



Online Physical Education Network



Depth of Knowledge and
Tiered Questioning Techniques
in Physical Education

Presented by Aaron Hart

NYC 2016

**Citywide Physical Education Conference
Chancellor's PD Day, June 9, 2016**

Depth of Knowledge and Tiered Questioning Techniques in Physical Education

Session 1: 9am – 10:30am
 Session 2: 10:45am – 12:15pm
 Session 3: 1:15pm – 2:45pm
 Venue: PH 323
 Prospect Heights Campus

Description

Join Aaron Hart from US Games to explore academic language in physical education for building depth of knowledge extensions into class discussions. With a focus on tiered questioning, participants will learn the benefits of applying academic language in PE and how to connect these skills with the National Standards and Grade Level Outcomes. <http://www.openphysed.org>

Activity Line-Up


- ✓ Say Cheese Tag K-5 (*Instant Activities*)
- ✓ High-5 Bank Account (*Instant Activities*)
- ✓ Toss 3 (*Instant Activities*)
- ✓ Robotics Lab (3-5 *Personal & Social Responsibility*)
- ✓ Down and Back Relay (3-5 *Personal & Social Responsibility*)

What is Depth of Knowledge?

DOK is a framework that categorizes tasks according to the complexity of thinking required to be successful. OPEN DOK Debrief Questions use Webb's Depth of Knowledge frame work to scaffold questions into a tiered discussion of increasing rigor. Start at DOK level 1 and continue through the levels until students struggle to answer in a meaningful way. That technique allows you to assess your students' depth of understanding.

Depth of Knowledge Applied to Locomotor Skills			
DOK 1 (Recall a Skill or Concept)	DOK 2 (Basic Application of Skill / Concept)	DOK 3 (Strategic Thinking with Reasoning)	DOK 4 (Extended Thinking with Investigation)
Can you demonstrate a skip and recite the skill cues?	Can you perform a skip during a game of Tag?	Which locomotor skill would you use to quickly move from one side of the room to the other? Why did you select that skill? What makes the skill you chose the best option?	Can you create a game that would allow players to practice each locomotor skill in a dynamic environment? How will you test its effectiveness?

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 develop an alternative explanation for the results.

Adapted by Aaron Hart for US Games from the resource:

Descriptors, Examples and Question Stems for Increasing Depth of Knowledge in the Classroom Developed by Dr. Norman Webb and Flip Chart developed by Myra Collins



Online Physical Education Network

What is Academic Language?

The vocabulary, symbols, icons, signals, and non-verbal communication that students must know and be able to apply in order to be competent/proficient in a specific academic area.

Literacy / Academic Language in Physical Education does NOT mean reviewing classroom spelling lists.

Physical Education has its own Academic Language that is absolutely essential for preparing students to be proficient movers for a lifetime of quality physical activity.

The Academic Language of Personal and Social Responsibility

Acceptance (noun)

The willingness to receive an idea or situation or to receive an individual into a group.

Actively Engage (verb)

To participate in an activity while showing genuine interest and a desire for excellence.

Appropriate Behavior (noun)

The correct way to act or conduct oneself in a particular situation.

Cooperation (noun)

The process of working together for a common goal or outcome.

Encouragement (noun)

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

Safety (noun)

The condition of being protected against physical, social, and emotional harm.

This vocabulary must be built in order for students to move through the 4 levels of DOK.

- ✓ **DOK 1:** How can you recognize safe behaviors?
- ✓ **DOK 2:** How would you compare and contrast safe behaviors with dangerous behaviors?
- ✓ **DOK 3:** Can you predict what would happen in our Robotics Lab activity if students acted in ways that were not safe?
- ✓ **DOK 4:** Let's develop a plan that we can follow if any of us see unsafe behaviors.



High-5 Bank Account

STUDENT TARGETS

- ✓ **Skill:** I will accurately toss and catch with a partner.
- ✓ **Fitness:** I will stay actively engaged and warm up my body.

