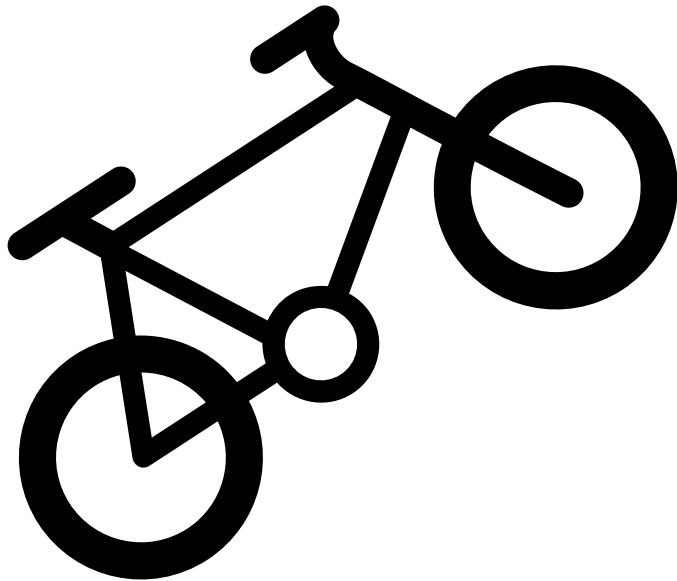


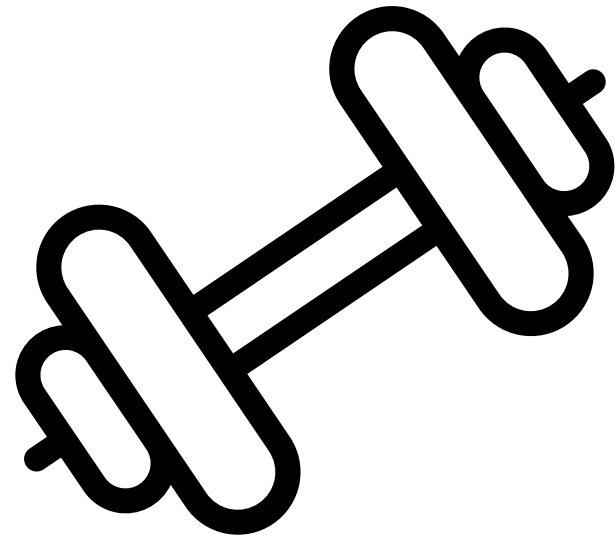
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Aerobic

vs



Anaerobic

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DELIBERATE PRACTICE GUIDE

The formula for achievement...

Talent + Hard = Skill
Work
Deliberate
Practice

Skill + Hard = Achievement
Work
Deliberate
Practice



Important note:
HARD WORK COUNTS TWICE!

DELIBERATE PRACTICE GUIDE

Deliberate Practice is the key to unlocking your potential!

Here's what it looks like...

Step 1

- ✓ Set a Stretch Goal.
(This goal is something you want to do, but can't yet accomplish.)

Step 2

- ✓ **Work hard** toward your goal in a practice setting.
- ✓ Seek and process feedback. (How can you improve?)
- ✓ Adjust your **hard work** and continue to practice.
- ✓ Repeat Step 2 until you meet your goal.

Step 3

- ✓ Set a new stretch goal. Work hard.

DELIBERATE PRACTICE GUIDE

We can shape our students into Exercise Scientists...

Step 1

- ✔ Identify Academic Language to be mastered.

Step 2

- ✔ Teach the vocabulary.
- ✔ Provide application practice.
- ✔ Provide immediate performance feedback.

Step 3

- ✔ Debrief and discuss with Tiered Question Sets.

DELIBERATE PRACTICE GUIDE

Today's practice plan:

Academic Language	Application Practice Activities
Aerobic	Farmville (K-5 Instant Activities)
Anaerobic	Roll the Dice (3-5 Fitness Knowledge)
FITT Principle	Birth of Sky (MS OPEN 8 Challenge)
✓ Frequency	Life of Wind (MS OPEN 8 Challenge)
✓ Intensity	Ultimate Act of Courage (MS OPEN 8 Challenge)
✓ Time	Push-up Ski Team (HS Creative Mode Fitness)
✓ Type	Aerobic Tic Tac Toe (HS Creative Mode Fitness)
Heart Rate Zone	
Pace	
Perceived Exertion	

AEROBIC

(adjective)

Relating to activity in which oxygen is the chemical catalyst for the generation of energy. This activity increases the body's demand for oxygen, thereby temporarily increasing respiration and heart rate.

