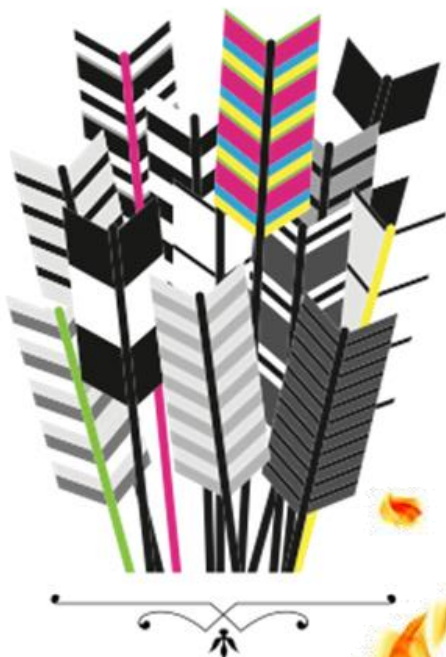


# THE WANDER GAMES:

## TRIAL BY FIRE!



Do students think they could survive a situation like the Wander Games?

It takes more than just strength, or smarts, or stealth. In this fun series we'll put students through the Trials to see their likelihood of survival – then they'll try to discover how they might improve their chances. Remember, there is only one path to survival through the ecosystems full of booby traps, lethal animals and other horrors.

Divide groups into Biomes/Teams (ex. Biome 1, Biome 2, ...). In true survivor style, team members must work together, communicate, negotiate, problem solve and effectively manage their time to ensure survival in the Wander Games.

## DAY ONE



### WANDER GAMES: TESSERAE

Every player's/team's name is in the jar three (or more) times. Every time they are drawn as a Volunteer (throughout the Wander Games Days 1-3) they have to answer a question, or participate in a challenge, etc. in a chance to earn points and increase their group's odds of survival in the Wander Games.

### WANDER GAMES CHALLENGE: EDIBLE PLANT IDENTIFICATION!

Volunteers from each, or working as a group Biomes/Teams have to correctly identify (safe) edible herbs and plants by smell and/or taste and mark each with the appropriate label, ex. rosemary, dill,

mint, parsley, sage, cilantro, and berries; to earn points for their team's survival.



# WANDER GAMES CHALLENGE: BOW & ARROW ENGINEERING

Wander Games Challenge: Can students create a working bow and arrow with the materials provided that fires q-tips as accurately as possible?

Materials (per group)

- Craft sticks and/or sticks from trees
- Q-tips
- Dental Floss
- Dixie cup of water
- Scissors
- Target

Challenge Goal: Create a bow that fires q-tips as accurately as possible to hit the target. Students may use the target to test their shooting accuracy. They may use scissors to modify the supplies as needed (ex. to nip a tiny notch on both sides of the stick...on both ends...)

Place materials in a central location, as long as their bow and arrow can shoot the q-tip, any design is acceptable.

Provide a flat surface for creating the bows and arrows. If students get stumped, you can show them pictures of ideas.

Students may want to soak the craft stick in water to help it bend slightly.

How to Shoot: Shoot! It can probably go without note, but the soft part of the Q-Tip is the bow. Hold the Q-Tip against the floss, gently pull back, aim, and release.