TEACHING CUES

- ✓ High 5 Gently and Safely
- ✓ Move Safely and Quickly

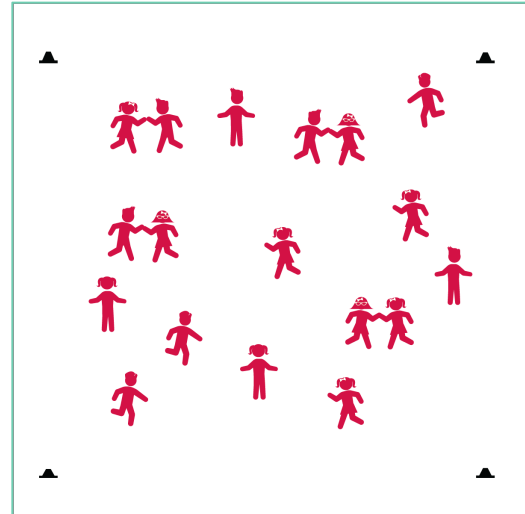
ACTIVITY SET-UP & PROCEDURE

Equipment:

- ✓ 4 cones to create boundaries

Set-Up:

1. Create a large activity area using 4 cones.
2. Scatter students in activity area.



Activity Procedures:

1. This activity is called High 5-Bank Account. The object is to take as many high-5's to the bank as you can in 2-minutes.
2. On the start signal move to another player and give her or him a high-5. Then, quickly move to someone else and get another high-5.
3. As soon as you collect 5 high-5's, take them to the bank by doing do 5 jumping jacks. You now have 5 high-5's in the bank. Repeat this sequence as many times as you can in 2 minutes. Keep track of how many high-5's you put in the bank.

Grade Level Progression:

K: Play game as described above.

1st - 2nd: Play the game using a variety of locomotor skills.

3rd - 5th: Choose a variety of fitness tasks to replace jumping jacks.

Middle School: Add a dribbling task.

STANDARDS & OUTCOMES ADDRESSED

- ✓ **Standard 3 [E2.K-5]** Actively engages in physical education class (K-5);
- ✓ **Standard 3 [M12.6]** Describes the role of warm-ups and cool-downs before and after physical activity (6).

DEBRIEF QUESTIONS

- ✓ **DOK 1:** What is a warm-up?
- ✓ **DOK 2:** Why is it important to warm-up your body before exercise/physical activity?
- ✓ **DOK 3:** What other fitness concepts could be addressed using this activity?
- ✓ **DOK 4:** How could this activity be modified to become more (or less) vigorous? How can we prove that this modification has worked?

Say “Cheese” Tag

STUDENT TARGETS

- ✔ **Fitness:** I will be able to name healthy foods in order to be freed during our tag game.

TEACHING CUES

- ✔ Eyes up
- ✔ Be aware of your surroundings
- ✔ Safe tagging

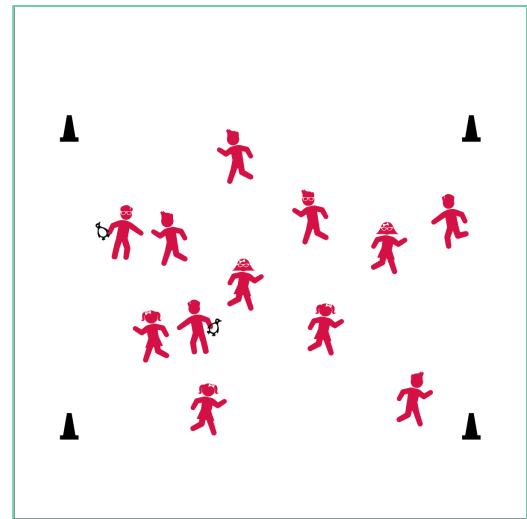
ACTIVITY SET-UP & PROCEDURE

Equipment:

- ✔ 4 cones for boundaries
- ✔ Bean bags or rubber critters to identify taggers

Set-Up:

1. Create a large playing area, using four cones.
2. Scatter students in the activity area.
3. Give bean bags to 2 or 3 students to identify them as taggers.



