across a space is called a concentration [equilibrium / gradient].
14. If there is a concentration gradient, substances will move from an area of high concentration to an area of [equal / low] concentration.
15. The cell membrane is [selectively permeable / impermeable].
16. [Equilibrium / Diffusion] is the simplest type of passive transport.
17. The diffusion of water through a selectively permeable membrane is called [osmosis / diffusion].
18. The direction of water movement across the cell membrane depends on the concentration of free water [molecules / solutions].
19. A solution that causes a cell to swell is called a [hypertonic / hypotonic] solution.
20. Organelles that collect excess water inside the cell and force water out are called [diffusion organelles / contractile vacuoles].
21. The process of taking material into the cell by infolding the cell membrane is called [endocytosis / exocytosis].
22. In [facilitated / molecular] diffusion, membrane proteins help molecules across the membrane.
23. In diffusion, molecules [spread out / condense].
24. The lipid bilayer describes [a type of transport / the cell membrane].
25. Facilitated diffusion moves substances down their concentration gradient [with / without] using the cell's energy.

Cell Transport

26. Know the parts of a solution

Define SOLUTE _____

Define SOLVENT _____

27. Explain what will happen to cells when placed in isotonic, hypertonic, and hypotonic solutions.

28. In Figure 3, draw the direction that **WATER** will move in each of the beakers.

Figure 3



29. Using Figure 3, label each beaker whether it is isotonic, hypertonic, or hypotonic.

30. **Define** the following terms:

Diffusion:

Equilibrium:

Osmosis:

Isotonic:

Hypertonic:

Hypotonic:

Facilitated diffusion:

Endocytosis:

Phagocytosis:

:

Exocytosis



Across

1. type of transport that requires energy
3. when a solution has a lesser concentration of particles
6. type of transport that does not require energy
8. prefix that means "inside"
10. movement of molecules from high to low concentration
13. a molecule composed of two hydrogens and one oxygen
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15. membranes that let some things through, called selectively _____
17. the maintaining of an internal balance
19. word that means "cell"
20. a difference in concentration creates a concentration _

Down

2. condition achieved when molecules are evenly spread in an area
3. when a solution has a greater concentration of particles
4. turns color in the presence of starch
5. the engulfing of large particles
7. prefix that means "outside"
9. the diffusion of water
11. active transport will remove ___ ions, while taking in potassium ions
12. channel ___ can help move things across the membrane
16. organelle that helps remove excess water; _____ vacuole
18. the outer boundary of the cell

Name: _____

Cell Transport Packet

For questions 1-10, use Figure 1.

Match the structure/process to the letter:

1. Phospholipid bilayer _____
2. Osmosis _____
3. Simple Diffusion _____
4. Facilitated Diffusion _____
5. Channel protein _____
6. This cell would be in a [hypertonic / hypotonic / isotonic] solution.
7. All of the processes in the image are examples of [active / passive] transport.
8. The cell membrane can be described as [semi-permeable / impermeable]
9. There is more glucose [inside / outside] the cell. (Hint: Look at the direction it is moving)
10. Over time, this cell will [shrink / swell]



Diffusion and Osmosis

11. Label the three images in Figure 2 as **isotonic**, **hypertonic**, or **hypotonic** (with regard to the solution the cell is placed in)

Figure 2



12. Movement across the cell membrane that does not require energy is called [active / passive] transport.
13. The difference in the concentration of a substance across a space is called a concentration [equilibrium / gradient].
14. If there is a concentration gradient, substances will move from an area of high concentration to an area of [equal / low] concentration.
15. The cell membrane is [selectively permeable / impermeable].
16. [Equilibrium / Diffusion] is the simplest type of passive transport.
17. The diffusion of water through a selectively permeable membrane is called [osmosis / diffusion].
18. The direction of water movement across the cell membrane depends on the concentration of free water [molecules / solutions].
19. A solution that causes a cell to swell is called a [hypertonic / hypotonic] solution.
20. Organelles that collect excess water inside the cell and force water out are called [diffusion organelles / contractile vacuoles].
21. The process of taking material into the cell by infolding the cell membrane is called [endocytosis / exocytosis].
22. In [facilitated / molecular] diffusion, membrane proteins help molecules across the membrane.
23. In diffusion, molecules [spread out / condense].
24. The lipid bilayer describes [a type of transport / the cell membrane].
25. Facilitated diffusion moves substances down their concentration gradient [with / without] using the cell's energy.

Cell Transport

26. Know the parts of a solution

Define SOLUTE _____

Define SOLVENT _____

27. Explain what will happen to cells when placed in isotonic, hypertonic, and hypotonic solutions.

28. In Figure 3, draw the direction that **WATER** will move in each of the beakers.

Figure 3



29. Using Figure 3, label each beaker whether it is isotonic, hypertonic, or hypotonic.

30. **Define** the following terms:

Diffusion:

Equilibrium:

Osmosis:

Isotonic:

Hypertonic:

Hypotonic:

Facilitated diffusion:

Endocytosis:

Phagocytosis:

:

Exocytosis



Across

1. type of transport that requires energy
3. when a solution has a lesser concentration of particles
6. type of transport that does not require energy
8. prefix that means "inside"
10. movement of molecules from high to low concentration
13. a molecule composed of two hydrogens and one oxygen
14. a solution that has an equal amount of particles
15. membranes that let some things through, called selectively _____
17. the maintaining of an internal balance
19. word that means "cell"
20. a difference in concentration creates a concentration _

Down

2. condition achieved when molecules are evenly spread in an area
3. when a solution has a greater concentration of particles
4. turns color in the presence of starch
5. the engulfing of large particles
7. prefix that means "outside"
9. the diffusion of water
11. active transport will remove ___ ions, while taking in potassium ions
12. channel ___ can help move things across the membrane
16. organelle that helps remove excess water; _____ vacuole
18. the outer boundary of the cell

Name: _____

Cell Transport Packet

For questions 1-10, use Figure 1.

Match the structure/process to the letter:

1. Phospholipid bilayer _____
2. Osmosis _____
3. Simple Diffusion _____
4. Facilitated Diffusion _____
5. Channel protein _____
6. This cell would be in a [hypertonic / hypotonic / isotonic] solution.
7. All of the processes in the image are examples of [active / passive] transport.
8. The cell membrane can be described as [semi-permeable / impermeable]
9. There is more glucose [inside / outside] the cell. (Hint: Look at the direction it is moving)
10. Over time, this cell will [shrink / swell]



Diffusion and Osmosis

11. Label the three images in Figure 2 as **isotonic**, **hypertonic**, or **hypotonic** (with regard to the solution the cell is placed in)

Figure 2



12. Movement across the cell membrane that does not require energy is called [active / passive] transport.
13. The difference in the concentration of a substance across a space is called a concentration [equilibrium / gradient].
14. If there is a concentration gradient, substances will move from an area of high concentration to an area of [equal / low] concentration.
15. The cell membrane is [selectively permeable / impermeable].
16. [Equilibrium / Diffusion] is the simplest type of passive transport.
17. The diffusion of water through a selectively permeable membrane is called [osmosis / diffusion].
18. The direction of water movement across the cell membrane depends on the concentration of free water [molecules / solutions].
19. A solution that causes a cell to swell is called a [hypertonic / hypotonic] solution.
20. Organelles that collect excess water inside the cell and force water out are called [diffusion organelles / contractile vacuoles].
21. The process of taking material into the cell by infolding the cell membrane is called [endocytosis / exocytosis].
22. In [facilitated / molecular] diffusion, membrane proteins help molecules across the membrane.
23. In diffusion, molecules [spread out / condense].
24. The lipid bilayer describes [a type of transport / the cell membrane].
25. Facilitated diffusion moves substances down their concentration gradient [with / without] using the cell's energy.

Cell Transport

26. Know the parts of a solution

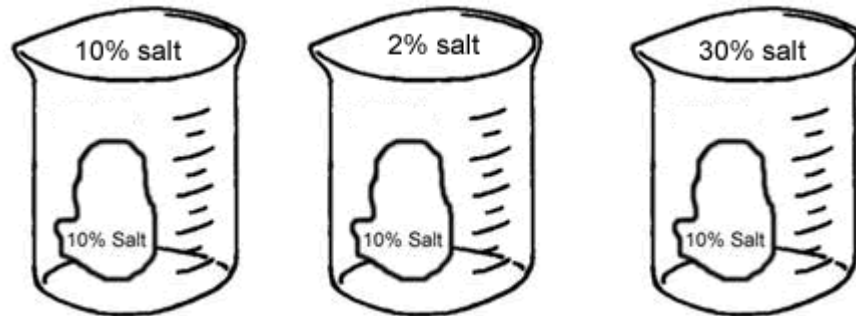
Define SOLUTE _____

Define SOLVENT _____

27. Explain what will happen to cells when placed in isotonic, hypertonic, and hypotonic solutions.

28. In Figure 3, draw the direction that **WATER** will move in each of the beakers.

Figure 3



29. Using Figure 3, label each beaker whether it is isotonic, hypertonic, or hypotonic.

30. **Define** the following terms:

Diffusion:

Equilibrium:

Osmosis:

Isotonic:

Hypertonic:

Hypotonic:

Facilitated diffusion:

Endocytosis:

Phagocytosis:

:

Exocytosis



Across

1. type of transport that requires energy
3. when a solution has a lesser concentration of particles
6. type of transport that does not require energy
8. prefix that means "inside"
10. movement of molecules from high to low concentration
13. a molecule composed of two hydrogens and one oxygen
14. a solution that has an equal amount of particles
15. membranes that let some things through, called selectively _____
17. the maintaining of an internal balance
19. word that means "cell"
20. a difference in concentration creates a concentration _

Down

2. condition achieved when molecules are evenly spread in an area
3. when a solution has a greater concentration of particles
4. turns color in the presence of starch
5. the engulfing of large particles
7. prefix that means "outside"
9. the diffusion of water
11. active transport will remove ___ ions, while taking in potassium ions
12. channel ___ can help move things across the membrane
16. organelle that helps remove excess water; _____ vacuole
18. the outer boundary of the cell

Name: _____

Cell Transport Packet

For questions 1-10, use Figure 1.

Match the structure/process to the letter:

1. Phospholipid bilayer _____
2. Osmosis _____
3. Simple Diffusion _____
4. Facilitated Diffusion _____
5. Channel protein _____
6. This cell would be in a [hypertonic / hypotonic / isotonic] solution.
7. All of the processes in the image are examples of [active / passive] transport.
8. The cell membrane can be described as [semi-permeable / impermeable]
9. There is more glucose [inside / outside] the cell. (Hint: Look at the direction it is moving)
10. Over time, this cell will [shrink / swell]



Diffusion and Osmosis

11. Label the three images in Figure 2 as **isotonic**, **hypertonic**, or **hypotonic** (with regard to the solution the cell is placed in)

Figure 2



12. Movement across the cell membrane that does not require energy is called [active / passive] transport.
13. The difference in the concentration of a substance across a space is called a concentration [equilibrium / gradient].
14. If there is a concentration gradient, substances will move from an area of high concentration to an area of [equal / low] concentration.
15. The cell membrane is [selectively permeable / impermeable].
16. [Equilibrium / Diffusion] is the simplest type of passive transport.
17. The diffusion of water through a selectively permeable membrane is called [osmosis / diffusion].
18. The direction of water movement across the cell membrane depends on the concentration of free water [molecules / solutions].
19. A solution that causes a cell to swell is called a [hypertonic / hypotonic] solution.
20. Organelles that collect excess water inside the cell and force water out are called [diffusion organelles / contractile vacuoles].
21. The process of taking material into the cell by infolding the cell membrane is called [endocytosis / exocytosis].
22. In [facilitated / molecular] diffusion, membrane proteins help molecules across the membrane.
23. In diffusion, molecules [spread out / condense].
24. The lipid bilayer describes [a type of transport / the cell membrane].
25. Facilitated diffusion moves substances down their concentration gradient [with / without] using the cell's energy.