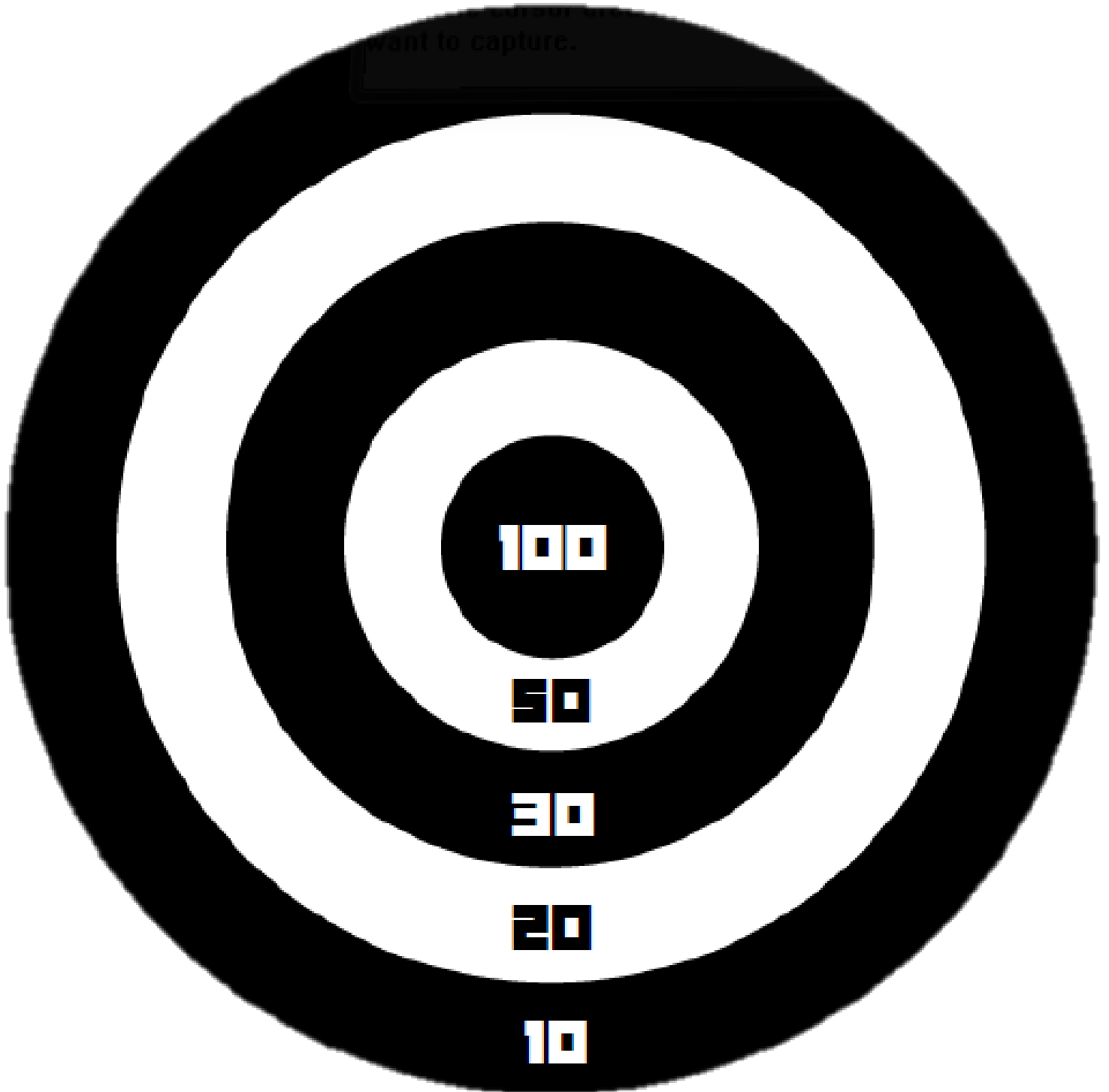
Suggested tip: make a few extra arrows because they get lost easily.

Option: Allow Volunteers to use fine point pens to decorate their bows.



# BULLS-EYE TARGET

(copy the target onto cardstock)



# **VOLUNTEER LAB SHEET**

## **BOW AND ARROW CHALLENGE**

Were you successful in this challenge? Why or why not?

What was the most difficult part of this challenge? Why?

What was the best idea you came up with during the challenge?

Shoot the q-tips at the target 5 times. Record your shots as accurately as possible. How did you design your bow to make it as accurate as possible?

What did you learn about construction and engineering during this challenge?

Sketch your design on the back of this sheet.

# WANDER GAMES CHALLENGE: LEAN ON ME

What if one of your teammates got hurt while traveling through the Wander Games? How could you help each other? Students get to practice with a little...leg work.

**AND WE FINISH TOGETHER...**



Image Credit: Illustration by Dwyann Ronald V. Trazo/Guif News

Objective: To be the first team to get everyone through the activity.

Equipment: head bands and cones

Formation: Each Biome/Team group has pairs of students.

Procedures:

- Each set of partners will attach a head band around their inside legs.

- On the signal to begin, the first pair will move as quickly as possible around the cone and back.
- Once back, hand off the headband to the next group for their turn.
- If time permits, run the activity again.