Activity Procedures:

1. Today we're going to warm up our bodies for physical education class by playing Say Cheese Tag.
2. When I say “GO!” begin playing at a speed-walking pace. The taggers will do 5 jumping jacks to give you time to move away from them.
3. If you're tagged, freeze in your favorite selfie pose.
4. To be freed, someone will come over to take a selfie with a person who is frozen. When taking a selfie, say the name of a favorite fruit or veggie instead of saying ‘cheese’. For example, “Say Broccoli!” Then, both students will say “broccoli” while pretending to take a selfie.
5. Freeze when you hear the stop signal and we'll change taggers.

Grade Level Progression:

K: Keep the pace at a speed walk.

1st – 2nd: When students demonstrate safe movement, increase the pace to a skip or gallop. Change food groups that they have to say throughout the activity.

3rd – 5th: Students could do an ‘action shot’ for their picture. They can add their favorite invisible jump rope trick when they say a food and take a picture.

STANDARDS & OUTCOMES ADDRESSED

- ✔ **Standard 3 [E6.1]** Differentiates between healthy and unhealthy foods (1).

DEBRIEF QUESTIONS

- ✔ **DOK 1:** What type of foods are beneficial for before and after physical activity?
- ✔ **DOK 2:** Why is it better to have these foods compared to other foods?

Toss 3

STUDENT TARGETS

- ✓ **Skill:** I will accurately toss and catch with a partner.
- ✓ **Fitness:** I will stay actively engaged and warm up my body.

TEACHING CUES

- ✓ Look for Hands Up, Eyes Ready
- ✓ Step with Opposition, Tick Tock Toss
- ✓ Two Handed Catch with Soft Hands

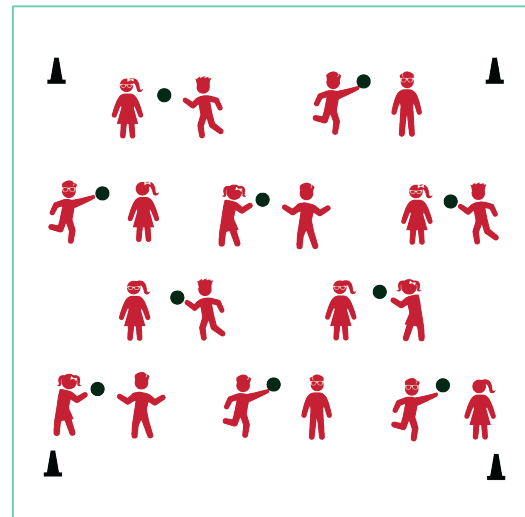
ACTIVITY SET-UP & PROCEDURE

Equipment:

- ✓ 1 ball per 2 students
- ✓ 4 cones

Set-Up:

1. Create a large activity space using 4 cones to mark boundaries.
2. Scatter pairs of students throughout the activity area. Each pair with a ball.



Activity Procedures:

1. Today we're going to think about the five food groups while we practice tossing and catching skills.
2. The object of Toss 3 is to work with as many Toss 3 partners as you can while the music is playing.
3. When the music starts, the partner with the ball will begin with a toss. Each pair will make 3 tosses. The partner who now has the ball will travel and find a new partner who does not have a ball.
4. With each toss, name a food from the Grain food group (change food groups each round).
5. Freeze when the music stops.

Grade Level Progression:

K: Play the game with a balloon or yarn ball. Add the nutrition element only after students have mastered the toss/catch task.

1st - 2nd: Play the game as described at a walking pace.

3rd - 5th: Add a variety of locomotor skills. Alternate passing tasks (e.g., basketball bounce pass, floor hockey passing, etc.).

STANDARDS & OUTCOMES ADDRESSED

- ✓ **Standard 1 [E16.3-5c]** Catches a gently tossed hand-sized ball from a partner, demonstrating four of the five critical elements of a mature pattern (3); Catches a thrown ball at chest/waist level using a mature pattern in a non-dynamic environment (4); Catches with accuracy, both partners moving (5b); Catches with reasonable accuracy in dynamic, small-sided practice tasks (5c).

DEBRIEF QUESTIONS

- ✓ **DOK 1:** What does "accurate" mean?
- ✓ **DOK 2:** How does the accuracy of a toss affect a person making a catch?
- ✓ **DOK 3:** What do you think the purpose of this activity is? Can you support your answer with facts and examples?