Cell Transport

26. Know the parts of a solution

Define SOLUTE _____

Define SOLVENT _____

27. Explain what will happen to cells when placed in isotonic, hypertonic, and hypotonic solutions.

28. In Figure 3, draw the direction that **WATER** will move in each of the beakers.

Figure 3



29. Using Figure 3, label each beaker whether it is isotonic, hypertonic, or hypotonic.

30. **Define** the following terms:

Diffusion:

Equilibrium:

Osmosis:

Isotonic:

Hypertonic:

Hypotonic:

Facilitated diffusion:

Endocytosis:

Phagocytosis:

:

Exocytosis



Across

- 1. type of transport that requires energy
- 3. when a solution has a lesser concentration of particles
- 6. type of transport that does not require energy
- 8. prefix that means "inside"
- 10. movement of molecules from high to low concentration
- 13. a molecule composed of two hydrogens and one oxygen
- 14. a solution that has an equal amount of particles
- 15. membranes that let some things through, called selectively _____
- 17. the maintaining of an internal balance
- 19. word that means "cell"
- 20. a difference in concentration creates a concentration _

Down

- 2. condition achieved when molecules are evenly spread in an area
- 3. when a solution has a greater concentration of particles
- 4. turns color in the presence of starch
- 5. the engulfing of large particles
- 7. prefix that means "outside"
- 9. the diffusion of water
- 11. active transport will remove ___ ions, while taking in potassium ions
- 12. channel ___ can help move things across the membrane
- 16. organelle that helps remove excess water; _____ vacuole
- 18. the outer boundary of the cell

Name: _____

Cell Transport Packet

For questions 1-10, use Figure 1.

Match the structure/process to the letter:

1. Phospholipid bilayer _____
2. Osmosis _____
3. Simple Diffusion _____
4. Facilitated Diffusion _____
5. Channel protein _____
6. This cell would be in a [hypertonic / hypotonic / isotonic] solution.
7. All of the processes in the image are examples of [active / passive] transport.
8. The cell membrane can be described as [semi-permeable / impermeable]
9. There is more glucose [inside / outside] the cell. (Hint: Look at the direction it is moving)
10. Over time, this cell will [shrink / swell]



Diffusion and Osmosis

11. Label the three images in Figure 2 as **isotonic**, **hypertonic**, or **hypotonic** (with regard to the solution the cell is placed in)

Figure 2



12. Movement across the cell membrane that does not require energy is called [active / passive] transport.
13. The difference in the concentration of a substance across a space is called a concentration [equilibrium / gradient].
14. If there is a concentration gradient, substances will move from an area of high concentration to an area of [equal / low] concentration.
15. The cell membrane is [selectively permeable / impermeable].
16. [Equilibrium / Diffusion] is the simplest type of passive transport.
17. The diffusion of water through a selectively permeable membrane is called [osmosis / diffusion].
18. The direction of water movement across the cell membrane depends on the concentration of free water [molecules / solutions].
19. A solution that causes a cell to swell is called a [hypertonic / hypotonic] solution.
20. Organelles that collect excess water inside the cell and force water out are called [diffusion organelles / contractile vacuoles].
21. The process of taking material into the cell by infolding the cell membrane is called [endocytosis / exocytosis].
22. In [facilitated / molecular] diffusion, membrane proteins help molecules across the membrane.
23. In diffusion, molecules [spread out / condense].
24. The lipid bilayer describes [a type of transport / the cell membrane].
25. Facilitated diffusion moves substances down their concentration gradient [with / without] using the cell's energy.

Cell Transport

26. Know the parts of a solution

Define SOLUTE _____

Define SOLVENT _____

27. Explain what will happen to cells when placed in isotonic, hypertonic, and hypotonic solutions.

28. In Figure 3, draw the direction that **WATER** will move in each of the beakers.

Figure 3



29. Using Figure 3, label each beaker whether it is isotonic, hypertonic, or hypotonic.

30. **Define** the following terms:

Diffusion:

Equilibrium:

Osmosis:

Isotonic:

Hypertonic:

Hypotonic:

Facilitated diffusion:

Endocytosis:

Phagocytosis:

:

Exocytosis



Across

- 1. type of transport that requires energy
- 3. when a solution has a lesser concentration of particles
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- 8. prefix that means "inside"
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- 13. a molecule composed of two hydrogens and one oxygen
- 14. a solution that has an equal amount of particles
- 15. membranes that let some things through, called selectively _____
- 17. the maintaining of an internal balance
- 19. word that means "cell"
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Down

- 2. condition achieved when molecules are evenly spread in an area
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- 18. the outer boundary of the cell

Name: _____

Cell Transport Packet

For questions 1-10, use Figure 1.

Match the structure/process to the letter:

1. Phospholipid bilayer _____
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3. Simple Diffusion _____
4. Facilitated Diffusion _____
5. Channel protein _____
6. This cell would be in a [hypertonic / hypotonic / isotonic] solution.
7. All of the processes in the image are examples of [active / passive] transport.
8. The cell membrane can be described as [semi-permeable / impermeable]
9. There is more glucose [inside / outside] the cell. (Hint: Look at the direction it is moving)
10. Over time, this cell will [shrink / swell]



Diffusion and Osmosis

11. Label the three images in Figure 2 as **isotonic**, **hypertonic**, or **hypotonic** (with regard to the solution the cell is placed in)

Figure 2



12. Movement across the cell membrane that does not require energy is called [active / passive] transport.
13. The difference in the concentration of a substance across a space is called a concentration [equilibrium / gradient].
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16. [Equilibrium / Diffusion] is the simplest type of passive transport.
17. The diffusion of water through a selectively permeable membrane is called [osmosis / diffusion].
18. The direction of water movement across the cell membrane depends on the concentration of free water [molecules / solutions].
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23. In diffusion, molecules [spread out / condense].
24. The lipid bilayer describes [a type of transport / the cell membrane].
25. Facilitated diffusion moves substances down their concentration gradient [with / without] using the cell's energy.

Cell Transport

26. Know the parts of a solution

Define SOLUTE _____

Define SOLVENT _____

27. Explain what will happen to cells when placed in isotonic, hypertonic, and hypotonic solutions.

28. In Figure 3, draw the direction that **WATER** will move in each of the beakers.

Figure 3



29. Using Figure 3, label each beaker whether it is isotonic, hypertonic, or hypotonic.

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Diffusion:

Equilibrium:

Osmosis:

Isotonic:

Hypertonic:

Hypotonic:

Facilitated diffusion:

Endocytosis:

Phagocytosis:

:

Exocytosis



Across

1. type of transport that requires energy
3. when a solution has a lesser concentration of particles
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13. a molecule composed of two hydrogens and one oxygen
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15. membranes that let some things through, called selectively _____
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Down

2. condition achieved when molecules are evenly spread in an area
3. when a solution has a greater concentration of particles
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9. the diffusion of water
11. active transport will remove ___ ions, while taking in potassium ions
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16. organelle that helps remove excess water; _____ vacuole
18. the outer boundary of the cell

Name: _____

Cell Transport Packet

For questions 1-10, use Figure 1.

Match the structure/process to the letter:

1. Phospholipid bilayer _____
2. Osmosis _____
3. Simple Diffusion _____
4. Facilitated Diffusion _____
5. Channel protein _____
6. This cell would be in a [hypertonic / hypotonic / isotonic] solution.
7. All of the processes in the image are examples of [active / passive] transport.
8. The cell membrane can be described as [semi-permeable / impermeable]
9. There is more glucose [inside / outside] the cell. (Hint: Look at the direction it is moving)
10. Over time, this cell will [shrink / swell]



Diffusion and Osmosis

11. Label the three images in Figure 2 as **isotonic**, **hypertonic**, or **hypotonic** (with regard to the solution the cell is placed in)

Figure 2



12. Movement across the cell membrane that does not require energy is called [active / passive] transport.
13. The difference in the concentration of a substance across a space is called a concentration [equilibrium / gradient].
14. If there is a concentration gradient, substances will move from an area of high concentration to an area of [equal / low] concentration.
15. The cell membrane is [selectively permeable / impermeable].
16. [Equilibrium / Diffusion] is the simplest type of passive transport.
17. The diffusion of water through a selectively permeable membrane is called [osmosis / diffusion].
18. The direction of water movement across the cell membrane depends on the concentration of free water [molecules / solutions].
19. A solution that causes a cell to swell is called a [hypertonic / hypotonic] solution.
20. Organelles that collect excess water inside the cell and force water out are called [diffusion organelles / contractile vacuoles].
21. The process of taking material into the cell by infolding the cell membrane is called [endocytosis / exocytosis].
22. In [facilitated / molecular] diffusion, membrane proteins help molecules across the membrane.
23. In diffusion, molecules [spread out / condense].
24. The lipid bilayer describes [a type of transport / the cell membrane].
25. Facilitated diffusion moves substances down their concentration gradient [with / without] using the cell's energy.

Cell Transport

26. Know the parts of a solution

Define SOLUTE _____

Define SOLVENT _____

27. Explain what will happen to cells when placed in isotonic, hypertonic, and hypotonic solutions.

28. In Figure 3, draw the direction that **WATER** will move in each of the beakers.

Figure 3



29. Using Figure 3, label each beaker whether it is isotonic, hypertonic, or hypotonic.

30. **Define** the following terms:

Diffusion:

Equilibrium:

Osmosis:

Isotonic:

Hypertonic:

Hypotonic:

Facilitated diffusion:

Endocytosis:

Phagocytosis:

:

Exocytosis



Across

1. type of transport that requires energy
3. when a solution has a lesser concentration of particles
6. type of transport that does not require energy
8. prefix that means "inside"
10. movement of molecules from high to low concentration
13. a molecule composed of two hydrogens and one oxygen
14. a solution that has an equal amount of particles
15. membranes that let some things through, called selectively _____
17. the maintaining of an internal balance
19. word that means "cell"
20. a difference in concentration creates a concentration _

Down

2. condition achieved when molecules are evenly spread in an area
3. when a solution has a greater concentration of particles
4. turns color in the presence of starch
5. the engulfing of large particles
7. prefix that means "outside"
9. the diffusion of water
11. active transport will remove ___ ions, while taking in potassium ions
12. channel ___ can help move things across the membrane
16. organelle that helps remove excess water; _____ vacuole
18. the outer boundary of the cell

Name: _____

Cell Transport Packet

For questions 1-10, use Figure 1.

Match the structure/process to the letter:

1. Phospholipid bilayer _____
2. Osmosis _____
3. Simple Diffusion _____
4. Facilitated Diffusion _____
5. Channel protein _____
6. This cell would be in a [hypertonic / hypotonic / isotonic] solution.
7. All of the processes in the image are examples of [active / passive] transport.
8. The cell membrane can be described as [semi-permeable / impermeable]
9. There is more glucose [inside / outside] the cell. (Hint: Look at the direction it is moving)
10. Over time, this cell will [shrink / swell]



Diffusion and Osmosis

11. Label the three images in Figure 2 as **isotonic**, **hypertonic**, or **hypotonic** (with regard to the solution the cell is placed in)

Figure 2



12. Movement across the cell membrane that does not require energy is called [active / passive] transport.
13. The difference in the concentration of a substance across a space is called a concentration [equilibrium / gradient].
14. If there is a concentration gradient, substances will move from an area of high concentration to an area of [equal / low] concentration.
15. The cell membrane is [selectively permeable / impermeable].
16. [Equilibrium / Diffusion] is the simplest type of passive transport.
17. The diffusion of water through a selectively permeable membrane is called [osmosis / diffusion].
18. The direction of water movement across the cell membrane depends on the concentration of free water [molecules / solutions].
19. A solution that causes a cell to swell is called a [hypertonic / hypotonic] solution.
20. Organelles that collect excess water inside the cell and force water out are called [diffusion organelles / contractile vacuoles].
21. The process of taking material into the cell by infolding the cell membrane is called [endocytosis / exocytosis].
22. In [facilitated / molecular] diffusion, membrane proteins help molecules across the membrane.
23. In diffusion, molecules [spread out / condense].
24. The lipid bilayer describes [a type of transport / the cell membrane].
25. Facilitated diffusion moves substances down their concentration gradient [with / without] using the cell's energy.