## Standards Alignment Day One: K-8

K

7.5.1 Describe similarities and differences among plants.

7.1.2 Use building materials to create a whole from the parts.

*These standards will be met through the plant identification activity when students have to describe the similarities and differences between the different greens and the different berries, etc. They will also have to use building materials and tools (including scissors, hands, fingers, etc) to construct their bows and arrows.*

1

7.3.1 Recognize that plants [and animals] are living things

7.11.1 Investigate how forces (push, pull) can move an object or change its direction.

*These standards will be met through the plant identification activity when during the discussion students come to recognize that humans and other animals have to eat living things (plants and animals) to gain the energy we need to accomplish goals and tasks, including survival! Students will also take part in the discussion of how bows and arrows work (heavier objects need more force to move them, gravity will pull our arrows down, but sometimes adding weight adds stability, etc) and experience them first hand while constructing and testing their bows and arrows.*

2

7.3.1 Recognize that animals [including humans] eat plants or other animals for food.

7.T/E.3 Use tools to measure materials and construct simple products.

*These standards will be met through the plant identification activity when during the discussion students come to recognize that humans and other animals have to eat living things (plants and animals) to gain the energy we need to accomplish goals and tasks, including survival! Students will use tools while constructing and testing their bows and arrows.*

3

7.3.2 Recognize that animals [including humans] obtain their food by eating plants and other animals.

7.11.2 Recognize the relationship between the mass of an object and the force needed to move it.

*These standards will be met through the plant identification activity when during the discussion students come to recognize that humans and other animals have to eat living things (plants and animals) to gain the energy we need to accomplish goals and tasks, including survival! Students will also take part in the discussion of how bows and arrows work (heavier objects need more force to move them, gravity will pull our arrows down, but sometimes adding weight adds stability, etc) and experience them first hand while constructing and testing their bows and arrows.*

4

7.3.1 Illustrate the energy relationships between plants and animals [including humans.]

7.11.2 Design an investigation to identify factors that affect the speed and distance traveled by an object in motion.

*These standards will be met through the plant identification activity when during the discussion students come to recognize that humans and other animals have to eat living things (plants and animals) to gain the energy we need to accomplish goals and tasks, including survival! Students will also take part in the discussion of how bows and arrows work (heavier objects need more force to move them, gravity will pull our arrows down, but sometimes adding weight adds stability, though you may lose distance, etc) and experience them first hand while constructing and testing their bows and arrows.*

5

7.3.2 Compare how plants and animals [including humans] obtain energy.

7.11.1 Explain the relationship that exist among mass, force, and distance traveled.



*These standards will be met through the plant identification activity when during the discussion students come to recognize that humans and other animals have to eat living things (plants and animals) to gain the energy we need to accomplish goals and tasks, including survival! Students will also take part in the discussion of how bows and arrows work (heavier objects need more force to move them, gravity will pull our arrows down, but sometimes adding weight adds stability, etc) and experience them first hand while constructing and testing their bows and arrows.*

6

7.2.1 Compare and contrast the different methods used by organisms to obtain nutrition

7.T/E.2a. Know that the engineering design process involves an ongoing series of events that incorporate design constraints, model building, testing, evaluating, modifying, and retesting.

*These standards will be met through the plant identification activity when during the discussion students come to recognize that humans and other animals have to eat living things (plants and animals) to gain the energy we need to accomplish goals and tasks, including survival while plants use other, usually non-living, resources to make food for their survival and we will compare and contrast those sources and methods. Students will also take part in the engineering and design process while constructing and testing their bows and arrows as they will have to come up with designs, take notes, test their designs, rebuild and refine them, etc.*

7

7.3.3 Identify the materials used by plants to make food.

7.T/E.2b. Apply the engineering design process to construct a prototype that meets certain specifications.

*These standards will be met through the plant identification activity when during the discussion students come to recognize that humans and other animals have to eat living things (plants and animals) to gain the energy we need to accomplish goals and tasks, including survival while plants use other, usually non-living, resources to make food for their survival and we will compare and contrast those sources and methods. Students will also take part in the engineering and design process while constructing and testing their bows and arrows as they will have to come up with designs, take notes, test their designs, rebuild and refine them, etc.*

8

6.7.5 Investigate the impact of plants on humans.

7.T/E.2b. Apply the engineering design process to construct a prototype that meets certain specifications.