ROBOTICS LAB

STUDENT TARGETS

- ✓ **Skill:** I will look for and then recognize open space in order to guide my robots safely into it.
- ✓ **Cognitive:** I will describe the benefits of being active with a group of friends.
- ✓ **Fitness:** I will stay actively engaged in physical education class in order to accumulate a maximum amount of physical activity minutes.
- ✓ **Personal & Social Responsibility:** I will work safely with my group members without teacher reminders.

TEACHING CUES

Robots

- ✓ March Forward
- ✓ Avoid Collisions by Marching in Place with Hands Up

Engineers

- ✓ Tap Shoulders to Turn Robots
- ✓ Keep a Walking Pace

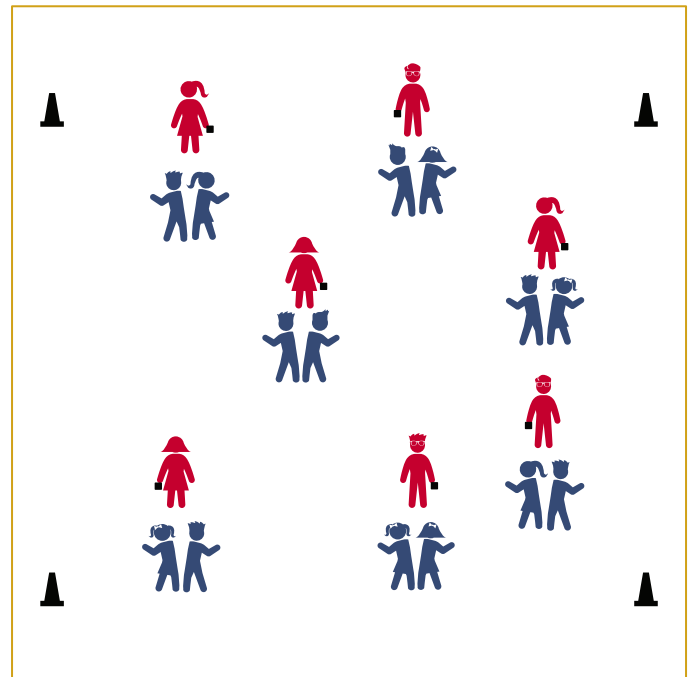
ACTIVITY SET-UP & PROCEDURE

Equipment:

- ✓ 1 beanbag per 3 students
- ✓ 4 cones
- ✓ Music and music player

Set-Up:

1. Create area boundaries with the 4 cones.
2. Scatter groups of 3 students inside the activity area, each group with 1 beanbag.
3. One student is the engineer and holds the beanbag (remote control). The other two are robots and stand back-to-back.



Activity Procedures:

1. We're about to turn physical education class into a robotics lab! The student in your group with the beanbag (the remote control) is the engineer. The other two students are the robots. It's the engineer's job to keep the robots under control by tapping them on the shoulder to turn them right or left.
2. When the music starts, the robots will start to slowly march forward (each in opposite directions). Anytime a robot is blocked by a wall or another robot, she/he will march in place with her/his hands over her/his head. Robots must keep marching at all times (forward or in place).
3. Engineers will work to safely steer their robots by tapping them on the shoulders. When tapped, Robots will make a 90-degree turn. Engineers may not run; they will walk to their robots. Everyone freeze when the music stops.

Grade Level Progression:

- 3rd: Play the activity as described above.
- 4th: Vary locomotor skills, allowing engineers to gallop, skip, or slide.
- 5th: Robots travel with an object (e.g., dribbling a ball, waving a scarf, etc.).

ROBOTICS LAB

CHALLENGE PROGRESSIONS

- ✓ Add a third robot to each group.
- ✓ Increase the speed that the robots travel from a slow to a quick march.

MODIFICATIONS

Remove a robot from each group so engineers are only working with one robot.