Cell Transport

26. Know the parts of a solution

Define SOLUTE _____

Define SOLVENT _____

27. Explain what will happen to cells when placed in isotonic, hypertonic, and hypotonic solutions.

28. In Figure 3, draw the direction that **WATER** will move in each of the beakers.

Figure 3



29. Using Figure 3, label each beaker whether it is isotonic, hypertonic, or hypotonic.

30. **Define** the following terms:

Diffusion:

Equilibrium:

Osmosis:

Isotonic:

Hypertonic:

Hypotonic:

Facilitated diffusion:

Endocytosis:

Phagocytosis:

:

Exocytosis



Across

1. type of transport that requires energy
3. when a solution has a lesser concentration of particles
6. type of transport that does not require energy
8. prefix that means "inside"
10. movement of molecules from high to low concentration
13. a molecule composed of two hydrogens and one oxygen
14. a solution that has an equal amount of particles
15. membranes that let some things through, called selectively _____
17. the maintaining of an internal balance
19. word that means "cell"
20. a difference in concentration creates a concentration _

Down

2. condition achieved when molecules are evenly spread in an area
3. when a solution has a greater concentration of particles
4. turns color in the presence of starch
5. the engulfing of large particles
7. prefix that means "outside"
9. the diffusion of water
11. active transport will remove ___ ions, while taking in potassium ions
12. channel ___ can help move things across the membrane
16. organelle that helps remove excess water; _____ vacuole
18. the outer boundary of the cell

Name: _____

Cell Transport Packet

For questions 1-10, use Figure 1.

Match the structure/process to the letter:

1. Phospholipid bilayer _____
2. Osmosis _____
3. Simple Diffusion _____
4. Facilitated Diffusion _____
5. Channel protein _____
6. This cell would be in a [hypertonic / hypotonic / isotonic] solution.
7. All of the processes in the image are examples of [active / passive] transport.
8. The cell membrane can be described as [semi-permeable / impermeable]
9. There is more glucose [inside / outside] the cell. (Hint: Look at the direction it is moving)
10. Over time, this cell will [shrink / swell]



Diffusion and Osmosis

11. Label the three images in Figure 2 as **isotonic**, **hypertonic**, or **hypotonic** (with regard to the solution the cell is placed in)

Figure 2



12. Movement across the cell membrane that does not require energy is called [active / passive] transport.
13. The difference in the concentration of a substance across a space is called a concentration [equilibrium / gradient].
14. If there is a concentration gradient, substances will move from an area of high concentration to an area of [equal / low] concentration.
15. The cell membrane is [selectively permeable / impermeable].
16. [Equilibrium / Diffusion] is the simplest type of passive transport.
17. The diffusion of water through a selectively permeable membrane is called [osmosis / diffusion].
18. The direction of water movement across the cell membrane depends on the concentration of free water [molecules / solutions].
19. A solution that causes a cell to swell is called a [hypertonic / hypotonic] solution.
20. Organelles that collect excess water inside the cell and force water out are called [diffusion organelles / contractile vacuoles].
21. The process of taking material into the cell by infolding the cell membrane is called [endocytosis / exocytosis].
22. In [facilitated / molecular] diffusion, membrane proteins help molecules across the membrane.
23. In diffusion, molecules [spread out / condense].
24. The lipid bilayer describes [a type of transport / the cell membrane].
25. Facilitated diffusion moves substances down their concentration gradient [with / without] using the cell's energy.

Cell Transport

26. Know the parts of a solution

Define SOLUTE _____

Define SOLVENT _____

27. Explain what will happen to cells when placed in isotonic, hypertonic, and hypotonic solutions.

28. In Figure 3, draw the direction that **WATER** will move in each of the beakers.

Figure 3



29. Using Figure 3, label each beaker whether it is isotonic, hypertonic, or hypotonic.

30. **Define** the following terms:

Diffusion:

Equilibrium:

Osmosis:

Isotonic:

Hypertonic:

Hypotonic:

Facilitated diffusion:

Endocytosis:

Phagocytosis:

:

Exocytosis



Across

- 1. type of transport that requires energy
- 3. when a solution has a lesser concentration of particles
- 6. type of transport that does not require energy
- 8. prefix that means "inside"
- 10. movement of molecules from high to low concentration
- 13. a molecule composed of two hydrogens and one oxygen
- 14. a solution that has an equal amount of particles
- 15. membranes that let some things through, called selectively _____
- 17. the maintaining of an internal balance
- 19. word that means "cell"
- 20. a difference in concentration creates a concentration _

Down

- 2. condition achieved when molecules are evenly spread in an area
- 3. when a solution has a greater concentration of particles
- 4. turns color in the presence of starch
- 5. the engulfing of large particles
- 7. prefix that means "outside"
- 9. the diffusion of water
- 11. active transport will remove ___ ions, while taking in potassium ions
- 12. channel ___ can help move things across the membrane
- 16. organelle that helps remove excess water; _____ vacuole
- 18. the outer boundary of the cell

Name: _____

Cell Transport Packet

For questions 1-10, use Figure 1.

Match the structure/process to the letter:

1. Phospholipid bilayer _____
2. Osmosis _____
3. Simple Diffusion _____
4. Facilitated Diffusion _____
5. Channel protein _____
6. This cell would be in a [hypertonic / hypotonic / isotonic] solution.
7. All of the processes in the image are examples of [active / passive] transport.
8. The cell membrane can be described as [semi-permeable / impermeable]
9. There is more glucose [inside / outside] the cell. (Hint: Look at the direction it is moving)
10. Over time, this cell will [shrink / swell]



Diffusion and Osmosis

11. Label the three images in Figure 2 as **isotonic**, **hypertonic**, or **hypotonic** (with regard to the solution the cell is placed in)

Figure 2



12. Movement across the cell membrane that does not require energy is called [active / passive] transport.
13. The difference in the concentration of a substance across a space is called a concentration [equilibrium / gradient].
14. If there is a concentration gradient, substances will move from an area of high concentration to an area of [equal / low] concentration.
15. The cell membrane is [selectively permeable / impermeable].
16. [Equilibrium / Diffusion] is the simplest type of passive transport.
17. The diffusion of water through a selectively permeable membrane is called [osmosis / diffusion].
18. The direction of water movement across the cell membrane depends on the concentration of free water [molecules / solutions].
19. A solution that causes a cell to swell is called a [hypertonic / hypotonic] solution.
20. Organelles that collect excess water inside the cell and force water out are called [diffusion organelles / contractile vacuoles].
21. The process of taking material into the cell by infolding the cell membrane is called [endocytosis / exocytosis].
22. In [facilitated / molecular] diffusion, membrane proteins help molecules across the membrane.
23. In diffusion, molecules [spread out / condense].
24. The lipid bilayer describes [a type of transport / the cell membrane].
25. Facilitated diffusion moves substances down their concentration gradient [with / without] using the cell's energy.

Cell Transport

26. Know the parts of a solution

Define SOLUTE _____

Define SOLVENT _____

27. Explain what will happen to cells when placed in isotonic, hypertonic, and hypotonic solutions.

28. In Figure 3, draw the direction that **WATER** will move in each of the beakers.

Figure 3



29. Using Figure 3, label each beaker whether it is isotonic, hypertonic, or hypotonic.

30. **Define** the following terms:

Diffusion:

Equilibrium:

Osmosis:

Isotonic:

Hypertonic:

Hypotonic:

Facilitated diffusion:

Endocytosis:

Phagocytosis:

:

Exocytosis



Across

1. type of transport that requires energy
3. when a solution has a lesser concentration of particles
6. type of transport that does not require energy
8. prefix that means "inside"
10. movement of molecules from high to low concentration
13. a molecule composed of two hydrogens and one oxygen
14. a solution that has an equal amount of particles
15. membranes that let some things through, called selectively _____
17. the maintaining of an internal balance
19. word that means "cell"
20. a difference in concentration creates a concentration _

Down

2. condition achieved when molecules are evenly spread in an area
3. when a solution has a greater concentration of particles
4. turns color in the presence of starch
5. the engulfing of large particles
7. prefix that means "outside"
9. the diffusion of water
11. active transport will remove ___ ions, while taking in potassium ions
12. channel ___ can help move things across the membrane
16. organelle that helps remove excess water; _____ vacuole
18. the outer boundary of the cell

Name: _____

Cell Transport Packet

For questions 1-10, use Figure 1.

Match the structure/process to the letter:

1. Phospholipid bilayer _____
2. Osmosis _____
3. Simple Diffusion _____
4. Facilitated Diffusion _____
5. Channel protein _____
6. This cell would be in a [hypertonic / hypotonic / isotonic] solution.
7. All of the processes in the image are examples of [active / passive] transport.
8. The cell membrane can be described as [semi-permeable / impermeable]
9. There is more glucose [inside / outside] the cell. (Hint: Look at the direction it is moving)
10. Over time, this cell will [shrink / swell]



Diffusion and Osmosis

11. Label the three images in Figure 2 as **isotonic**, **hypertonic**, or **hypotonic** (with regard to the solution the cell is placed in)

Figure 2



12. Movement across the cell membrane that does not require energy is called [active / passive] transport.
13. The difference in the concentration of a substance across a space is called a concentration [equilibrium / gradient].
14. If there is a concentration gradient, substances will move from an area of high concentration to an area of [equal / low] concentration.
15. The cell membrane is [selectively permeable / impermeable].
16. [Equilibrium / Diffusion] is the simplest type of passive transport.
17. The diffusion of water through a selectively permeable membrane is called [osmosis / diffusion].
18. The direction of water movement across the cell membrane depends on the concentration of free water [molecules / solutions].
19. A solution that causes a cell to swell is called a [hypertonic / hypotonic] solution.
20. Organelles that collect excess water inside the cell and force water out are called [diffusion organelles / contractile vacuoles].
21. The process of taking material into the cell by infolding the cell membrane is called [endocytosis / exocytosis].
22. In [facilitated / molecular] diffusion, membrane proteins help molecules across the membrane.
23. In diffusion, molecules [spread out / condense].
24. The lipid bilayer describes [a type of transport / the cell membrane].
25. Facilitated diffusion moves substances down their concentration gradient [with / without] using the cell's energy.

Cell Transport

26. Know the parts of a solution

Define SOLUTE _____

Define SOLVENT _____

27. Explain what will happen to cells when placed in isotonic, hypertonic, and hypotonic solutions.

28. In Figure 3, draw the direction that **WATER** will move in each of the beakers.

Figure 3



29. Using Figure 3, label each beaker whether it is isotonic, hypertonic, or hypotonic.

30. **Define** the following terms:

Diffusion:

Equilibrium:

Osmosis:

Isotonic:

Hypertonic:

Hypotonic:

Facilitated diffusion:

Endocytosis:

Phagocytosis:

:

Exocytosis



Across

1. type of transport that requires energy
3. when a solution has a lesser concentration of particles
6. type of transport that does not require energy
8. prefix that means "inside"
10. movement of molecules from high to low concentration
13. a molecule composed of two hydrogens and one oxygen
14. a solution that has an equal amount of particles
15. membranes that let some things through, called selectively _____
17. the maintaining of an internal balance
19. word that means "cell"
20. a difference in concentration creates a concentration _

Down

2. condition achieved when molecules are evenly spread in an area
3. when a solution has a greater concentration of particles
4. turns color in the presence of starch
5. the engulfing of large particles
7. prefix that means "outside"
9. the diffusion of water
11. active transport will remove ___ ions, while taking in potassium ions
12. channel ___ can help move things across the membrane
16. organelle that helps remove excess water; _____ vacuole
18. the outer boundary of the cell

Name: _____

Cell Transport Packet

For questions 1-10, use Figure 1.