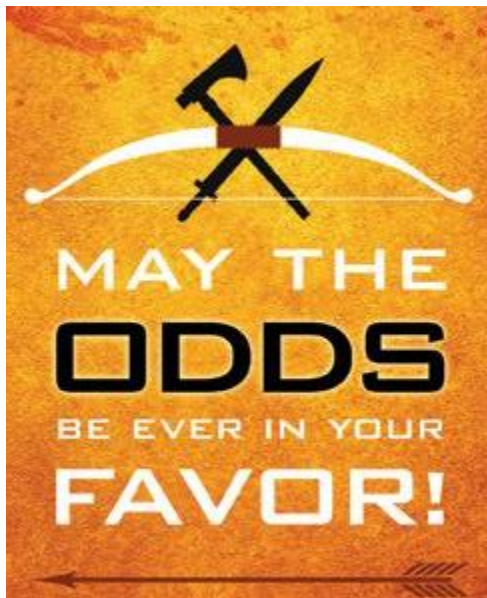
*These standards will be met through the plant identification activity when during the discussion students come to recognize that humans and other animals have to eat living things (plants and animals) to gain the energy we need to accomplish goals and tasks, including survival! Students will also take part in the engineering and design process while constructing and testing their bows and arrows as they will have to come up with designs, take notes, test their designs, rebuild and refine them, etc They will have to be able to accurately shoot a projectile a designated distance in order to have a 'certified prototype.'*

# DAY TWO!

## WANDER GAMES CHALLENGE: TRACKER JACKER STING

*There are dangerous insects in many Biomes we can wander through! And Tracker Jacker nests have just been spotted! Larger than regular wasps, they have distinctive solid gold body and a sting that raises a lump the size of a plum on contact. Most people can not tolerate more than a few stings. Some die at once. If you live, the hallucinations brought on by the venom have actually driven people to madness. These wasps will hunt down anyone who disrupts their nest and attempt to kill them. (Collins 185&186)*

*It's as if the leaves are actually leaching the pain right out of the sting. (Collins 201)*



Materials:

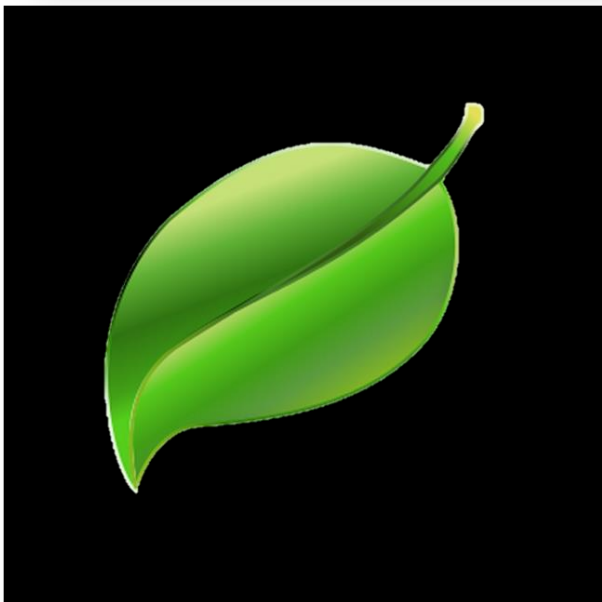
- 3 toy or paper bees (like the ones on the following page)
- boundary lines
- 3 leaves/fake plants

Objective: Students will travel within the designated area avoiding the “sting” (tag) by the “tracker jackers”

Procedures:

- 3 people to be the tracker jackers (taggers) and 3 people to be the antidote (leaves)
- Once tagged the students must spin around in circles, until a person with the antidote comes over and hands them the leaves.
- People with the leaves can not get tagged.
- Switch taggers frequently.





# WANDER GAMES CHALLENGE: CANNON FIRE!

Can students create a marshmallow cannon that can fire a marshmallow or pom pom the farthest distance?

Materials: (Per group)

- Empty toilet paper tubes
- 12 inch balloons
- Straws
- Rubber bands (use smaller thinner ones)
- Paper clips
- Construction paper
- Scissors
- tape (ex. masking)
- glue
- Marshmallows or 'pom poms'
- Tape measure
- Option: small squares of plastic wrap

Place materials in a central location at each Biome/Group and explain that they may choose not to use all of the available supplies. There are many different ways to build a working cannon, you can place a balloon at the end of the tube (drop the projectile into the barrel (the tip of the toilet paper roll) and pull the balloon back then release to shoot) or use the rubber bands and paper clips on a tube inside of a tube.

Provide a flat surface area for students to construct their cannons on.