Aerobic exercise is moderate in intensity and can be sustained for 10 minutes or more. Its primary benefit is to improve the capacity and efficiency of the cardiovascular system. The primary fuel source is fat.




DELIBERATE PRACTICE GUIDE

Tiered Question Set ONE:

DOK Level	Question
DOK 1:	How can you recognize aerobic activity?
DOK 2:	What did you notice about the activity Farmville with respect to aerobic activity vs anaerobic activity?
DOK 3:	What facts would you select to support the idea that Farmville is an aerobic activity?
DOK 4:	How might we design and conduct an experiment to support the idea that Farmville is an aerobic activity?

DOK Question Stems for Physical Education



DOK 1 - Recall

- 1) Can you remember the cues for (skill / task)?
- 2) How can you recognize (skill / task)?
- 3) What is (skill / task / concept)?
- 4) What would you include on a list about (skill / task / concept)?
- 5) How would you describe (skill / task / concept)?
- 6) How would you perform (skill / task)?
- 7) What does (vocabulary) mean?



DOK 2 – Skill/Concept

- 1) How did (concept) affect (performance)?
- 2) How would you apply (skill / concept) in (task / environment)?
- 3) How would you compare and/or contrast (skill / task / concept / environment) with (another skill / task / concept / environment)?
- 4) What do you know about (skill / task / concept / environment)?
- 5) What did you notice about (environment / performance)?
- 6) How can you apply what you learned to develop (skill / understanding)?
- 7) How would you summarize (skill / task / concept / performance / environment)?



DOK 3 – Strategic Thinking

- 1) How is (skill / concept / task) related to (performance / skill / concept / task)?
- 2) How would you adapt (task / environment) to create a different (task / environment)?
- 3) Can you predict the outcome of (a task / performance) if (concept / task / environment)?
- 4) How would you describe the sequence of (performance / task)?
- 5) Can you formulate a theory for (concept)? How would you test your theory?
- 6) What facts would you select to support (concept)? Can you elaborate on why you chose those facts?
- 7) What is your interpretation of this (performance / task)? Can you support your interpretation with specific examples?



DOK 4 – Extended Thinking

- 1) Develop a comprehensive (performance) plan.
- 2) Develop a practice plan to improve your skill.
- 3) Create a performance utilizing skills and concepts previously learned. Include an interpretation of how the performance is a personal expression of both challenge and enjoyment.
- 4) Identify areas of weakness and design a plan for personal improvement.
- 5) Using information from (skill / fitness) assessment, analyze the positive and negative consequences of past (performance / habits / routines).
- 6) What information can you gather to support your ideas about (concept / activity / performance)?
- 7) Design and conduct an experiment / assessment. Then, gather information to development alternative explanation for the results.

Adapted by Aaron Hart for OPEN from the resource:

Descriptors, Examples and Question Stems for Increasing Depth of Knowledge in the Classroom

Dr. Norman Webb and Flip Chart developed by Myra Collins

Find More at www.OPENPhysEd.org

ANAEROBIC

(adjective)

Relating to physical activity in which the body cannot generate enough energy through the use of oxygen and therefore metabolizes glucose as its primary fuel source.

Anaerobic activity is vigorous in intensity and cannot be sustained for long periods of time due to muscle fatigue caused by the buildup of lactic acid, the byproduct of glycolysis.



DELIBERATE PRACTICE GUIDE

Tiered Question Set TWO:

DOK Level	Question
DOK 1:	How can you recognize <u>anaerobic</u> activity?
DOK 2:	What did you notice about the activity Birth of Sky with respect to aerobic activity vs anaerobic activity?
DOK 3:	What facts would you select to support the idea that Birth of Sky is an anaerobic activity?
DOK 4:	How might we design and conduct an experiment to support the idea that Birth of Sky is an anaerobic activity?

FITT PRINCIPLE

(noun)

A personal fitness concept that requires the inclusion of frequency, intensity, time, and type of exercise as four elements necessary for a comprehensive and successful fitness plan.

Malory included all elements of the **FITT Principle** in her personal fitness plan.