Match the structure/process to the letter:

1. Phospholipid bilayer _____
2. Osmosis _____
3. Simple Diffusion _____
4. Facilitated Diffusion _____
5. Channel protein _____
6. This cell would be in a [hypertonic / hypotonic / isotonic] solution.
7. All of the processes in the image are examples of [active / passive] transport.
8. The cell membrane can be described as [semi-permeable / impermeable]
9. There is more glucose [inside / outside] the cell. (Hint: Look at the direction it is moving)
10. Over time, this cell will [shrink / swell]



Diffusion and Osmosis

11. Label the three images in Figure 2 as **isotonic**, **hypertonic**, or **hypotonic** (with regard to the solution the cell is placed in)

Figure 2



12. Movement across the cell membrane that does not require energy is called [active / passive] transport.
13. The difference in the concentration of a substance across a space is called a concentration [equilibrium / gradient].
14. If there is a concentration gradient, substances will move from an area of high concentration to an area of [equal / low] concentration.
15. The cell membrane is [selectively permeable / impermeable].
16. [Equilibrium / Diffusion] is the simplest type of passive transport.
17. The diffusion of water through a selectively permeable membrane is called [osmosis / diffusion].
18. The direction of water movement across the cell membrane depends on the concentration of free water [molecules / solutions].
19. A solution that causes a cell to swell is called a [hypertonic / hypotonic] solution.
20. Organelles that collect excess water inside the cell and force water out are called [diffusion organelles / contractile vacuoles].
21. The process of taking material into the cell by infolding the cell membrane is called [endocytosis / exocytosis].
22. In [facilitated / molecular] diffusion, membrane proteins help molecules across the membrane.
23. In diffusion, molecules [spread out / condense].
24. The lipid bilayer describes [a type of transport / the cell membrane].
25. Facilitated diffusion moves substances down their concentration gradient [with / without] using the cell's energy.

Cell Transport

26. Know the parts of a solution

Define SOLUTE _____

Define SOLVENT _____

27. Explain what will happen to cells when placed in isotonic, hypertonic, and hypotonic solutions.

28. In Figure 3, draw the direction that **WATER** will move in each of the beakers.

Figure 3



29. Using Figure 3, label each beaker whether it is isotonic, hypertonic, or hypotonic.

30. **Define** the following terms:

Diffusion:

Equilibrium:

Osmosis:

Isotonic:

Hypertonic:

Hypotonic:

Facilitated diffusion:

Endocytosis:

Phagocytosis:

:

Exocytosis



Across

- 1. type of transport that requires energy
- 3. when a solution has a lesser concentration of particles
- 6. type of transport that does not require energy
- 8. prefix that means "inside"
- 10. movement of molecules from high to low concentration
- 13. a molecule composed of two hydrogens and one oxygen
- 14. a solution that has an equal amount of particles
- 15. membranes that let some things through, called selectively _____
- 17. the maintaining of an internal balance
- 19. word that means "cell"
- 20. a difference in concentration creates a concentration _

Down

- 2. condition achieved when molecules are evenly spread in an area
- 3. when a solution has a greater concentration of particles
- 4. turns color in the presence of starch
- 5. the engulfing of large particles
- 7. prefix that means "outside"
- 9. the diffusion of water
- 11. active transport will remove ___ ions, while taking in potassium ions
- 12. channel ___ can help move things across the membrane
- 16. organelle that helps remove excess water; _____ vacuole
- 18. the outer boundary of the cell

Name: _____

Cell Transport Packet

For questions 1-10, use Figure 1.

Match the structure/process to the letter:

1. Phospholipid bilayer _____
2. Osmosis _____
3. Simple Diffusion _____
4. Facilitated Diffusion _____
5. Channel protein _____
6. This cell would be in a [hypertonic / hypotonic / isotonic] solution.
7. All of the processes in the image are examples of [active / passive] transport.
8. The cell membrane can be described as [semi-permeable / impermeable]
9. There is more glucose [inside / outside] the cell. (Hint: Look at the direction it is moving)
10. Over time, this cell will [shrink / swell]



Diffusion and Osmosis

11. Label the three images in Figure 2 as **isotonic**, **hypertonic**, or **hypotonic** (with regard to the solution the cell is placed in)

Figure 2



12. Movement across the cell membrane that does not require energy is called [active / passive] transport.
13. The difference in the concentration of a substance across a space is called a concentration [equilibrium / gradient].
14. If there is a concentration gradient, substances will move from an area of high concentration to an area of [equal / low] concentration.
15. The cell membrane is [selectively permeable / impermeable].
16. [Equilibrium / Diffusion] is the simplest type of passive transport.
17. The diffusion of water through a selectively permeable membrane is called [osmosis / diffusion].
18. The direction of water movement across the cell membrane depends on the concentration of free water [molecules / solutions].
19. A solution that causes a cell to swell is called a [hypertonic / hypotonic] solution.
20. Organelles that collect excess water inside the cell and force water out are called [diffusion organelles / contractile vacuoles].
21. The process of taking material into the cell by infolding the cell membrane is called [endocytosis / exocytosis].
22. In [facilitated / molecular] diffusion, membrane proteins help molecules across the membrane.
23. In diffusion, molecules [spread out / condense].
24. The lipid bilayer describes [a type of transport / the cell membrane].
25. Facilitated diffusion moves substances down their concentration gradient [with / without] using the cell's energy.

Cell Transport

26. Know the parts of a solution

Define SOLUTE _____

Define SOLVENT _____

27. Explain what will happen to cells when placed in isotonic, hypertonic, and hypotonic solutions.

28. In Figure 3, draw the direction that **WATER** will move in each of the beakers.

Figure 3



29. Using Figure 3, label each beaker whether it is isotonic, hypertonic, or hypotonic.

30. **Define** the following terms:

Diffusion:

Equilibrium:

Osmosis:

Isotonic:

Hypertonic:

Hypotonic:

Facilitated diffusion:

Endocytosis:

Phagocytosis:

:

Exocytosis



Across

1. type of transport that requires energy
3. when a solution has a lesser concentration of particles
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20. a difference in concentration creates a concentration _

Down

2. condition achieved when molecules are evenly spread in an area
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5. the engulfing of large particles
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Name: _____

Cell Transport Packet

For questions 1-10, use Figure 1.

Match the structure/process to the letter:

1. Phospholipid bilayer _____
2. Osmosis _____
3. Simple Diffusion _____
4. Facilitated Diffusion _____
5. Channel protein _____
6. This cell would be in a [hypertonic / hypotonic / isotonic] solution.
7. All of the processes in the image are examples of [active / passive] transport.
8. The cell membrane can be described as [semi-permeable / impermeable]
9. There is more glucose [inside / outside] the cell. (Hint: Look at the direction it is moving)
10. Over time, this cell will [shrink / swell]



Diffusion and Osmosis

11. Label the three images in Figure 2 as **isotonic**, **hypertonic**, or **hypotonic** (with regard to the solution the cell is placed in)

Figure 2



12. Movement across the cell membrane that does not require energy is called [active / passive] transport.
13. The difference in the concentration of a substance across a space is called a concentration [equilibrium / gradient].
14. If there is a concentration gradient, substances will move from an area of high concentration to an area of [equal / low] concentration.
15. The cell membrane is [selectively permeable / impermeable].
16. [Equilibrium / Diffusion] is the simplest type of passive transport.
17. The diffusion of water through a selectively permeable membrane is called [osmosis / diffusion].
18. The direction of water movement across the cell membrane depends on the concentration of free water [molecules / solutions].
19. A solution that causes a cell to swell is called a [hypertonic / hypotonic] solution.
20. Organelles that collect excess water inside the cell and force water out are called [diffusion organelles / contractile vacuoles].
21. The process of taking material into the cell by infolding the cell membrane is called [endocytosis / exocytosis].
22. In [facilitated / molecular] diffusion, membrane proteins help molecules across the membrane.
23. In diffusion, molecules [spread out / condense].
24. The lipid bilayer describes [a type of transport / the cell membrane].
25. Facilitated diffusion moves substances down their concentration gradient [with / without] using the cell's energy.

Cell Transport

26. Know the parts of a solution

Define SOLUTE _____

Define SOLVENT _____

27. Explain what will happen to cells when placed in isotonic, hypertonic, and hypotonic solutions.

28. In Figure 3, draw the direction that **WATER** will move in each of the beakers.

Figure 3



29. Using Figure 3, label each beaker whether it is isotonic, hypertonic, or hypotonic.

30. **Define** the following terms:

Diffusion:

Equilibrium:

Osmosis:

Isotonic:

Hypertonic:

Hypotonic:

Facilitated diffusion:

Endocytosis:

Phagocytosis:

:

Exocytosis



Across

- 1. type of transport that requires energy
- 3. when a solution has a lesser concentration of particles
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- 13. a molecule composed of two hydrogens and one oxygen
- 14. a solution that has an equal amount of particles
- 15. membranes that let some things through, called selectively _____
- 17. the maintaining of an internal balance
- 19. word that means "cell"
- 20. a difference in concentration creates a concentration _

Down

- 2. condition achieved when molecules are evenly spread in an area
- 3. when a solution has a greater concentration of particles
- 4. turns color in the presence of starch
- 5. the engulfing of large particles
- 7. prefix that means "outside"
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- 11. active transport will remove ___ ions, while taking in potassium ions
- 12. channel ___ can help move things across the membrane
- 16. organelle that helps remove excess water; _____ vacuole
- 18. the outer boundary of the cell

Name: _____

Cell Transport Packet

For questions 1-10, use Figure 1.

Match the structure/process to the letter:

1. Phospholipid bilayer _____
2. Osmosis _____
3. Simple Diffusion _____
4. Facilitated Diffusion _____
5. Channel protein _____
6. This cell would be in a [hypertonic / hypotonic / isotonic] solution.
7. All of the processes in the image are examples of [active / passive] transport.
8. The cell membrane can be described as [semi-permeable / impermeable]
9. There is more glucose [inside / outside] the cell. (Hint: Look at the direction it is moving)
10. Over time, this cell will [shrink / swell]



Diffusion and Osmosis

11. Label the three images in Figure 2 as **isotonic**, **hypertonic**, or **hypotonic** (with regard to the solution the cell is placed in)

Figure 2



12. Movement across the cell membrane that does not require energy is called [active / passive] transport.
13. The difference in the concentration of a substance across a space is called a concentration [equilibrium / gradient].
14. If there is a concentration gradient, substances will move from an area of high concentration to an area of [equal / low] concentration.
15. The cell membrane is [selectively permeable / impermeable].
16. [Equilibrium / Diffusion] is the simplest type of passive transport.
17. The diffusion of water through a selectively permeable membrane is called [osmosis / diffusion].
18. The direction of water movement across the cell membrane depends on the concentration of free water [molecules / solutions].
19. A solution that causes a cell to swell is called a [hypertonic / hypotonic] solution.
20. Organelles that collect excess water inside the cell and force water out are called [diffusion organelles / contractile vacuoles].
21. The process of taking material into the cell by infolding the cell membrane is called [endocytosis / exocytosis].
22. In [facilitated / molecular] diffusion, membrane proteins help molecules across the membrane.
23. In diffusion, molecules [spread out / condense].
24. The lipid bilayer describes [a type of transport / the cell membrane].
25. Facilitated diffusion moves substances down their concentration gradient [with / without] using the cell's energy.

Cell Transport

26. Know the parts of a solution

Define SOLUTE _____

Define SOLVENT _____

27. Explain what will happen to cells when placed in isotonic, hypertonic, and hypotonic solutions.

28. In Figure 3, draw the direction that **WATER** will move in each of the beakers.

Figure 3



29. Using Figure 3, label each beaker whether it is isotonic, hypertonic, or hypotonic.

30. **Define** the following terms:

Diffusion:

Equilibrium:

Osmosis:

Isotonic:

Hypertonic:

Hypotonic:

Facilitated diffusion:

Endocytosis:

Phagocytosis:

:

Exocytosis



Across

- 1. type of transport that requires energy
- 3. when a solution has a lesser concentration of particles
- 6. type of transport that does not require energy
- 8. prefix that means "inside"
- 10. movement of molecules from high to low concentration
- 13. a molecule composed of two hydrogens and one oxygen
- 14. a solution that has an equal amount of particles
- 15. membranes that let some things through, called selectively _____
- 17. the maintaining of an internal balance
- 19. word that means "cell"
- 20. a difference in concentration creates a concentration _

Down

- 2. condition achieved when molecules are evenly spread in an area
- 3. when a solution has a greater concentration of particles
- 4. turns color in the presence of starch
- 5. the engulfing of large particles
- 7. prefix that means "outside"
- 9. the diffusion of water
- 11. active transport will remove ___ ions, while taking in potassium ions
- 12. channel ___ can help move things across the membrane
- 16. organelle that helps remove excess water; _____ vacuole
- 18. the outer boundary of the cell

Name: _____

Cell Transport Packet

For questions 1-10, use Figure 1.