There are MANY different ways for students to complete this challenge. They can only use the materials provided, but they may use glue, tape, and scissors to modify the supplies as needed since their goal is to build a marshmallow cannon that can fire the marshmallow or pom pom the farthest distance. Encourage them to be creative! Creativity is a key to survival in the Wander Games!

Teacher Tips: Find a construction guide on the double wall cannon using paper clips and rubber bands here: <http://teachinggifted.blogspot.com/2012/06/how-to-make-ping-pong-popper.html>

# **VOLUNTEER LAB SHEET**

## **CANNON FIRE CHALLENGE**

Were you successful in this challenge? Why or why not?

What was the most difficult part of this challenge? Why?

What was the best idea you came up with during the challenge?

What are the specific dimensions of your cannon? How far did you cannon fire the marshmallow or pom pom? How does your cannon work?

What did you learn about construction and engineering during this challenge?

Sketch your cannon design on the back of this sheet.

## Standards Alignment Day Two: K-8

K

7.1.2 Use building materials to create a whole from the parts.

7.1.3 Take apart an object and describe how the parts work together.

*Students will meet these standards while designing, constructing, testing, redesigning, rebuilding, retesting, and competing with their cannons. They will have to explain how their cannon works, what elements provide stability, what elements provide power, and how it works on different surfaces/with different projectiles.*

1<sup>st</sup>

7.11.1 Investigate how forces (push, pull) can move an object or change its direction.

7.11.2 Investigate and explain how different surfaces affect the movement of an object.

*Students will meet these standards while designing, constructing, testing, redesigning, rebuilding, retesting, and competing with their cannons. They will have to explain how their cannon works, what elements provide stability, what elements provide power, and how it works on different surfaces/with different projectiles.*

2<sup>nd</sup>

7.T/E.3 Use tools to measure materials and construct simple products.

7.T/E.2 Apply engineering design and creative thinking to solve practical problems.

*Students will meet these standards while designing, constructing, testing, redesigning, rebuilding, retesting, and competing with their cannons. They will have to explain how their cannon works, what elements provide stability, what elements provide power, and how it works on different surfaces/with different projectiles.*

3<sup>rd</sup>

7.11.2 Recognize the relationship between the mass of an object and the force needed to move it.

7.11.1 Identify how the direction of a moving object is changed by an applied force.

*Students will meet these standards while designing, constructing, testing, redesigning, rebuilding, retesting, and competing with their cannons and realizing the more mass and weight their projectile has, the more force they will need to move it the required distance or over the testing and what other factors are affecting the motion of their projectile and how they need to adjust their design to compensate. . They will have to explain how their cannon is powered, where the force is coming from, how friction is slowing down or affecting how their projectile flies, etc. They will have to be able to shoot a projectile a designated distance in order to have a 'certified prototype.'*

4<sup>th</sup>

7.11.2 Design an investigation to identify factors that affect the speed and distance traveled by an object in motion.

7.11.4 Plan and execute an investigation that demonstrates how friction affects the movement of an object.

*Students will meet these standards while designing, constructing, testing, redesigning, rebuilding, retesting, and competing with their cannons and realizing the more mass and weight their projectile has, the more force they will need to move it the required distance or over the testing and what other factors are affecting the motion of their projectile and how they need to adjust their design to compensate. . They will have to explain how their cannon is powered, where the force is coming from, how friction is slowing down or affecting how their projectile flies, etc. They will have to be able to shoot a projectile a designated distance in order to have a 'certified prototype.'*

5<sup>th</sup>

7.11.1 Explain the relationship that exist among mass, force, and distance traveled.

7.11.3 Design and conduct experiments using a simple experimental design to demonstrate the relationship among mass, force, and distance traveled.

*Students will meet these standards while designing, constructing, testing, redesigning, rebuilding, retesting, and competing with their cannons and realizing the more mass and weight their projectile has, the more force they will need to move it the required distance or over the testing and what other factors are affecting the motion of their projectile and how they need to adjust their design to compensate. . They will have to explain how their cannon is powered, where the force is coming from, how friction is slowing down or affecting how their projectile flies, etc. They will have to be able to shoot a projectile a designated distance in order to have a 'certified prototype.'*

6<sup>th</sup>

7.T/E.2a. Know that the engineering design process involves an ongoing series of events that incorporate design constraints, model building, testing, evaluating, modifying, and retesting.

7.T/E.2b. Apply the engineering design process to construct a prototype that meets certain specifications.

