

Grade 5th

Title: The Marsh Grass Part I

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Student Learning Objective(s):

- The students will discover the natural direction of flowing water.
- The students will observe the importance of marsh grass.

LA GLE's

Grade: 5 # 4: Design, predict outcomes, and conduct experiments to answer guiding questions (SI-M-A2)

Grade: 5 # 33: Identify the processes that prevent or cause erosion (ESS-M-A7)

Materials needed:

- Water bottle and container
- Marshland Peg Board for teacher use (picture attached)
- Prediction and Observation chart (one for each student)

Detailed Procedure. Describe what the students will do in each stage. Include guiding questions you might ask to help students.

1. Engage:

- To introduce this lesson, the teacher will get the students to think about the flow of water by pouring a cup of water into a container.
- Notice that the water fills the complete surface area of the container.
- What will happen to the water if you tilt the container and pour the water at the bottom of the incline?
- What will happen if you pour the water at the top of the incline (the highland)?
- Water moves down hill.

Science Process Skills Indicate which science process skills students will develop in this part of the lesson.

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|---|--|---|---|-------------------------------------|--|------------------------------------|
| <input checked="" type="checkbox"/> Observation | <input type="checkbox"/> Classification | <input checked="" type="checkbox"/> Communication | <input type="checkbox"/> Measurement | <input type="checkbox"/> Estimation | <input checked="" type="checkbox"/> Prediction | <input type="checkbox"/> Inference |
| <input type="checkbox"/> Identifying Variables | <input type="checkbox"/> Controlling Variables | <input type="checkbox"/> Defining Operationally | <input type="checkbox"/> Forming Hypotheses | | | |
| <input type="checkbox"/> Experimenting | <input type="checkbox"/> Graphing | <input type="checkbox"/> Modeling | | | | |

2. Explore:

- Now that we know water travels from the highland down to the ocean, what happens when the water runs through the wetlands?
- The peg board activity:
 - Step 1: Set up the marshland peg board at the front of the classroom. Prop it at an incline so the balls can roll down the board.
 - Step 2: Help the students label each section of the peg board (highland, marsh, ocean/gulf)
 - Step 3: Line the top of the board (the highland section) with balls which represent water and nutrients found in water.
 - Step 4: The students will predict what will happen to the balls on each side of the board when the teacher lifts the barrier and lets the balls fall down each side of the board.
 - Step 5: The teacher will lift the barrier and the students will observe what happens to the balls on each side of the board. The students will then record their observations.

Science Process Skills Indicate which science process skills students will develop in this part of the lesson.

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|---|--|---|---|-------------------------------------|--|------------------------------------|
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| <input type="checkbox"/> Experimenting | <input type="checkbox"/> Graphing | <input type="checkbox"/> Modeling | | | | |

3. Explain:

- The students will discuss what they observed during the peg board activity.
- The teacher will use the following questions to guide class discussion:
 1. Compare and contrast each side of the board.
 2. Look at where the balls landed on each side of the board. Is there a difference?
 3. Why do you think there is a difference?
 4. If the pegs represent marsh grass in the wetlands, do you think the grass is important? Why?

4. Expand:

- Does the marsh grass stop just water? Let's find out.
- Set up the peg board again. Soak the balls in water and line the top of the board. The water absorbed in the balls represents any trash or pollutants found in the water.
- Have the students make a prediction on what they think will happen.
- Remove the barrier and let the students discuss what happens.

Science Process Skills *Indicate which science process skills students will develop in this part of the lesson.*

- Observation Classification Communication Measurement Estimation Prediction Inference
 Identifying Variables Controlling Variables Defining Operationally Forming Hypotheses
 Experimenting Graphing Modeling

5. Evaluate

- The teacher will be assessing the students' responses to questions to determine their level of understanding.
- The students will be evaluated through out the lesson:
- Engage: The students will be assessed as the teacher observes the student's prior knowledge on how water travels.
- Explore: The students will be evaluated on their participation and class discussion. Their observation sheets will also let the teacher know if the students comprehend the objectives of the lesson.
- Expand: The students will be evaluated through their predictions and class discussion. Their predictions in this part of the lesson will let the teacher know if the students grasped the explore and explain section.