Match the structure/process to the letter:

1. Phospholipid bilayer _____
2. Osmosis _____
3. Simple Diffusion _____
4. Facilitated Diffusion _____
5. Channel protein _____
6. This cell would be in a [hypertonic / hypotonic / isotonic] solution.
7. All of the processes in the image are examples of [active / passive] transport.
8. The cell membrane can be described as [semi-permeable / impermeable]
9. There is more glucose [inside / outside] the cell. (Hint: Look at the direction it is moving)
10. Over time, this cell will [shrink / swell]



Diffusion and Osmosis

11. Label the three images in Figure 2 as **isotonic**, **hypertonic**, or **hypotonic** (with regard to the solution the cell is placed in)

Figure 2



12. Movement across the cell membrane that does not require energy is called [active / passive] transport.
13. The difference in the concentration of a substance across a space is called a concentration [equilibrium / gradient].
14. If there is a concentration gradient, substances will move from an area of high concentration to an area of [equal / low] concentration.
15. The cell membrane is [selectively permeable / impermeable].
16. [Equilibrium / Diffusion] is the simplest type of passive transport.
17. The diffusion of water through a selectively permeable membrane is called [osmosis / diffusion].
18. The direction of water movement across the cell membrane depends on the concentration of free water [molecules / solutions].
19. A solution that causes a cell to swell is called a [hypertonic / hypotonic] solution.
20. Organelles that collect excess water inside the cell and force water out are called [diffusion organelles / contractile vacuoles].
21. The process of taking material into the cell by infolding the cell membrane is called [endocytosis / exocytosis].
22. In [facilitated / molecular] diffusion, membrane proteins help molecules across the membrane.
23. In diffusion, molecules [spread out / condense].
24. The lipid bilayer describes [a type of transport / the cell membrane].
25. Facilitated diffusion moves substances down their concentration gradient [with / without] using the cell's energy.

Cell Transport

26. Know the parts of a solution

Define SOLUTE _____

Define SOLVENT _____

27. Explain what will happen to cells when placed in isotonic, hypertonic, and hypotonic solutions.

28. In Figure 3, draw the direction that **WATER** will move in each of the beakers.

Figure 3



29. Using Figure 3, label each beaker whether it is isotonic, hypertonic, or hypotonic.

30. **Define** the following terms:

Diffusion:

Equilibrium:

Osmosis:

Isotonic:

Hypertonic:

Hypotonic:

Facilitated diffusion:

Endocytosis:

Phagocytosis:

:

Exocytosis



Across

1. type of transport that requires energy
3. when a solution has a lesser concentration of particles
6. type of transport that does not require energy
8. prefix that means "inside"
10. movement of molecules from high to low concentration
13. a molecule composed of two hydrogens and one oxygen
14. a solution that has an equal amount of particles
15. membranes that let some things through, called selectively _____
17. the maintaining of an internal balance
19. word that means "cell"
20. a difference in concentration creates a concentration _

Down

2. condition achieved when molecules are evenly spread in an area
3. when a solution has a greater concentration of particles
4. turns color in the presence of starch
5. the engulfing of large particles
7. prefix that means "outside"
9. the diffusion of water
11. active transport will remove ___ ions, while taking in potassium ions
12. channel ___ can help move things across the membrane
16. organelle that helps remove excess water; _____ vacuole
18. the outer boundary of the cell

Name: _____

Cell Transport Packet

For questions 1-10, use Figure 1.

Match the structure/process to the letter:

1. Phospholipid bilayer _____
2. Osmosis _____
3. Simple Diffusion _____
4. Facilitated Diffusion _____
5. Channel protein _____
6. This cell would be in a [hypertonic / hypotonic / isotonic] solution.
7. All of the processes in the image are examples of [active / passive] transport.
8. The cell membrane can be described as [semi-permeable / impermeable]
9. There is more glucose [inside / outside] the cell. (Hint: Look at the direction it is moving)
10. Over time, this cell will [shrink / swell]



Diffusion and Osmosis

11. Label the three images in Figure 2 as **isotonic**, **hypertonic**, or **hypotonic** (with regard to the solution the cell is placed in)

Figure 2



12. Movement across the cell membrane that does not require energy is called [active / passive] transport.
13. The difference in the concentration of a substance across a space is called a concentration [equilibrium / gradient].
14. If there is a concentration gradient, substances will move from an area of high concentration to an area of [equal / low] concentration.
15. The cell membrane is [selectively permeable / impermeable].
16. [Equilibrium / Diffusion] is the simplest type of passive transport.
17. The diffusion of water through a selectively permeable membrane is called [osmosis / diffusion].
18. The direction of water movement across the cell membrane depends on the concentration of free water [molecules / solutions].
19. A solution that causes a cell to swell is called a [hypertonic / hypotonic] solution.
20. Organelles that collect excess water inside the cell and force water out are called [diffusion organelles / contractile vacuoles].
21. The process of taking material into the cell by infolding the cell membrane is called [endocytosis / exocytosis].
22. In [facilitated / molecular] diffusion, membrane proteins help molecules across the membrane.
23. In diffusion, molecules [spread out / condense].
24. The lipid bilayer describes [a type of transport / the cell membrane].
25. Facilitated diffusion moves substances down their concentration gradient [with / without] using the cell's energy.

Cell Transport

26. Know the parts of a solution

Define SOLUTE _____

Define SOLVENT _____

27. Explain what will happen to cells when placed in isotonic, hypertonic, and hypotonic solutions.

28. In Figure 3, draw the direction that **WATER** will move in each of the beakers.

Figure 3



29. Using Figure 3, label each beaker whether it is isotonic, hypertonic, or hypotonic.

30. **Define** the following terms:

Diffusion:

Equilibrium:

Osmosis:

Isotonic:

Hypertonic:

Hypotonic:

Facilitated diffusion:

Endocytosis:

Phagocytosis:

:

Exocytosis



Across

1. type of transport that requires energy
3. when a solution has a lesser concentration of particles
6. type of transport that does not require energy
8. prefix that means "inside"
10. movement of molecules from high to low concentration
13. a molecule composed of two hydrogens and one oxygen
14. a solution that has an equal amount of particles
15. membranes that let some things through, called selectively _____
17. the maintaining of an internal balance
19. word that means "cell"
20. a difference in concentration creates a concentration _

Down

2. condition achieved when molecules are evenly spread in an area
3. when a solution has a greater concentration of particles
4. turns color in the presence of starch
5. the engulfing of large particles
7. prefix that means "outside"
9. the diffusion of water
11. active transport will remove ___ ions, while taking in potassium ions
12. channel ___ can help move things across the membrane
16. organelle that helps remove excess water; _____ vacuole
18. the outer boundary of the cell

Name: _____

Cell Transport Packet

For questions 1-10, use Figure 1.

Match the structure/process to the letter:

1. Phospholipid bilayer _____
2. Osmosis _____
3. Simple Diffusion _____
4. Facilitated Diffusion _____
5. Channel protein _____
6. This cell would be in a [hypertonic / hypotonic / isotonic] solution.
7. All of the processes in the image are examples of [active / passive] transport.
8. The cell membrane can be described as [semi-permeable / impermeable]
9. There is more glucose [inside / outside] the cell. (Hint: Look at the direction it is moving)
10. Over time, this cell will [shrink / swell]



Diffusion and Osmosis

11. Label the three images in Figure 2 as **isotonic**, **hypertonic**, or **hypotonic** (with regard to the solution the cell is placed in)

Figure 2



12. Movement across the cell membrane that does not require energy is called [active / passive] transport.
13. The difference in the concentration of a substance across a space is called a concentration [equilibrium / gradient].
14. If there is a concentration gradient, substances will move from an area of high concentration to an area of [equal / low] concentration.
15. The cell membrane is [selectively permeable / impermeable].
16. [Equilibrium / Diffusion] is the simplest type of passive transport.
17. The diffusion of water through a selectively permeable membrane is called [osmosis / diffusion].
18. The direction of water movement across the cell membrane depends on the concentration of free water [molecules / solutions].
19. A solution that causes a cell to swell is called a [hypertonic / hypotonic] solution.
20. Organelles that collect excess water inside the cell and force water out are called [diffusion organelles / contractile vacuoles].
21. The process of taking material into the cell by infolding the cell membrane is called [endocytosis / exocytosis].
22. In [facilitated / molecular] diffusion, membrane proteins help molecules across the membrane.
23. In diffusion, molecules [spread out / condense].
24. The lipid bilayer describes [a type of transport / the cell membrane].
25. Facilitated diffusion moves substances down their concentration gradient [with / without] using the cell's energy.

Cell Transport

26. Know the parts of a solution

Define SOLUTE _____

Define SOLVENT _____

27. Explain what will happen to cells when placed in isotonic, hypertonic, and hypotonic solutions.

28. In Figure 3, draw the direction that **WATER** will move in each of the beakers.

Figure 3



29. Using Figure 3, label each beaker whether it is isotonic, hypertonic, or hypotonic.

30. **Define** the following terms:

Diffusion:

Equilibrium:

Osmosis:

Isotonic:

Hypertonic:

Hypotonic:

Facilitated diffusion:

Endocytosis:

Phagocytosis:

:

Exocytosis



Across

- 1. type of transport that requires energy
- 3. when a solution has a lesser concentration of particles
- 6. type of transport that does not require energy
- 8. prefix that means "inside"
- 10. movement of molecules from high to low concentration
- 13. a molecule composed of two hydrogens and one oxygen
- 14. a solution that has an equal amount of particles
- 15. membranes that let some things through, called selectively _____
- 17. the maintaining of an internal balance
- 19. word that means "cell"
- 20. a difference in concentration creates a concentration _

Down

- 2. condition achieved when molecules are evenly spread in an area
- 3. when a solution has a greater concentration of particles
- 4. turns color in the presence of starch
- 5. the engulfing of large particles
- 7. prefix that means "outside"
- 9. the diffusion of water
- 11. active transport will remove ___ ions, while taking in potassium ions
- 12. channel ___ can help move things across the membrane
- 16. organelle that helps remove excess water; _____ vacuole
- 18. the outer boundary of the cell

Name: _____

Cell Transport Packet

For questions 1-10, use Figure 1.

Match the structure/process to the letter:

1. Phospholipid bilayer _____
2. Osmosis _____
3. Simple Diffusion _____
4. Facilitated Diffusion _____
5. Channel protein _____
6. This cell would be in a [hypertonic / hypotonic / isotonic] solution.
7. All of the processes in the image are examples of [active / passive] transport.
8. The cell membrane can be described as [semi-permeable / impermeable]
9. There is more glucose [inside / outside] the cell. (Hint: Look at the direction it is moving)
10. Over time, this cell will [shrink / swell]



Diffusion and Osmosis

11. Label the three images in Figure 2 as **isotonic**, **hypertonic**, or **hypotonic** (with regard to the solution the cell is placed in)

Figure 2



12. Movement across the cell membrane that does not require energy is called [active / passive] transport.
13. The difference in the concentration of a substance across a space is called a concentration [equilibrium / gradient].
14. If there is a concentration gradient, substances will move from an area of high concentration to an area of [equal / low] concentration.
15. The cell membrane is [selectively permeable / impermeable].
16. [Equilibrium / Diffusion] is the simplest type of passive transport.
17. The diffusion of water through a selectively permeable membrane is called [osmosis / diffusion].
18. The direction of water movement across the cell membrane depends on the concentration of free water [molecules / solutions].
19. A solution that causes a cell to swell is called a [hypertonic / hypotonic] solution.
20. Organelles that collect excess water inside the cell and force water out are called [diffusion organelles / contractile vacuoles].
21. The process of taking material into the cell by infolding the cell membrane is called [endocytosis / exocytosis].
22. In [facilitated / molecular] diffusion, membrane proteins help molecules across the membrane.
23. In diffusion, molecules [spread out / condense].
24. The lipid bilayer describes [a type of transport / the cell membrane].
25. Facilitated diffusion moves substances down their concentration gradient [with / without] using the cell's energy.