*Students will meet these standards while designing, constructing, testing, redesigning, rebuilding, retesting, and competing with their cannons and realizing the more mass and weight their projectile has, the more force they will need to move it the required distance or over the testing and what other factors are affecting the motion of their projectile and how they need to adjust their design to compensate. . They will have to explain how their cannon is powered, where the force is coming from, how friction is slowing down or affecting how their projectile flies, etc. They will have to be able to shoot a projectile a designated distance in order to have a 'certified prototype.'*

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7.T/E.2b. Apply the engineering design process to construct a prototype that meets certain specifications.

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## K-2nd Grade Physical Education Standards

- 5.2.2 work on assigned tasks individually or with others in a productive manner
- 1.2.21 Demonstrate obedience to guidelines and behaviors for basic safety principles in physical education (implements, small and large equipment, environment)

*These standards will be met through the physical challenge activities. All students will be instructed on the rules and safety procedures. Teams will lose points for unsportsmanlike conduct, disobeying the rules, non-participation, or other infractions.*

## 3rd-5th Grade Physical Education Standards

- 1.2.9 identify and apply safety principles in all activity situations
- 5.2.2 complete assigned tasks individually or with others in a productive manner

*These standards will be met through the physical challenge activities. All students will be instructed on the rules and safety procedures. Teams will lose points for unsportsmanlike conduct, disobeying the rules, non-participation, or other infractions.*

## 6th-8th Grade Physical Education Standards



- 5.2.2 Work cooperatively with a group to achieve group goals in competitive as well as cooperative settings
- 1.1.4 demonstrate basic tumbling, running, and balance skills

*These standards will be met through the physical challenge activities. All students will be instructed on the rules and safety procedures. Teams will lose points for unsportsmanlike conduct, disobeying the rules, non-participation, or other infractions.*

# DAY THREE!

## WANDER GAMES CHALLENGE: FIND THE QUESTIONS

a.k.a. The Answer Is!

The teacher provides an answer, for example 3, or  $\frac{3}{4}$ , etc, and students come up with questions that fit. The more (accurate) questions they can get, the more points they earn for their Biome!



## WANDER GAMES CHALLENGE: FOLLOW THE PATH: SPIRAL MULTIPLICATION

It's challenging path through the Wander Games, sometimes we just seem to go in circles, spiraling around and around! In this fun Wander Games math challenge, in order to get to the end of the path, all it takes is a bit of math!



All you need for the game is a deck of cards (or a section of one) any kind of dice you want your students to use in multiplication (or addition, subtraction, etc) , and game pieces.



Option: Print out the following instruction card cardstock to give students easy access to the game rules.

### Spiral Multiplication

1. Use the deck of cards to make a spiral game board starting from the center.
2. Place your game pieces at the start.
3. Player 1 rolls the die.
4. Player 1 multiplies the number on the die by the card the game piece is on.
5. If they are correct, they move the number of spaces the die shows. If they are incorrect, they do not get to move.
6. Take turns and repeat until someone reaches the end.

### Spiral Multiplication

1. Use the deck of cards to make a spiral game board starting from the center.
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5. If they are correct, they move the number of spaces the die shows. If they are incorrect, they do not get to move.
6. Take turns and repeat until someone reaches the end.

# WANDER GAMES CHALLENGE! CROSSING THE FIRE SWAMP

The following is a unique and exciting cooperative challenge activity that fosters teamwork, risk taking and trust. To safely pass through the Fire Swamp, the teams must combine their physical skills with group problem solving and cooperation skills.

Partners and teams carefully guide their blindfolded teammates across the “fire swamp” without touching any of the obstacles (aka poisonous plants and murky mists) along the way. Communication and trust ultimately lead the winning team to survival in the swamp.

Materials:

- Use colorful items to create your swamp: ex. hoola hoops, cones; balls; pool noodles, plastic place markers; rubber rings; rubber chickens; bowling pins
- Blindfolds

Set Up/Instructions:

Set up the Fire Swamp and choose points for each type of object (ex. the level of poison for touching an object (mild sting (ex. 5 points) to deadly poison (ex. 20 points)). The placement of the objects should always be challenging, but safe.

- Rules of safe travel must be followed.
- Blindfolded teammates should move carefully.