LIFE OF WIND

AEROBIC EXERCISE CARD

Bank your points by choosing and completing 1 of the aerobic exercises listed below.

30 Jumping Jacks

30 High Knees

30 Mountain Climbers

30 Plank Jacks

30 Ski Jumpers

Encouragement (*noun*)

Support, confidence, or hope offered by someone or some event.

The friends gave each other constant **encouragement** to help build their self-confidence during the most difficult parts of the OPEN 8 Adventure Challenge.



FREQUENCY

(noun)

The rate at which something occurs or is repeated over a particular period of time.

Jose wanted to implement the FITT principle in his workout routine and decided that the **frequency** of his cardiovascular workouts would be 3 days per week.



INTENSITY

(noun)

The amount of exertion used when performing an exercise or activity.

Kristen was careful not to push past her personal limit of exercise **intensity** in order to avoid muscle or joint injury.



TIME

(noun)

The duration of an event or period.

Marco improved his endurance and increased the amount of **time** that he could exercise without stopping.



TYPE

(noun)

The activity category associated with a given exercise (e.g., strength training, cardio, etc.).

In order to improve her 10K race time, Pika chose cardio workouts as the **type** of exercise to improve her endurance.



DELIBERATE PRACTICE GUIDE

Tiered Question Set THREE:

DOK Level	Question
DOK 1:	What is the FITT Principle?
DOK 2:	What do you know about the 4 components of the FITT Principle?
DOK 3:	How is aerobic vs anaerobic activity related to the FITT Principle?
DOK 4:	What information can you gather to support the FITT Principle's connection to aerobic and anaerobic activity?

HEART RATE ZONE

(noun)

A range of heart beats per minute, measured as a percentage of Maximum Heart Rate, identified because specific health benefits are associated with sustained exercise intensity within that range.

Cammy worked within her target **heart rate zone** in order to maximize the cardiorespiratory benefits of the workout.



HEART RATE ZONE CHART

	HR Zone BPM	Benefits	Perceived Exertion	Recommended For:
PERFORMANCE	90 to 100% 180 – 200	Max performance & speed	Exhausting for breathing and muscles	Those training for specific vigorous performances
HEART HEALTH	70 to 90% 140 – 180	Aerobic fitness & performance capacity	Some muscle fatigue, heavy breathing, sweating	Everyone: Moderately long activity
	60 to 70% 120 – 140	Basic endurance and fat burning	Light muscle exertion, easy breathing, light sweating	Everyone: Longer, more frequent activity
ACTIVE	50 to 60% 100 – 120	Overall health, warm-up, and cool-down	Easy for breathing and muscles	Everyone: Active warm-up & recovery

Adapted from Polar Lessons for Life

ACT OF ULTIMATE COURAGE

COURAGE CREATION CARD

Complete the following courageous act before continuing on your journey.

50 Jumping Jacks + 1 Act of Encouragement

Courage (*noun*)

Bold confidence that allows a person to persevere in the face of great challenge, uncertainty, discomfort, and fear.

We are all very proud of the teams who displayed courage by carrying messages of hope and optimism to the world, despite the difficult challenges and negative forces that battled against them.



ACT OF ULTIMATE COURAGE

COURAGE CREATION CARD

Complete the following courageous act before continuing on your journey.

50 High Knees + 1 Act of Encouragement

Courage (*noun*)

Bold confidence that allows a person to persevere in the face of great challenge, uncertainty, discomfort, and fear.

We are all very proud of the teams who displayed courage by carrying messages of hope and optimism to the world, despite the difficult challenges and negative forces that battled against them.



ACT OF ULTIMATE COURAGE

COURAGE CREATION CARD

Complete the following courageous act before continuing on your journey.

50 Mountain Climbers + 1 Act of Encouragement

Courage (*noun*)

Bold confidence that allows a person to persevere in the face of great challenge, uncertainty, discomfort, and fear.

We are all very proud of the teams who displayed courage by carrying messages of hope and optimism to the world, despite the difficult challenges and negative forces that battled against them.



ACT OF ULTIMATE COURAGE

COURAGE CREATION CARD

Complete the following courageous act before continuing on your journey.

50 Plank Jacks + 1 Act of Encouragement

Courage (*noun*)

Bold confidence that allows a person to persevere in the face of great challenge, uncertainty, discomfort, and fear.