ACADEMIC LANGUAGE

Work Independently, Safety, Benefits, Social Interaction, Open Space, Actively Engage

STANDARDS & OUTCOMES ADDRESSED

- ✓ **Standard 2 [E1.3]** Recognizes the concept of open spaces in a movement context (3).
- ✓ **Standard 3 [E2.3-5]** Engages in the activities of physical education class without teacher prompting (3); Actively engages in the activities of physical education class, both teacher-directed and independent (4); Actively engages in all the activities of physical education (5).
- ✓ **Standard 4 [E6.3-5]** Works independently and safely in physical activity settings (3); Works safely with peers and equipment in physical activity settings (4); Applies safety principles with age-appropriate physical activities (5).
- ✓ **Standard 5 [E4.3-5]** Describes the positive social interactions that come when engaged with others in physical activity (S5.E4.3); Describes/compares the positive social interactions when engaged in partner, small-group and large-group physical activities (4); Describes the social benefits gained from participating in physical activity (e.g., recess, youth sport) (5).

DEBRIEF QUESTIONS

- ✓ **DOK 1:** What physical activities do you like to do with your friends?
- ✓ **DOK 2:** What do you like about being active with your friends?
- ✓ **DOK 3:** How is safety related to having fun with your friends during physical activity?
- ✓ **DOK 1:** How can you recognize safe behaviors?
- ✓ **DOK 2:** How would you compare and contrast safe behaviors with dangerous behaviors?
- ✓ **DOK 3:** Can you predict what would happen in our Robotics Lab activity if students acted in ways that were not safe?
- ✓ **DOK 4:** Let's develop a plan that we can follow if any of us see unsafe behaviors.

TEACHING STRATEGY FOCUS

Identify Critical Content: Working safely with peers is an essential concept for students to master in physical education class. Safe behaviors make all other activities possible. Be sure to emphasize this before, during, and after the Robotics Lab activity. Look for teachable moments during activity time when you can freeze play and encourage safe behaviors and correct dangerous ones.

DOWN AND BACK RELAY

STUDENT TARGETS

- ✓ **Skill:** I will pass/hand off my team's objects under control and in a safe manner.
- ✓ **Cognitive:** I will define the word "independent" and discuss how it applies to my behavior in physical education.
- ✓ **Fitness:** I will stay actively engaged in physical education class in order to accumulate a maximum amount of physical activity minutes.
- ✓ **Personal & Social Responsibility:** I will demonstrate personal responsibility through teamwork and cooperation.

TEACHING CUES

- ✓ Stay Ready
- ✓ Pass Quickly with Control

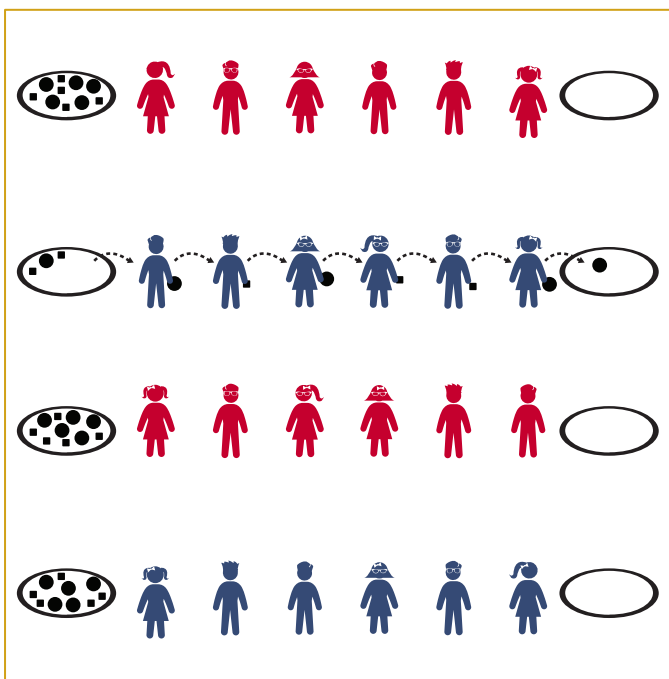
ACTIVITY SET-UP & PROCEDURE

Equipment:

- ✓ 2 hoops per 6 students
- ✓ 6 beanbags per 6 students
- ✓ 6 foam balls per 6 students

Set-Up:

1. Using hoops, create 2 parallel lines 20-30 feet apart.
2. Place 5 beanbags and 5 foam balls in the hoops along one side of the activity area.
3. Create teams of 6 students and space each team evenly between two hoops.