Rules:

1. Use only safe objects in the Fire Swamp.
2. Each Biome/Team will be divided into pairs and each Volunteer must take turns being the blindfolded partner.
3. The objective is for the sighted person to lead the blindfolded partner safely across the minefield.
4. The guide may **not** touch their partner.
5. Guide must stay outside of the Fire Swamp.
6. The values/cost of touching certain objects in the Fire Swamp should higher than others.
7. Add up the total touch values to get the team score, the lower the score, the better!
8. If an object of “Total Value” (meaning an object determined to be ‘a deadly plant’) is touched, the blindfolded partner must start again.
9. After Partner #1 is finished, have a brief discussion and change roles.

# The Wander Games Fire Swamp Challenges!

## Challenge 1: Mini Fire Swamp

Objective: To lead a partner through a small Fire Swamp using verbal cues from the sidelines.

Set Up: Small rectangular areas are filled with “poisonous plants.” Place blindfolds on participants.

How To Play: Volunteer 1 puts on blindfold and attempts to walk across the Fire Swamp safely without touching the “poisonous plants.” Partner/Volunteer 2 gives Partner 1 verbal cues to direct them safely across.

Rules:

1. Start on one end and move across the area to the opposite end.
2. Count the points for each object touched on the way across.
3. If a major value object (extremely poisonous/aka deadly) is touched the player must start over, but keep the score of the first attempt to add to the second attempt.

## Challenge 2: All Sides In

a. Objective: To traverse the Fire Swamp safely without touching objects/plants or other participants.

Set Up: You will need a larger area filled with ‘poisonous plants’ and obstacles. In this activity, players may start on any side of the large rectangle.

d. How to Play: One partner leads a blindfolded partner across the Fire Swamp using verbal cues.

Extensions: Same as Activity #1.

## Challenge 3: Non Verbal Cues Fire Swamp

Objective: Biomes/Team Members lead the blindfolded teammate/Volunteer across the minefield using non-verbal cues (clapping, whistling, stomping, etc.).

Set Up: Same as “All Sides In”

How to Play: Biome/team members use their non-verbal communication skills to help their partner cross the Fire Swamp safely with the fewest number of deadly/poisonous touches.

Extensions: Same as Challenge 1

## Challenge 4: Retrieve ‘Food’

Volunteer Objective: To lead a blindfolded partner into The Mine Field to retrieve a “food” item their Biome desperately needs and bring it back safely to the starting point.

Set Up: Same as “All Sides In,” but add a special team food item to collect and bring back to the side to successfully save the Biome.

How to Play: One Volunteer partner leads a blindfolded partner into the Fire Swamp using verbal cues to collect a team mine and bring it back to the partner on the side. This must be done without touching any other objects.

Extensions: Same as Challenge #1.

## Standards Alignment Day Three: K-8

### K-2nd Grade Physical Education Standards

- 5.2.2 work on assigned tasks individually or with others in a productive manner
- 1.2.21 Demonstrate obedience to guidelines and behaviors for basic safety principles in physical education (implements, small and large equipment, environment)

*These standards will be met through the physical challenge activities. All students will be instructed on the rules and safety procedures. Teams will lose points for unsportsmanlike conduct, disobeying the rules, non-participation, or other infractions.*

### 3rd-5th Grade Physical Education Standards

- 1.2.9 identify and apply safety principles in all activity situations
- 5.2.2 complete assigned tasks individually or with others in a productive manner

*These standards will be met through the physical challenge activities. All students will be instructed on the rules and safety procedures. Teams will lose points for unsportsmanlike conduct, disobeying the rules, non-participation, or other infractions.*

### 6th-8th Grade Physical Education Standards

- 5.2.2 Work cooperatively with a group to achieve group goals in competitive as well as cooperative settings
- 1.1.4 demonstrate basic tumbling, running, and balance skills

*These standards will be met through the physical challenge activities. All students will be instructed on the rules and safety procedures. Teams will lose points for unsportsmanlike conduct, disobeying the rules, non-participation, or other infractions.*

### Math Skills Standards

- K.OA.2. Solve addition and subtraction problems, and add and subtract within 10

- K.OA.5. Fluently add and subtract within 5.

*Math skills standards will be met during practiced during through the math problem review games and while keeping score during the physical challenge activities.*

1st

- 1.OA.6. Add and subtract within 20, demonstrating fluency for addition and subtraction within 10.
- 1.OA.5. Relate counting to addition and subtraction (e.g., by counting on 2 to add 2).