Cell Transport

26. Know the parts of a solution

Define SOLUTE _____

Define SOLVENT _____

27. Explain what will happen to cells when placed in isotonic, hypertonic, and hypotonic solutions.

28. In Figure 3, draw the direction that **WATER** will move in each of the beakers.

Figure 3



29. Using Figure 3, label each beaker whether it is isotonic, hypertonic, or hypotonic.

30. **Define** the following terms:

Diffusion:

Equilibrium:

Osmosis:

Isotonic:

Hypertonic:

Hypotonic:

Facilitated diffusion:

Endocytosis:

Phagocytosis:

:

Exocytosis



Across

1. type of transport that requires energy
3. when a solution has a lesser concentration of particles
6. type of transport that does not require energy
8. prefix that means "inside"
10. movement of molecules from high to low concentration
13. a molecule composed of two hydrogens and one oxygen
14. a solution that has an equal amount of particles
15. membranes that let some things through, called selectively _____
17. the maintaining of an internal balance
19. word that means "cell"
20. a difference in concentration creates a concentration _

Down

2. condition achieved when molecules are evenly spread in an area
3. when a solution has a greater concentration of particles
4. turns color in the presence of starch
5. the engulfing of large particles
7. prefix that means "outside"
9. the diffusion of water
11. active transport will remove ___ ions, while taking in potassium ions
12. channel ___ can help move things across the membrane
16. organelle that helps remove excess water; _____ vacuole
18. the outer boundary of the cell

Name: _____

Cell Transport Packet

For questions 1-10, use Figure 1.

Match the structure/process to the letter:

1. Phospholipid bilayer _____
2. Osmosis _____
3. Simple Diffusion _____
4. Facilitated Diffusion _____
5. Channel protein _____
6. This cell would be in a [hypertonic / hypotonic / isotonic] solution.
7. All of the processes in the image are examples of [active / passive] transport.
8. The cell membrane can be described as [semi-permeable / impermeable]
9. There is more glucose [inside / outside] the cell. (Hint: Look at the direction it is moving)
10. Over time, this cell will [shrink / swell]



Diffusion and Osmosis

11. Label the three images in Figure 2 as **isotonic**, **hypertonic**, or **hypotonic** (with regard to the solution the cell is placed in)

Figure 2



12. Movement across the cell membrane that does not require energy is called [active / passive] transport.
13. The difference in the concentration of a substance across a space is called a concentration [equilibrium / gradient].
14. If there is a concentration gradient, substances will move from an area of high concentration to an area of [equal / low] concentration.
15. The cell membrane is [selectively permeable / impermeable].
16. [Equilibrium / Diffusion] is the simplest type of passive transport.
17. The diffusion of water through a selectively permeable membrane is called [osmosis / diffusion].
18. The direction of water movement across the cell membrane depends on the concentration of free water [molecules / solutions].
19. A solution that causes a cell to swell is called a [hypertonic / hypotonic] solution.
20. Organelles that collect excess water inside the cell and force water out are called [diffusion organelles / contractile vacuoles].
21. The process of taking material into the cell by infolding the cell membrane is called [endocytosis / exocytosis].
22. In [facilitated / molecular] diffusion, membrane proteins help molecules across the membrane.
23. In diffusion, molecules [spread out / condense].
24. The lipid bilayer describes [a type of transport / the cell membrane].
25. Facilitated diffusion moves substances down their concentration gradient [with / without] using the cell's energy.

Cell Transport

26. Know the parts of a solution

Define SOLUTE _____

Define SOLVENT _____

27. Explain what will happen to cells when placed in isotonic, hypertonic, and hypotonic solutions.

28. In Figure 3, draw the direction that **WATER** will move in each of the beakers.

Figure 3



29. Using Figure 3, label each beaker whether it is isotonic, hypertonic, or hypotonic.

30. **Define** the following terms:

Diffusion:

Equilibrium:

Osmosis:

Isotonic:

Hypertonic:

Hypotonic:

Facilitated diffusion:

Endocytosis:

Phagocytosis:

:

Exocytosis



Across

- 1. type of transport that requires energy
- 3. when a solution has a lesser concentration of particles
- 6. type of transport that does not require energy
- 8. prefix that means "inside"
- 10. movement of molecules from high to low concentration
- 13. a molecule composed of two hydrogens and one oxygen
- 14. a solution that has an equal amount of particles
- 15. membranes that let some things through, called selectively _____
- 17. the maintaining of an internal balance
- 19. word that means "cell"
- 20. a difference in concentration creates a concentration _

Down

- 2. condition achieved when molecules are evenly spread in an area
- 3. when a solution has a greater concentration of particles
- 4. turns color in the presence of starch
- 5. the engulfing of large particles
- 7. prefix that means "outside"
- 9. the diffusion of water
- 11. active transport will remove ___ ions, while taking in potassium ions
- 12. channel ___ can help move things across the membrane
- 16. organelle that helps remove excess water; _____ vacuole
- 18. the outer boundary of the cell

Name: _____

Cell Transport Packet

For questions 1-10, use Figure 1.

Match the structure/process to the letter:

1. Phospholipid bilayer _____
2. Osmosis _____
3. Simple Diffusion _____
4. Facilitated Diffusion _____
5. Channel protein _____
6. This cell would be in a [hypertonic / hypotonic / isotonic] solution.
7. All of the processes in the image are examples of [active / passive] transport.
8. The cell membrane can be described as [semi-permeable / impermeable]
9. There is more glucose [inside / outside] the cell. (Hint: Look at the direction it is moving)
10. Over time, this cell will [shrink / swell]



Diffusion and Osmosis

11. Label the three images in Figure 2 as **isotonic**, **hypertonic**, or **hypotonic** (with regard to the solution the cell is placed in)

Figure 2



12. Movement across the cell membrane that does not require energy is called [active / passive] transport.
13. The difference in the concentration of a substance across a space is called a concentration [equilibrium / gradient].
14. If there is a concentration gradient, substances will move from an area of high concentration to an area of [equal / low] concentration.
15. The cell membrane is [selectively permeable / impermeable].
16. [Equilibrium / Diffusion] is the simplest type of passive transport.
17. The diffusion of water through a selectively permeable membrane is called [osmosis / diffusion].
18. The direction of water movement across the cell membrane depends on the concentration of free water [molecules / solutions].
19. A solution that causes a cell to swell is called a [hypertonic / hypotonic] solution.
20. Organelles that collect excess water inside the cell and force water out are called [diffusion organelles / contractile vacuoles].
21. The process of taking material into the cell by infolding the cell membrane is called [endocytosis / exocytosis].
22. In [facilitated / molecular] diffusion, membrane proteins help molecules across the membrane.
23. In diffusion, molecules [spread out / condense].
24. The lipid bilayer describes [a type of transport / the cell membrane].
25. Facilitated diffusion moves substances down their concentration gradient [with / without] using the cell's energy.

Cell Transport

26. Know the parts of a solution

Define SOLUTE _____

Define SOLVENT _____

27. Explain what will happen to cells when placed in isotonic, hypertonic, and hypotonic solutions.

28. In Figure 3, draw the direction that **WATER** will move in each of the beakers.

Figure 3



29. Using Figure 3, label each beaker whether it is isotonic, hypertonic, or hypotonic.

30. **Define** the following terms:

Diffusion:

Equilibrium:

Osmosis:

Isotonic:

Hypertonic:

Hypotonic:

Facilitated diffusion:

Endocytosis:

Phagocytosis:

:

Exocytosis



Across

1. type of transport that requires energy
3. when a solution has a lesser concentration of particles
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Down

2. condition achieved when molecules are evenly spread in an area
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Name: _____

Cell Transport Packet

For questions 1-10, use Figure 1.

Match the structure/process to the letter:

1. Phospholipid bilayer _____
2. Osmosis _____
3. Simple Diffusion _____
4. Facilitated Diffusion _____
5. Channel protein _____
6. This cell would be in a [hypertonic / hypotonic / isotonic] solution.
7. All of the processes in the image are examples of [active / passive] transport.
8. The cell membrane can be described as [semi-permeable / impermeable]
9. There is more glucose [inside / outside] the cell. (Hint: Look at the direction it is moving)
10. Over time, this cell will [shrink / swell]



Diffusion and Osmosis

11. Label the three images in Figure 2 as **isotonic**, **hypertonic**, or **hypotonic** (with regard to the solution the cell is placed in)

Figure 2



12. Movement across the cell membrane that does not require energy is called [active / passive] transport.
13. The difference in the concentration of a substance across a space is called a concentration [equilibrium / gradient].
14. If there is a concentration gradient, substances will move from an area of high concentration to an area of [equal / low] concentration.
15. The cell membrane is [selectively permeable / impermeable].
16. [Equilibrium / Diffusion] is the simplest type of passive transport.
17. The diffusion of water through a selectively permeable membrane is called [osmosis / diffusion].
18. The direction of water movement across the cell membrane depends on the concentration of free water [molecules / solutions].
19. A solution that causes a cell to swell is called a [hypertonic / hypotonic] solution.
20. Organelles that collect excess water inside the cell and force water out are called [diffusion organelles / contractile vacuoles].
21. The process of taking material into the cell by infolding the cell membrane is called [endocytosis / exocytosis].
22. In [facilitated / molecular] diffusion, membrane proteins help molecules across the membrane.
23. In diffusion, molecules [spread out / condense].
24. The lipid bilayer describes [a type of transport / the cell membrane].
25. Facilitated diffusion moves substances down their concentration gradient [with / without] using the cell's energy.

Cell Transport

26. Know the parts of a solution

Define SOLUTE _____

Define SOLVENT _____

27. Explain what will happen to cells when placed in isotonic, hypertonic, and hypotonic solutions.

28. In Figure 3, draw the direction that **WATER** will move in each of the beakers.

Figure 3



29. Using Figure 3, label each beaker whether it is isotonic, hypertonic, or hypotonic.

30. **Define** the following terms:

Diffusion:

Equilibrium:

Osmosis:

Isotonic:

Hypertonic:

Hypotonic:

Facilitated diffusion:

Endocytosis:

Phagocytosis:

:

Exocytosis



Across

- 1. type of transport that requires energy
- 3. when a solution has a lesser concentration of particles
- 6. type of transport that does not require energy
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Down

- 2. condition achieved when molecules are evenly spread in an area
- 3. when a solution has a greater concentration of particles
- 4. turns color in the presence of starch
- 5. the engulfing of large particles
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- 12. channel ___ can help move things across the membrane
- 16. organelle that helps remove excess water; _____ vacuole
- 18. the outer boundary of the cell

Name: _____

Cell Transport Packet

For questions 1-10, use Figure 1.

Match the structure/process to the letter:

1. Phospholipid bilayer _____
2. Osmosis _____
3. Simple Diffusion _____
4. Facilitated Diffusion _____
5. Channel protein _____
6. This cell would be in a [hypertonic / hypotonic / isotonic] solution.
7. All of the processes in the image are examples of [active / passive] transport.
8. The cell membrane can be described as [semi-permeable / impermeable]
9. There is more glucose [inside / outside] the cell. (Hint: Look at the direction it is moving)
10. Over time, this cell will [shrink / swell]



Diffusion and Osmosis

11. Label the three images in Figure 2 as **isotonic**, **hypertonic**, or **hypotonic** (with regard to the solution the cell is placed in)

Figure 2



12. Movement across the cell membrane that does not require energy is called [active / passive] transport.
13. The difference in the concentration of a substance across a space is called a concentration [equilibrium / gradient].
14. If there is a concentration gradient, substances will move from an area of high concentration to an area of [equal / low] concentration.
15. The cell membrane is [selectively permeable / impermeable].
16. [Equilibrium / Diffusion] is the simplest type of passive transport.
17. The diffusion of water through a selectively permeable membrane is called [osmosis / diffusion].
18. The direction of water movement across the cell membrane depends on the concentration of free water [molecules / solutions].
19. A solution that causes a cell to swell is called a [hypertonic / hypotonic] solution.
20. Organelles that collect excess water inside the cell and force water out are called [diffusion organelles / contractile vacuoles].
21. The process of taking material into the cell by infolding the cell membrane is called [endocytosis / exocytosis].
22. In [facilitated / molecular] diffusion, membrane proteins help molecules across the membrane.
23. In diffusion, molecules [spread out / condense].
24. The lipid bilayer describes [a type of transport / the cell membrane].
25. Facilitated diffusion moves substances down their concentration gradient [with / without] using the cell's energy.

