

The background features several large, overlapping, semi-transparent swirls in shades of purple, green, and blue. Scattered throughout are numerous small, yellow, triangular shapes that resemble sun rays or confetti.

# **Punnett Square Practice**

**Use your clicker to  
choose the correct  
answer**

A decorative lightbulb with a green glow and yellow rays emanating from it, positioned in the top-left corner of the slide.

# Dominant vs. Recessive

Which trait is dominant?

A decorative lightbulb with a blue glow and yellow rays emanating from it, positioned in the middle-left area of the slide.

A. B

B. b

A decorative lightbulb with a purple glow and yellow rays emanating from it, positioned in the bottom-left corner of the slide.

A decorative lightbulb with a green glow and yellow rays emanating from it, positioned in the top-left corner of the slide.

# Dominant vs. Recessive

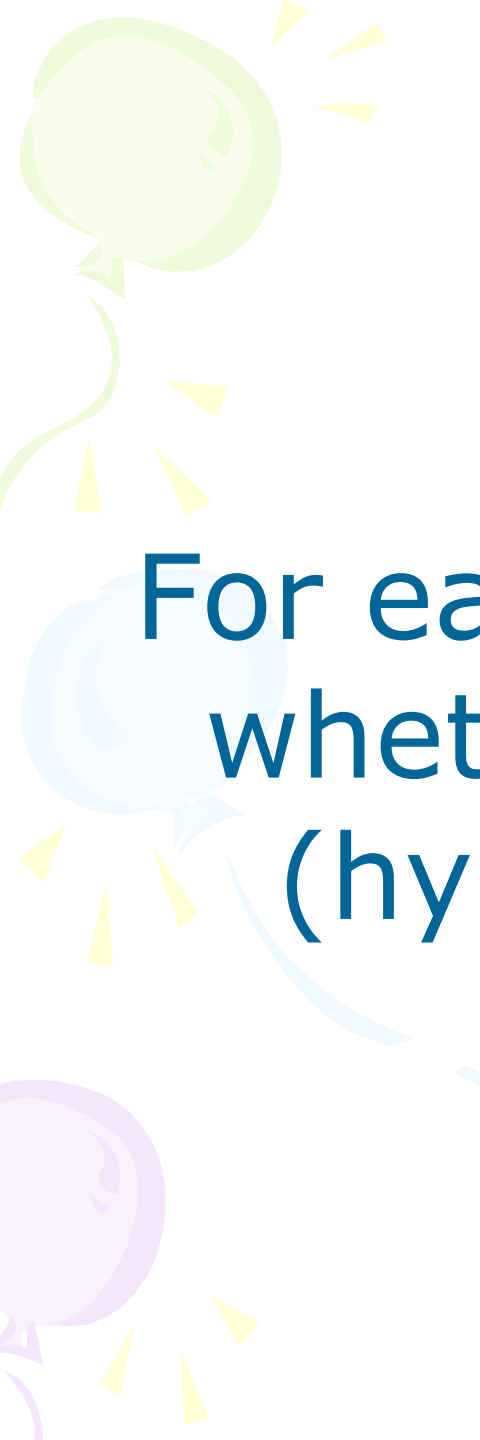
Which trait is recessive?

A decorative lightbulb with a blue glow and yellow rays emanating from it, positioned in the middle-left of the slide.

A.B

B.b

A decorative lightbulb with a purple glow and yellow rays emanating from it, positioned in the bottom-left corner of the slide.



# Heterozygous or Homozygous

For each genotype, indicate whether it is heterozygous (hybrid) or homozygous (purebred)



# Question 1

Rr

- A) Heterozygous (hybrid)
- B) Homozygous (purebred)

# Question 2

tt

- A) Heterozygous (hybrid)
- B) Homozygous (purebred)

# Question 3

DD

- A) Heterozygous (hybrid)
- B) Homozygous (purebred)



# Filling in a punnett square and interpreting the results

For this set of questions fill in the punnett square or draw conclusions from the punnett square.



# Question 4

	R	r
R		
R		?

- A)RR
- B)Rr
- C)rr

# Question 5

	D	d
D		
d	?	

- A) DD
- B) Dd
- C) dd

# Question 6

	G	g
g		?
g		

A)GG

B)Gg

C)gg

# Question 7

In pea plants smooth seeds are dominant (S) to wrinkled seeds (s).

**What is the genotype for a pea seed that is wrinkled?**

A) SS

B) Ss

C) ss



# Question 8

In pea plants smooth seeds are dominant (S) to wrinkled seeds (s).  
**What is the phenotype for a pea seed that is Ss?**

A) smooth

B) wrinkled

# Question 9

In pea plants smooth seeds are dominant (S) to wrinkled seeds (s).

**What is the phenotype for a pea seed that is homozygous recessive (rr)?**

A) smooth

B) wrinkled

# Question 10

One cat carries heterozygous, long-haired traits (Ll), and its mate carries homozygous short-haired traits (ll).