*Math skills standards will be met during practiced during through the math problem review games and while keeping score during the physical challenge activities.*

2<sup>nd</sup>

- 2.OA.1. Use addition and subtraction within 100 to solve one- and two-step problems
- 2.OA.2. Fluently add and subtract within 20 using mental strategies.

*Math skills standards will be met during practiced during through the math problem review games and while keeping score during the physical challenge activities.*

3<sup>rd</sup>

- 3.OA.7. Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that  $8 \times 5 = 40$ , one knows  $40 \div 5 = 8$ )
- 3.OA.7.b) Fluently multiply and divide within 100, using strategies such as properties of operations.

*Math skills standards will be met during practiced during through the math problem review games and while keeping score during the physical challenge activities.*

4<sup>th</sup>

- 4.NBT.4. Fluently add and subtract multi-digit whole numbers
- 4.NBT.5.a Multiply a whole number of up to four digits by a one-digit whole number

*Math skills standards will be met during practiced during through the math problem review games and while keeping score during the physical challenge activities.*



5<sup>th</sup>

- 5.NBT.5. b Fluently multiply multi-digit whole numbers
- 5.NBT.5. a Perform operations (addition, subtraction, multiplication, division) with multi-digit whole numbers

*Math skills standards will be met during practiced during through the math problem review games and while keeping score during the physical challenge activities.*

6<sup>th</sup>

- 6.NS.2. Fluently divide multi-digit numbers
- 6.NS.3. Fluently add, subtract, multiply, and divide multi-digit numbers using the standard algorithm for each operation

*Math skills standards will be met during practiced during through the math problem review games and while keeping score during the physical challenge activities.*

7<sup>th</sup>

- 7.NS1.1 Apply and extend previous understandings of operations, ex. with fractions, to add, subtract, multiply, and divide rational numbers.
- 7.NS.3. Solve real-world and mathematical problems involving the four operations with rational numbers.

*Math skills standards will be met during practiced during through the math problem review games and while keeping score during the physical challenge activities.*

8<sup>th</sup>

- A-APR.1. Add, subtract, and multiply polynomials.
- A-APR.7. b Solve real-world and mathematical problems involving the four operations with rational numbers and/or rational expressions.

*Math skills standards will be met during practiced during through the math problem review games and while keeping score during the physical challenge activities.*

# Academic Vocabulary Guide

## K

- Rules
- Respect
- Leader
- Cooperation
- Basic needs
- Observe
- Senses
- Tools

## 1

- Rights
- Responsibilities
- Values
- Investigate
- Push
- Pull

## 2

- Conflict
- Decision
- Similarities
- Differences
- Discussion
- Volunteer
- Contribution

## 3

- Tools
- Weapons
- Threatened
- Force
- Area
- Factor
- Organization
- Cause
- Effect

## 4

- Friction
- Ecosystem
- Carnivore
- Herbivore
- Energy
- Food
- Compare
- Contrast
- Chance
- Relationship

## 5

- Solution
- Theme
- Gravity
- Kinetic Energy

- Potential Energy

6

- Control
- Criteria
- Energy

- Edge
- Integration

- Protocol
- Negative
- Power

- Justify

- Design constraint
- Base

7

- Impact
- Momentum
- Scatter

- Function
- Repetition
- Respiration

- Speed
- Velocity

8

- Variation
- Relative
- Domain
- Function

- Rate
- Debate
- Buffer
- Friction

- Interest
- Incentives
- Distribution

## Sample Supply List

### Day One:

- Jar or container for names
- Label for container (Tesserae)
- Samples of fresh herbs and berries (ex. rosemary, dill, mint, parsley, sage, cilantro, and berries) and labels
- Craft sticks and/or sticks from trees
- Q-tips
- Dental Floss
- Dixie cup of water
- Scissors
- Target printouts

- Headbands (cheap flexible circular ones)
- Cones

## Day Two:

- 3 toy or paper bees (printouts)
- boundary lines
- 3 leaves/fake plants (printouts)
- Empty toilet paper tubes
- 12 inch balloons
- Straws
- Rubber bands (use smaller thinner ones)
- Paper clips
- Construction paper
- Scissors
- tape (ex. masking)
- glue
- Marshmallows or 'pom poms'
- Tape measure
- Option: small squares of plastic wrap

## Day Three:

- Decks of cards
- Rules printouts
- Colorful items to create your swamp: ex. hoola hoops, cones; balls; pool noodles, plastic place markers; rubber rings; rubber chickens; bowling pins
- Blindfolds