Cell Transport

26. Know the parts of a solution

Define SOLUTE _____

Define SOLVENT _____

27. Explain what will happen to cells when placed in isotonic, hypertonic, and hypotonic solutions.

28. In Figure 3, draw the direction that **WATER** will move in each of the beakers.

Figure 3



29. Using Figure 3, label each beaker whether it is isotonic, hypertonic, or hypotonic.

30. **Define** the following terms:

Diffusion:

Equilibrium:

Osmosis:

Isotonic:

Hypertonic:

Hypotonic:

Facilitated diffusion:

Endocytosis:

Phagocytosis:

:

Exocytosis



Across

- 1. type of transport that requires energy
- 3. when a solution has a lesser concentration of particles
- 6. type of transport that does not require energy
- 8. prefix that means "inside"
- 10. movement of molecules from high to low concentration
- 13. a molecule composed of two hydrogens and one oxygen
- 14. a solution that has an equal amount of particles
- 15. membranes that let some things through, called selectively _____
- 17. the maintaining of an internal balance
- 19. word that means "cell"
- 20. a difference in concentration creates a concentration _

Down

- 2. condition achieved when molecules are evenly spread in an area
- 3. when a solution has a greater concentration of particles
- 4. turns color in the presence of starch
- 5. the engulfing of large particles
- 7. prefix that means "outside"
- 9. the diffusion of water
- 11. active transport will remove ___ ions, while taking in potassium ions
- 12. channel ___ can help move things across the membrane
- 16. organelle that helps remove excess water; _____ vacuole
- 18. the outer boundary of the cell

Name: _____

Cell Transport Packet

For questions 1-10, use Figure 1.

Match the structure/process to the letter:

1. Phospholipid bilayer _____
2. Osmosis _____
3. Simple Diffusion _____
4. Facilitated Diffusion _____
5. Channel protein _____
6. This cell would be in a [hypertonic / hypotonic / isotonic] solution.
7. All of the processes in the image are examples of [active / passive] transport.
8. The cell membrane can be described as [semi-permeable / impermeable]
9. There is more glucose [inside / outside] the cell. (Hint: Look at the direction it is moving)
10. Over time, this cell will [shrink / swell]



Diffusion and Osmosis

11. Label the three images in Figure 2 as **isotonic**, **hypertonic**, or **hypotonic** (with regard to the solution the cell is placed in)

Figure 2



12. Movement across the cell membrane that does not require energy is called [active / passive] transport.
13. The difference in the concentration of a substance across a space is called a concentration [equilibrium / gradient].
14. If there is a concentration gradient, substances will move from an area of high concentration to an area of [equal / low] concentration.
15. The cell membrane is [selectively permeable / impermeable].
16. [Equilibrium / Diffusion] is the simplest type of passive transport.
17. The diffusion of water through a selectively permeable membrane is called [osmosis / diffusion].
18. The direction of water movement across the cell membrane depends on the concentration of free water [molecules / solutions].
19. A solution that causes a cell to swell is called a [hypertonic / hypotonic] solution.
20. Organelles that collect excess water inside the cell and force water out are called [diffusion organelles / contractile vacuoles].
21. The process of taking material into the cell by infolding the cell membrane is called [endocytosis / exocytosis].
22. In [facilitated / molecular] diffusion, membrane proteins help molecules across the membrane.
23. In diffusion, molecules [spread out / condense].
24. The lipid bilayer describes [a type of transport / the cell membrane].
25. Facilitated diffusion moves substances down their concentration gradient [with / without] using the cell's energy.

Cell Transport

26. Know the parts of a solution

Define SOLUTE _____

Define SOLVENT _____

27. Explain what will happen to cells when placed in isotonic, hypertonic, and hypotonic solutions.

28. In Figure 3, draw the direction that **WATER** will move in each of the beakers.

Figure 3



29. Using Figure 3, label each beaker whether it is isotonic, hypertonic, or hypotonic.

30. **Define** the following terms:

Diffusion:

Equilibrium:

Osmosis:

Isotonic:

Hypertonic:

Hypotonic:

Facilitated diffusion:

Endocytosis:

Phagocytosis:

:

Exocytosis



Across

1. type of transport that requires energy
3. when a solution has a lesser concentration of particles
6. type of transport that does not require energy
8. prefix that means "inside"
10. movement of molecules from high to low concentration
13. a molecule composed of two hydrogens and one oxygen
14. a solution that has an equal amount of particles
15. membranes that let some things through, called selectively _____
17. the maintaining of an internal balance
19. word that means "cell"
20. a difference in concentration creates a concentration _

Down

2. condition achieved when molecules are evenly spread in an area
3. when a solution has a greater concentration of particles
4. turns color in the presence of starch
5. the engulfing of large particles
7. prefix that means "outside"
9. the diffusion of water
11. active transport will remove ___ ions, while taking in potassium ions
12. channel ___ can help move things across the membrane
16. organelle that helps remove excess water; _____ vacuole
18. the outer boundary of the cell

Name: _____

Cell Transport Packet

For questions 1-10, use Figure 1.

Match the structure/process to the letter:

1. Phospholipid bilayer _____
2. Osmosis _____
3. Simple Diffusion _____
4. Facilitated Diffusion _____
5. Channel protein _____
6. This cell would be in a [hypertonic / hypotonic / isotonic] solution.
7. All of the processes in the image are examples of [active / passive] transport.
8. The cell membrane can be described as [semi-permeable / impermeable]
9. There is more glucose [inside / outside] the cell. (Hint: Look at the direction it is moving)
10. Over time, this cell will [shrink / swell]



Diffusion and Osmosis

11. Label the three images in Figure 2 as **isotonic**, **hypertonic**, or **hypotonic** (with regard to the solution the cell is placed in)

Figure 2



12. Movement across the cell membrane that does not require energy is called [active / passive] transport.
13. The difference in the concentration of a substance across a space is called a concentration [equilibrium / gradient].
14. If there is a concentration gradient, substances will move from an area of high concentration to an area of [equal / low] concentration.
15. The cell membrane is [selectively permeable / impermeable].
16. [Equilibrium / Diffusion] is the simplest type of passive transport.
17. The diffusion of water through a selectively permeable membrane is called [osmosis / diffusion].
18. The direction of water movement across the cell membrane depends on the concentration of free water [molecules / solutions].
19. A solution that causes a cell to swell is called a [hypertonic / hypotonic] solution.
20. Organelles that collect excess water inside the cell and force water out are called [diffusion organelles / contractile vacuoles].
21. The process of taking material into the cell by infolding the cell membrane is called [endocytosis / exocytosis].
22. In [facilitated / molecular] diffusion, membrane proteins help molecules across the membrane.
23. In diffusion, molecules [spread out / condense].
24. The lipid bilayer describes [a type of transport / the cell membrane].
25. Facilitated diffusion moves substances down their concentration gradient [with / without] using the cell's energy.

Cell Transport

26. Know the parts of a solution

Define SOLUTE _____

Define SOLVENT _____

27. Explain what will happen to cells when placed in isotonic, hypertonic, and hypotonic solutions.

28. In Figure 3, draw the direction that **WATER** will move in each of the beakers.

Figure 3



29. Using Figure 3, label each beaker whether it is isotonic, hypertonic, or hypotonic.

30. **Define** the following terms:

Diffusion:

Equilibrium:

Osmosis:

Isotonic:

Hypertonic:

Hypotonic:

Facilitated diffusion:

Endocytosis:

Phagocytosis:

:

Exocytosis



Across

1. type of transport that requires energy
3. when a solution has a lesser concentration of particles
6. type of transport that does not require energy
8. prefix that means "inside"
10. movement of molecules from high to low concentration
13. a molecule composed of two hydrogens and one oxygen
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15. membranes that let some things through, called selectively _____
17. the maintaining of an internal balance
19. word that means "cell"
20. a difference in concentration creates a concentration _

Down

2. condition achieved when molecules are evenly spread in an area
3. when a solution has a greater concentration of particles
4. turns color in the presence of starch
5. the engulfing of large particles
7. prefix that means "outside"
9. the diffusion of water
11. active transport will remove ___ ions, while taking in potassium ions
12. channel ___ can help move things across the membrane
16. organelle that helps remove excess water; _____ vacuole
18. the outer boundary of the cell

Name: _____

Cell Transport Packet

For questions 1-10, use Figure 1.

Match the structure/process to the letter:

1. Phospholipid bilayer _____
2. Osmosis _____
3. Simple Diffusion _____
4. Facilitated Diffusion _____
5. Channel protein _____
6. This cell would be in a [hypertonic / hypotonic / isotonic] solution.
7. All of the processes in the image are examples of [active / passive] transport.
8. The cell membrane can be described as [semi-permeable / impermeable]
9. There is more glucose [inside / outside] the cell. (Hint: Look at the direction it is moving)
10. Over time, this cell will [shrink / swell]



Diffusion and Osmosis

11. Label the three images in Figure 2 as **isotonic**, **hypertonic**, or **hypotonic** (with regard to the solution the cell is placed in)

Figure 2



12. Movement across the cell membrane that does not require energy is called [active / passive] transport.
13. The difference in the concentration of a substance across a space is called a concentration [equilibrium / gradient].
14. If there is a concentration gradient, substances will move from an area of high concentration to an area of [equal / low] concentration.
15. The cell membrane is [selectively permeable / impermeable].
16. [Equilibrium / Diffusion] is the simplest type of passive transport.
17. The diffusion of water through a selectively permeable membrane is called [osmosis / diffusion].
18. The direction of water movement across the cell membrane depends on the concentration of free water [molecules / solutions].
19. A solution that causes a cell to swell is called a [hypertonic / hypotonic] solution.
20. Organelles that collect excess water inside the cell and force water out are called [diffusion organelles / contractile vacuoles].
21. The process of taking material into the cell by infolding the cell membrane is called [endocytosis / exocytosis].
22. In [facilitated / molecular] diffusion, membrane proteins help molecules across the membrane.
23. In diffusion, molecules [spread out / condense].
24. The lipid bilayer describes [a type of transport / the cell membrane].
25. Facilitated diffusion moves substances down their concentration gradient [with / without] using the cell's energy.

Cell Transport

26. Know the parts of a solution

Define SOLUTE _____

Define SOLVENT _____

27. Explain what will happen to cells when placed in isotonic, hypertonic, and hypotonic solutions.

28. In Figure 3, draw the direction that **WATER** will move in each of the beakers.

Figure 3



29. Using Figure 3, label each beaker whether it is isotonic, hypertonic, or hypotonic.

30. **Define** the following terms:

Diffusion:

Equilibrium:

Osmosis:

Isotonic:

Hypertonic:

Hypotonic:

Facilitated diffusion:

Endocytosis:

Phagocytosis:

:

Exocytosis



Across

- 1. type of transport that requires energy
- 3. when a solution has a lesser concentration of particles
- 6. type of transport that does not require energy
- 8. prefix that means "inside"
- 10. movement of molecules from high to low concentration
- 13. a molecule composed of two hydrogens and one oxygen
- 14. a solution that has an equal amount of particles
- 15. membranes that let some things through, called selectively _____
- 17. the maintaining of an internal balance
- 19. word that means "cell"
- 20. a difference in concentration creates a concentration _

Down

- 2. condition achieved when molecules are evenly spread in an area
- 3. when a solution has a greater concentration of particles
- 4. turns color in the presence of starch
- 5. the engulfing of large particles
- 7. prefix that means "outside"
- 9. the diffusion of water
- 11. active transport will remove ___ ions, while taking in potassium ions
- 12. channel ___ can help move things across the membrane
- 16. organelle that helps remove excess water; _____ vacuole
- 18. the outer boundary of the cell

Name: _____

Cell Transport Packet

For questions 1-10, use Figure 1.