We are all very proud of the teams who displayed courage by carrying messages of hope and optimism to the world, despite the difficult challenges and negative forces that battled against them.



ACT OF ULTIMATE COURAGE

COURAGE CREATION CARD

Complete the following courageous act before continuing on your journey.

50 Ski Jumpers + 1 Act of Encouragement

Courage (*noun*)

Bold confidence that allows a person to persevere in the face of great challenge, uncertainty, discomfort, and fear.

We are all very proud of the teams who displayed courage by carrying messages of hope and optimism to the world, despite the difficult challenges and negative forces that battled against them.



ACT OF ULTIMATE COURAGE

COURAGE CREATION CARD

Complete the following courageous act before continuing on your journey.

15 Push-Ups + 1 Act of Encouragement

Courage (*noun*)

Bold confidence that allows a person to persevere in the face of great challenge, uncertainty, discomfort, and fear.

We are all very proud of the teams who displayed courage by carrying messages of hope and optimism to the world, despite the difficult challenges and negative forces that battled against them.



ACT OF ULTIMATE COURAGE

COURAGE CREATION CARD

Complete the following courageous act before continuing on your journey.

10 Burpees + 1 Act of Encouragement

Courage (*noun*)

Bold confidence that allows a person to persevere in the face of great challenge, uncertainty, discomfort, and fear.

We are all very proud of the teams who displayed courage by carrying messages of hope and optimism to the world, despite the difficult challenges and negative forces that battled against them.



PACE

(verb)

To move or work at a steady and consistent speed, oftentimes in order to avoid becoming overly tired.

Marissa learned how to **pace** her run so she could make it through the entire 5K race course.



PUSH-UP SKI TEAM SCORE

PUSH-UP SKI TEAM ROUND 1		
Date of Ski Trials		
Student Names		
Player 1 Push-ups		<i>Total # of push-ups in this round</i>
Player 2 Push-ups		<i>Total # of push-ups in this round</i>
Avg.HR Player 1		<input type="checkbox"/> (ck box if in Target HR Zone)
Avg.HR Player 2		<input type="checkbox"/> (ck box if in Target HR Zone)
Avg.HR Player 3		<input type="checkbox"/> (ck box if in Target HR Zone)
Total Score		= Push-ups + Heart Rates

PUSH-UP SKI TEAM ROUND 2		
Player 2 Push-ups		<i>Total # of push-ups in this round</i>
Player 3 Push-ups		<i>Total # of push-ups in this round</i>
Avg.HR Player 1		<input type="checkbox"/> (ck box if in Target HR Zone)
Avg.HR Player 2		<input type="checkbox"/> (ck box if in Target HR Zone)
Avg.HR Player 3		<input type="checkbox"/> (ck box if in Target HR Zone)
Total Score		= Push-ups + Heart Rates

PUSH-UP SKI TEAM ROUND 3		
Player 3 Push-ups		<i>Total # of push-ups in this round</i>
Player 1 Push-ups		<i>Total # of push-ups in this round</i>
Avg.HR Player 1		<input type="checkbox"/> (ck box if in Target HR Zone)
Avg.HR Player 2		<input type="checkbox"/> (ck box if in Target HR Zone)
Avg.HR Player 3		<input type="checkbox"/> (ck box if in Target HR Zone)
Total Score		= Push-ups + Heart Rates

FINAL SCORE =

(Sum of totals from all rounds)

PERCEIVED EXERTION

(noun)

How hard an individual feels her/his body is working during a bout of physical activity or exercise.

Flow's **perceived exertion** during the circuit training lesson was a 7/10 because she was breathing very heavily but could still talk with her group about the class challenges.




PERCEIVED EXERTION CARD

RPE Scale	Rate of Perceived Exertion
10	<p>Max Effort Activity It feels almost impossible to keep going. I'm completely out of breath and can't talk. I can't keep this up for long.</p>
9	<p>Very Vigorous Activity It's really hard to maintain this intensity. I can barely breathe and can only speak a few words at one time.</p>
7-8	<p>Vigorous Activity This is almost uncomfortable. My breathing is very heavy, but can speak a full sentence.</p>
4-6	<p>Moderate Activity My breathing is heavy, but can hold a short conversation. I'm not uncomfortable, but I can feel the challenge in the activity.</p>
2-3	<p>Light Activity I can maintain this activity for hours. It's easy to breathe and carry on a conversation.</p>
1	<p>Very Light Activity I don't have to try hard at all, but I'm not watching TV or taking a nap.</p>