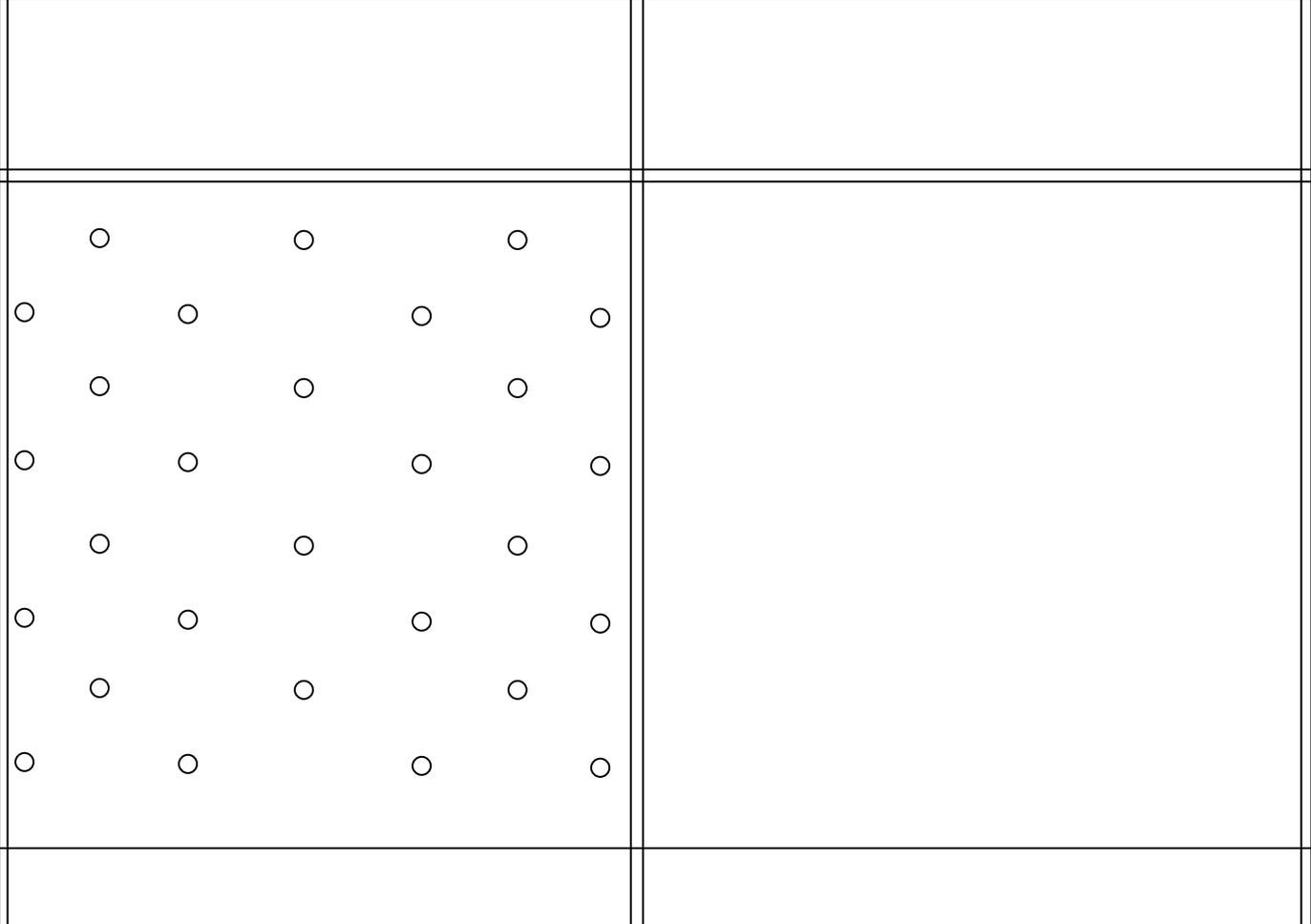
Brain Compatible Learning Strategies Used in This Lesson:

- Brainstorming/Discussion Drawing and Artwork Field Trips Games Graphic Organizers
 Humor Manipulatives, Experiments, Labs, Models Metaphors, Analogies, and Similes
 Mnemonic Devices Movement Music, Rhythm, Rhyme, and Rap Project/Problem-Based Instruction
 Reciprocal Teaching, Cooperative Learning Role Plays, Drama, Pantomimes Storytelling
 Technology (student use) Visualization/Guided Imagery Visuals Writing/Journals

Lesson Source: Ideas for this lesson was inspired by Dr. Blanchard

Marshland Peg Board:

- Top section resembles the highland.
 - Middle section resembles the Marsh.
 - Bottom section resembles the Gulf or ocean.
 - Pegs on the left side resemble the marsh grass.
1. Prop the board at an incline.
 2. Drop the balls down each side of the board at the same time by lifting the bottom ledge in the highland section.
 3. Watch how the balls fall down the board.
 4. Have the students compare what happens on each side of the board.
 5. Where do the balls land on each side? If the left side resembles our marshlands, what would the right side resemble?

Name _____

Date _____

Marshland Peg Board Experiment

Predictions:

<p>What do you think will happen when the balls run down the left side of the board?</p>	<p>What do you think will happen when the balls run down the right side of the board?</p>
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Results:

<p>What happened when the balls ran down the left side of the board?</p>	<p>What happened when the balls ran down the right side of the board?</p>
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