Match the structure/process to the letter:

1. Phospholipid bilayer _____
2. Osmosis _____
3. Simple Diffusion _____
4. Facilitated Diffusion _____
5. Channel protein _____
6. This cell would be in a [hypertonic / hypotonic / isotonic] solution.
7. All of the processes in the image are examples of [active / passive] transport.
8. The cell membrane can be described as [semi-permeable / impermeable]
9. There is more glucose [inside / outside] the cell. (Hint: Look at the direction it is moving)
10. Over time, this cell will [shrink / swell]



Diffusion and Osmosis

11. Label the three images in Figure 2 as **isotonic**, **hypertonic**, or **hypotonic** (with regard to the solution the cell is placed in)

Figure 2



12. Movement across the cell membrane that does not require energy is called [active / passive] transport.
13. The difference in the concentration of a substance across a space is called a concentration [equilibrium / gradient].
14. If there is a concentration gradient, substances will move from an area of high concentration to an area of [equal / low] concentration.
15. The cell membrane is [selectively permeable / impermeable].
16. [Equilibrium / Diffusion] is the simplest type of passive transport.
17. The diffusion of water through a selectively permeable membrane is called [osmosis / diffusion].
18. The direction of water movement across the cell membrane depends on the concentration of free water [molecules / solutions].
19. A solution that causes a cell to swell is called a [hypertonic / hypotonic] solution.
20. Organelles that collect excess water inside the cell and force water out are called [diffusion organelles / contractile vacuoles].
21. The process of taking material into the cell by infolding the cell membrane is called [endocytosis / exocytosis].
22. In [facilitated / molecular] diffusion, membrane proteins help molecules across the membrane.
23. In diffusion, molecules [spread out / condense].
24. The lipid bilayer describes [a type of transport / the cell membrane].
25. Facilitated diffusion moves substances down their concentration gradient [with / without] using the cell's energy.

Cell Transport

26. Know the parts of a solution

Define SOLUTE _____

Define SOLVENT _____

27. Explain what will happen to cells when placed in isotonic, hypertonic, and hypotonic solutions.

28. In Figure 3, draw the direction that **WATER** will move in each of the beakers.

Figure 3



29. Using Figure 3, label each beaker whether it is isotonic, hypertonic, or hypotonic.

30. **Define** the following terms:

Diffusion:

Equilibrium:

Osmosis:

Isotonic:

Hypertonic:

Hypotonic:

Facilitated diffusion:

Endocytosis:

Phagocytosis:

:

Exocytosis



Across

- 1. type of transport that requires energy
- 3. when a solution has a lesser concentration of particles
- 6. type of transport that does not require energy
- 8. prefix that means "inside"
- 10. movement of molecules from high to low concentration
- 13. a molecule composed of two hydrogens and one oxygen
- 14. a solution that has an equal amount of particles
- 15. membranes that let some things through, called selectively _____
- 17. the maintaining of an internal balance
- 19. word that means "cell"
- 20. a difference in concentration creates a concentration _

Down

- 2. condition achieved when molecules are evenly spread in an area
- 3. when a solution has a greater concentration of particles
- 4. turns color in the presence of starch
- 5. the engulfing of large particles
- 7. prefix that means "outside"
- 9. the diffusion of water
- 11. active transport will remove ___ ions, while taking in potassium ions
- 12. channel ___ can help move things across the membrane
- 16. organelle that helps remove excess water; _____ vacuole
- 18. the outer boundary of the cell

Name: _____

Cell Transport Packet

For questions 1-10, use Figure 1.

Match the structure/process to the letter:

1. Phospholipid bilayer _____
2. Osmosis _____
3. Simple Diffusion _____
4. Facilitated Diffusion _____
5. Channel protein _____
6. This cell would be in a [hypertonic / hypotonic / isotonic] solution.
7. All of the processes in the image are examples of [active / passive] transport.
8. The cell membrane can be described as [semi-permeable / impermeable]
9. There is more glucose [inside / outside] the cell. (Hint: Look at the direction it is moving)
10. Over time, this cell will [shrink / swell]



Diffusion and Osmosis

11. Label the three images in Figure 2 as **isotonic**, **hypertonic**, or **hypotonic** (with regard to the solution the cell is placed in)

Figure 2



12. Movement across the cell membrane that does not require energy is called [active / passive] transport.
13. The difference in the concentration of a substance across a space is called a concentration [equilibrium / gradient].
14. If there is a concentration gradient, substances will move from an area of high concentration to an area of [equal / low] concentration.
15. The cell membrane is [selectively permeable / impermeable].
16. [Equilibrium / Diffusion] is the simplest type of passive transport.
17. The diffusion of water through a selectively permeable membrane is called [osmosis / diffusion].
18. The direction of water movement across the cell membrane depends on the concentration of free water [molecules / solutions].
19. A solution that causes a cell to swell is called a [hypertonic / hypotonic] solution.
20. Organelles that collect excess water inside the cell and force water out are called [diffusion organelles / contractile vacuoles].
21. The process of taking material into the cell by infolding the cell membrane is called [endocytosis / exocytosis].
22. In [facilitated / molecular] diffusion, membrane proteins help molecules across the membrane.
23. In diffusion, molecules [spread out / condense].
24. The lipid bilayer describes [a type of transport / the cell membrane].
25. Facilitated diffusion moves substances down their concentration gradient [with / without] using the cell's energy.

Cell Transport

26. Know the parts of a solution

Define SOLUTE _____

Define SOLVENT _____

27. Explain what will happen to cells when placed in isotonic, hypertonic, and hypotonic solutions.

28. In Figure 3, draw the direction that **WATER** will move in each of the beakers.

Figure 3



29. Using Figure 3, label each beaker whether it is isotonic, hypertonic, or hypotonic.

30. **Define** the following terms:

Diffusion:

Equilibrium:

Osmosis:

Isotonic:

Hypertonic:

Hypotonic:

Facilitated diffusion:

Endocytosis:

Phagocytosis:

:

Exocytosis



Across

- 1. type of transport that requires energy
- 3. when a solution has a lesser concentration of particles
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- 13. a molecule composed of two hydrogens and one oxygen
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- 15. membranes that let some things through, called selectively _____
- 17. the maintaining of an internal balance
- 19. word that means "cell"
- 20. a difference in concentration creates a concentration _

Down

- 2. condition achieved when molecules are evenly spread in an area
- 3. when a solution has a greater concentration of particles
- 4. turns color in the presence of starch
- 5. the engulfing of large particles
- 7. prefix that means "outside"
- 9. the diffusion of water
- 11. active transport will remove ___ ions, while taking in potassium ions
- 12. channel ___ can help move things across the membrane
- 16. organelle that helps remove excess water; _____ vacuole
- 18. the outer boundary of the cell

Name: _____

Cell Transport Packet

For questions 1-10, use Figure 1.

Match the structure/process to the letter:

1. Phospholipid bilayer _____
2. Osmosis _____
3. Simple Diffusion _____
4. Facilitated Diffusion _____
5. Channel protein _____
6. This cell would be in a [hypertonic / hypotonic / isotonic] solution.
7. All of the processes in the image are examples of [active / passive] transport.
8. The cell membrane can be described as [semi-permeable / impermeable]
9. There is more glucose [inside / outside] the cell. (Hint: Look at the direction it is moving)
10. Over time, this cell will [shrink / swell]



Diffusion and Osmosis

11. Label the three images in Figure 2 as **isotonic**, **hypertonic**, or **hypotonic** (with regard to the solution the cell is placed in)

Figure 2



12. Movement across the cell membrane that does not require energy is called [active / passive] transport.
13. The difference in the concentration of a substance across a space is called a concentration [equilibrium / gradient].
14. If there is a concentration gradient, substances will move from an area of high concentration to an area of [equal / low] concentration.
15. The cell membrane is [selectively permeable / impermeable].
16. [Equilibrium / Diffusion] is the simplest type of passive transport.
17. The diffusion of water through a selectively permeable membrane is called [osmosis / diffusion].
18. The direction of water movement across the cell membrane depends on the concentration of free water [molecules / solutions].
19. A solution that causes a cell to swell is called a [hypertonic / hypotonic] solution.
20. Organelles that collect excess water inside the cell and force water out are called [diffusion organelles / contractile vacuoles].
21. The process of taking material into the cell by infolding the cell membrane is called [endocytosis / exocytosis].
22. In [facilitated / molecular] diffusion, membrane proteins help molecules across the membrane.
23. In diffusion, molecules [spread out / condense].
24. The lipid bilayer describes [a type of transport / the cell membrane].
25. Facilitated diffusion moves substances down their concentration gradient [with / without] using the cell's energy.

Cell Transport

26. Know the parts of a solution

Define SOLUTE _____

Define SOLVENT _____

27. Explain what will happen to cells when placed in isotonic, hypertonic, and hypotonic solutions.

28. In Figure 3, draw the direction that **WATER** will move in each of the beakers.

Figure 3



29. Using Figure 3, label each beaker whether it is isotonic, hypertonic, or hypotonic.

30. **Define** the following terms:

Diffusion:

Equilibrium:

Osmosis:

Isotonic:

Hypertonic:

Hypotonic:

Facilitated diffusion:

Endocytosis:

Phagocytosis:

:

Exocytosis



Across

1. type of transport that requires energy
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17. the maintaining of an internal balance
19. word that means "cell"
20. a difference in concentration creates a concentration _

Down

2. condition achieved when molecules are evenly spread in an area
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18. the outer boundary of the cell

Name: _____

Cell Transport Packet

For questions 1-10, use Figure 1.

Match the structure/process to the letter:

1. Phospholipid bilayer _____
2. Osmosis _____
3. Simple Diffusion _____
4. Facilitated Diffusion _____
5. Channel protein _____
6. This cell would be in a [hypertonic / hypotonic / isotonic] solution.
7. All of the processes in the image are examples of [active / passive] transport.
8. The cell membrane can be described as [semi-permeable / impermeable]
9. There is more glucose [inside / outside] the cell. (Hint: Look at the direction it is moving)
10. Over time, this cell will [shrink / swell]



Diffusion and Osmosis

11. Label the three images in Figure 2 as **isotonic**, **hypertonic**, or **hypotonic** (with regard to the solution the cell is placed in)

Figure 2



12. Movement across the cell membrane that does not require energy is called [active / passive] transport.
13. The difference in the concentration of a substance across a space is called a concentration [equilibrium / gradient].
14. If there is a concentration gradient, substances will move from an area of high concentration to an area of [equal / low] concentration.
15. The cell membrane is [selectively permeable / impermeable].
16. [Equilibrium / Diffusion] is the simplest type of passive transport.
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21. The process of taking material into the cell by infolding the cell membrane is called [endocytosis / exocytosis].
22. In [facilitated / molecular] diffusion, membrane proteins help molecules across the membrane.
23. In diffusion, molecules [spread out / condense].
24. The lipid bilayer describes [a type of transport / the cell membrane].
25. Facilitated diffusion moves substances down their concentration gradient [with / without] using the cell's energy.

Cell Transport

26. Know the parts of a solution

Define SOLUTE _____

Define SOLVENT _____

27. Explain what will happen to cells when placed in isotonic, hypertonic, and hypotonic solutions.

28. In Figure 3, draw the direction that **WATER** will move in each of the beakers.

Figure 3



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Equilibrium:

Osmosis:

Isotonic:

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Facilitated diffusion:

Endocytosis:

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Exocytosis



Across

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Down

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7. prefix that means "outside"
9. the diffusion of water
11. active transport will remove ___ ions, while taking in potassium ions
12. channel ___ can help move things across the membrane
16. organelle that helps remove excess water; _____ vacuole
18. the outer boundary of the cell