DICE FITNESS CHART

	RED Cardiorespiratory	ORANGE Muscular Strength	YELLOW Muscular Endurance	GREEN Flexibility	BLUE Skill Related	PURPLE Body Comp.
1	Invisible jump rope. Skip-count by 10s to 200.	Do 10 push-ups.	Bear walk across the length of the gym.	Hamstring Stretch: Touch your toes and count to 30.	Fast-feet sprint in place for 30 seconds.	Name a food in the Dairy group of "MyPlate."
2	Jog in place. Skip-count by 2s to 50.	Do 6 Burpees.	Crab walk across the width of the gym.	Quadriceps Stretch: Hold heel to your bottom and count to 20 for each leg.	Perform 5 Star Jumps.	Name 3 different whole-grain foods.
3	Do jumping jacks. Skip-count by 5s to 100.	Do 8 lunges with each leg.	Lay on your stomach. Perform 7 trunk lifts.	Calf Stretch: In plank position, reach your heels to the ground. Count to 30.	Balance on 1 hand and 1 foot. Count to 10.	Name a food in the protein group of "MyPlate."
4	Power walk and touch all 4 walls in gym. How high can you count by 4s?	Biceps: Step on exercise band. Do 10 curls, bending at the elbow.	Hold a plank for the count to 25.	Triceps Stretch: Hug each arm across your body and count to 20.	Perform the standing long jump 3 times.	Name 3 of your favorite fruits.
5	Invisible Hula Hoop. Skip count by 3s to 60.	Back: Sit w/legs straight out. Wrap ex band around feet and pull with arms.	Abdominals: Do 8 Plank-Crunches (Plank position alternate knee to chest)	Pectoral Stretch: Hold your hands behind your back and lift up. Count to 30.	Side-slide from one wall to another.	Name 3 vegetables that you would try if given the chance.
6	Work with a partner or group to complete 50 jumping jacks.	Shoulders: Stand on & hold exercise band. Press arms overhead.	Abdominals: Hold a plank position. Count to 25.	Back Stretch: Lie on your back and hug both knees to chest.	Power Skip around the boundary of the gym. Be safe.	How many minutes should kids be active each day?

DOK Question Stems for Physical Education



DOK 1 - Recall

- 1) Can you remember the cues for (skill / task)?
- 2) How can you recognize (skill / task)?
- 3) What is (skill / task / concept)?
- 4) What would you include on a list about (skill / task / concept)?
- 5) How would you describe (skill / task / concept)?
- 6) How would you perform (skill / task)?
- 7) What does (vocabulary) mean?



DOK 2 – Skill/Concept

- 1) How did (concept) affect (performance)?
- 2) How would you apply (skill / concept) in (task / environment)?
- 3) How would you compare and/or contrast (skill / task / concept / environment) with (another skill / task / concept / environment)?
- 4) What do you know about (skill / task / concept / environment)?
- 5) What did you notice about (environment / performance)?
- 6) How can you apply what you learned to develop (skill / understanding)?
- 7) How would you summarize (skill / task / concept / performance / environment)?



DOK 3 – Strategic Thinking

- 1) How is (skill / concept / task) related to (performance / skill / concept / task)?
- 2) How would you adapt (task / environment) to create a different (task / environment)?
- 3) Can you predict the outcome of (a task / performance) if (concept / task / environment)?
- 4) How would you describe the sequence of (performance / task)?
- 5) Can you formulate a theory for (concept)? How would you test your theory?
- 6) What facts would you select to support (concept)? Can you elaborate on why you chose those facts?
- 7) What is your interpretation of this (performance / task)? Can you support your interpretation with specific examples?



DOK 4 – Extended Thinking

- 1) Develop a comprehensive (performance) plan.
- 2) Develop a practice plan to improve your skill.
- 3) Create a performance utilizing skills and concepts previously learned. Include an interpretation of how the performance is a personal expression of both challenge and enjoyment.
- 4) Identify areas of weakness and design a plan for personal improvement.
- 5) Using information from (skill / fitness) assessment, analyze the positive and negative consequences of past (performance / habits / routines).
- 6) What information can you gather to support your ideas about (concept / activity / performance)?
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