

SEPs emphasized & SOL Big Idea tie-ins in Blandy spring investigations FCPS MWEE 2023

1. Incredible Journey-Water Cycle

4.8 Big Idea (central idea): Virginia has many natural resources including watersheds, minerals, rocks, ores, soil, land & forests.

The water cycle journey highlights resources of our Chesapeake Bay watershed and how water moves through these various resources: the land, water bodies, plants & animals, rocks, and the air.

End-of-activity reflection question (SOL big idea reflection): What did I learn about the Chesapeake Bay as a natural resource for Virginia? (ties into the central idea for Science 4.8; see below)

This activity helps develop skill in SEP 4.1d constructing and critiquing conclusions and explanations: use evidence (i.e., measurements, observations, **patterns**) to construct or support explanations and to make inferences.

2. Wetland Organism Investigation

4.8 Big Idea (central idea): Virginia has many natural resources including watersheds, minerals, rocks, ores, soil, land & forests.

4.3 Big Idea: Each organism has a specific niche that provides basic needs to support life processes.

This activity helps students learn about some of the diverse organisms (resources) that live in an aquatic ecosystem of the Chesapeake Bay watershed. They also learn about important needs for these organisms' survival: dependence on other organisms for food and dependence on the abiotic resources within the ecosystem. Third, they learn that organism health and survival can be affected by erosion and other pollutants.

End-of-activity reflection question (SOL big idea reflection): What did I learn about the life needs of Virginia wetland organisms and how erosion and other pollutants can affect their health?

This activity helps develop skill in SEP 4.1 a) asking questions and defining problems: develop hypotheses as cause-and-effect relations

& 4.1d constructing and critiquing conclusions and explanations: use evidence (i.e., measurements, observations, patterns) to construct or support explanations and to make inferences.

3. Watershed Models

4.8 Big Idea (central idea): Virginia has many natural resources including watersheds, minerals, rocks, ores, soil, land & forests.

Building watershed models based on the characteristics of Virginia physiographic regions helps students understand that Virginia has many types of watersheds and that all these

watersheds are important resources that determine water flow on the land and into bodies of water.

End-of-activity reflection question (SOL big idea reflection): What did I learn about the characteristics of Virginia watersheds?

This activity helps develop skills in SEP 4.1e developing and using models: develop and/or use models to explain natural phenomena & identify limitations of models

4. Turbidity and Sediment Engineering

This activity helps develop skill in SEP 4.1b Planning and carrying out investigations: collaboratively plan and conduct investigations & use tools and/or materials to design and/or build a device that solves a specific problem

4.8 Big Idea (central idea): Virginia has many natural resources including waters. This activity helps students understand that they can develop solutions to improve the health of our watershed resources.

End-of-activity reflection question (SOL big idea reflection):

What are some things that we can do to improve the health of our water natural resources?