Activity Procedures:

1. This is a Down and Back Relay. The object is to see how many times your team can send the pile of foam balls and beanbags back and forth between the hoops in 2 minutes.
2. Here's the rules:
 - a. You can only hold 1 object at a time.
 - b. You must pass objects to the person next to you (do not skip anyone).
 - c. All objects must make it to the opposite hoop before you reverse directions.
 - d. All objects must remain in the hoop until you hear the GO signal.
 - e. After each 2-minute round, teams will have 1 minute to revise their strategy.

Grade Level Progression:

- 3rd: Play the activity as described above.
- 4th: Add a rule. Allow the team who completes the most repetitions to create a rule for the next round of play.
- 5th: Add referees. One player from each team rotates and acts as a referee for one of the other teams.

DOWN AND BACK RELAY

CHALLENGE PROGRESSIONS	Add a muscular endurance component with students playing from plank or crunch positions.
MODIFICATIONS	Use large objects, such as large foam balls, that are easier to hold and pass.
ACADEMIC LANGUAGE	Personal Responsibility, Independent, Interpersonal, Referee, Teamwork, Cooperation
STANDARDS & OUTCOMES ADDRESSED	<ul style="list-style-type: none"> ✓ Standard 3 [E2.3-5] Engages in the activities of physical education class without teacher prompting (3); Actively engages in the activities of physical education class, both teacher-directed and independent (4); Actively engages in all the activities of physical education (5). ✓ Standard 4 [E1.3-5] Exhibits personal responsibility in teacher-directed activities (3), Exhibits responsible behavior in independent group situations (4), Engages in physical activity with responsible interpersonal behavior (e.g., peer to peer, student to teacher, student to referee) (5). ✓ Standard 5 [E4.3-5] Describes the positive social interactions that come when engaged with others in physical activity (S5.E4.3); Describes/compares the positive social interactions when engaged in partner, small-group and large-group physical activities (4); Describes the social benefits gained from participating in physical activity (e.g., recess, youth sport) (5).
DEBRIEF QUESTIONS	<ul style="list-style-type: none"> ✓ DOK 1: What does independent mean? ✓ DOK 2: How does your ability to work independently affect your team's performance? Support your answer with facts and examples. ✓ DOK 1: What does cooperation look like in physical education class? ✓ DOK 2: Can you summarize how well your team cooperated during the Down and Back Relay? Provide specific examples. ✓ DOK 3: How is cooperation related to performance in your favorite sport or recreational activity? Support your answer with facts and examples.
TEACHING STRATEGY FOCUS	Help students elaborate on content: It would be very easy for students to say that their team worked independently or cooperatively. Don't let them off the hook. Ask for facts and specific examples in order to help students develop the ability elaborate on new information and experiences.

ACCEPTANCE

(noun)

The willingness to receive an idea or situation or to receive an individual into a group.

*James was happy that the group showed him **acceptance** by teaching him the game that they were playing.*



ACTIVELY ENGAGE

(verb)

To participate in an activity while showing genuine interest and a desire for excellence.

*Caroline **actively engages** in physical education class in order to get as much physical activity as possible.*



APPROPRIATE BEHAVIOR

(noun)

The correct way to act or conduct oneself in a particular situation.

*Phillip demonstrated **appropriate behavior** during the Robotics Lab activity by moving safely and watching out for other robots.*

COOPERATION

(noun)

The process of working together for a common goal or outcome.

*Keeping our Phys. Ed. equipment in good condition takes **cooperation**. We all have to work together to use things the way they were meant to be used and to put them back where they belong when class is over.*



ENCOURAGEMENT

(noun)

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

*Paul offered his friends **encouragement** by telling them how much their skills had improved during their practice.*



SAFETY

(noun)

The condition of being protected against physical, social, and emotional harm.

*During physical education class, Rahim follows all rules related to **safety** in order to protect himself and his classmates from injury.*