**What is the probability of one of their offspring having long hair?**

A) 4:4 100%

B) 1:4 25%

C) 3:4 75%

D) 2:4 50%

# Question 11

A heterozygous round seeded plant ( $Rr$ ) is crossed with a homozygous round seeded plant ( $RR$ ). **What percentage of the offspring will be homozygous dominant( $RR$ )?**

- A) 4:4 100%
- B) 3:4 75%
- C) 2:4 50%
- D) 1:4 25%



# Question 12

In pea plants purple flowers are dominant (P) to white flowers (p). Two plant, both heterozygous (Pp) for the gene that controls flower color are crossed. **What percentage of the offspring will have purple flowers?**

- A) 1:4 25%
- B) 3:4 75%
- C) 4:4 100%
- D) 2:4 50%

A decorative vertical strip on the left side of the slide features three balloons: a light green one at the top, a light blue one in the middle, and a light purple one at the bottom. Each balloon is attached to a thin, wavy streamer and has several small, yellow, triangular shapes radiating from it, resembling confetti or streamer ends.

# **GENETICS REVIEW**



# Question 13

A single gene carries \_\_\_\_\_ unit(s) of information.

A.1

B.2

C.3

D.4





# Question 14

An inherited trait that is controlled by more than one gene pair is called a

A. Gene

B. Heredity

C. Polygenetic trait

D. Genetics





# Question 15

How many chromosomes are in a human cell?

A. 23

B. 24

C. 46

D. 48



A lightbulb icon with a green glow and yellow rays emanating from it, positioned in the top-left corner of the slide.

# Question 16

How many chromosomes are in a human sex cell?

A. 23

B. 24

C. 46


D. 48

A lightbulb icon with a purple glow and yellow rays emanating from it, positioned in the bottom-left corner of the slide.



# Question 17

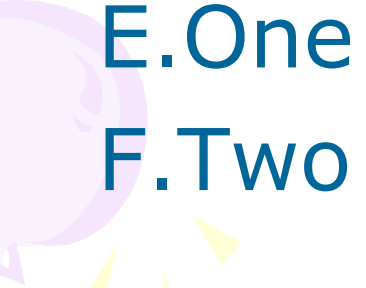
Which of the following are **advantages** of asexual reproduction:

- A. More time and energy
  - B. Less time and energy
  - C. More genetic diversity
  - D. Less genetic diversity
  - E. One parent
  - F. Two parents
- 



# Question 18

Which of the following are **advantages** of sexual reproduction:

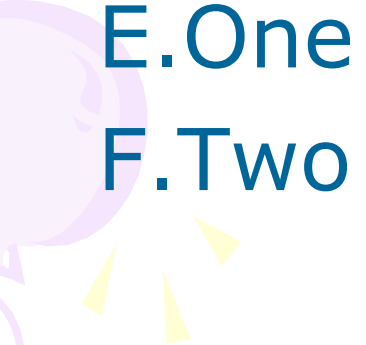
- A. More time and energy
  - B. Less time and energy
  - C. More genetic diversity
  - D. Less genetic diversity
  - E. One parent
  - F. Two parents
- 





# Question 19

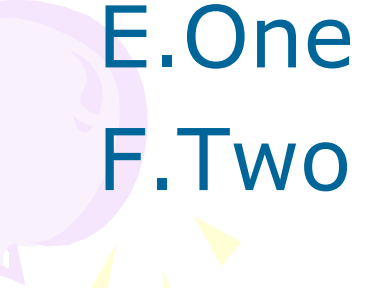
Which of the following are **not** **advantages** of asexual reproduction:

- A. More time and energy
  - B. Less time and energy
  - C. More genetic diversity
  - D. Less genetic diversity
  - E. One parent
  - F. Two parents
- 



## Question 20

Which of the following are **not** **advantages** of sexual reproduction:

- A. More time and energy
  - B. Less time and energy
  - C. More genetic diversity
  - D. Less genetic diversity
  - E. One parent
  - F. Two parents
- 



# Question 21


What is a mutation?

- A. Different chromosomes mixing
- B. Any change in DNA
- C. When DNA combines
- D. Different alleles mixing



# Question 22

An example of an acquired trait would be \_\_\_\_\_.

- A. Attached earlobes
  - B. Doing algebra
  - C. Spider spinning a web
  - D. Shoe size
- 



## Question 23

An example of an inherited trait would be \_\_\_\_\_.

A. Blue eyes

B. The ability to ride a bike

C. Cooking dinner

D. Knowing how to get to grandma's house



# Question 24

What is the difference between instinctive and learned characteristics?

- A. Learned characteristics are behaviors an organism is born with know how to do.
- B. Learned characteristics are behaviors an organism acquires through out their life time.
- C. Instinctive characteristics are behaviors that an organism acquires from watching other in their group.
- D. Instinctive characteristics are behaviors that an organism learn through trial and error.



# Question 25

Talk in your group and list some examples of how the environment can influence inherited traits?