

## **WOW! (Wonders of Wetlands) – Environmental Literacy Correlations**

### **A Drop in the Bucket (Grades 6-8)**

- Grades K-2 Option
  - 1.A.1 – Explain that some natural resources are limited and need to be used wisely.
  - 5.A.1; 5.A.2; 6.B.1; 7.A.1; 7.B.1; 7.E.1; 8.D.1; 8.E.1 – Recognize that caring for the environment is an important human activity.
- Grades 6-8
  - 1.A.1 – Identify and describe problems associated with obtaining, using, and distributing natural resources.
  - 1.A.4 – Design, analyze, or carry out simple investigations and formulate appropriate conclusions based on data obtained or provided.

### **Do You Dig Wetland Soil? (Grades K-12)**

- Grades PK-2
  - 1.A.1; 1.A.2 - Raise questions about the world around them and be willing to seek

**Hear Ye! Hear Ye!** (Grades 3-12)

- Grades 3-5
  - 1.A.3 – Identify and describe that an environmental issue affects individual people and groups of people differently.
  - 5.A.1; 5.B.1; 7.A.1; 7.B.1 – Explain why and how people adapt to and modify the natural environment and the impact of these modifications.
  - 6.B.1 – Describe how people in a community modify their environment to meet changing needs for...shelter.
  - 6.C.1 – Explain how the growth of communities and suburbs have had consequences on the environment and pollution.
  - 7.B.1 – Explain the decision making process used to accomplish a community goal or solve a community problem.
  - 7.B.1 – Analyze ways people can participate in the political process including... petitioning elected officials.
  - 8.A.1 – Describe how land use and urban growth are influenced by governmental decisions.
- Grades 6-8
  - 1.A.1; 5.A.1; 5.B.1; 6.C.1; 7.A.1; 7.B.1w 1.205 0 Ta4(.1) 11.w 11.49 Tf 0.a! Tf d [(r)-5(o)-11 Td [(d)-10(e

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- 1.A.5 – Have opportunities to work with a team, share findings with others...
- 3.C.1 – Investigate a variety of familiar places where plants and animals live to describe the place and the living things found there.
- Grades 3-5
  - 1.A.1; 1.A.2; 1.A.4 – Gather and question data from many different forms of scientific investigations which includes...observing what things are like.
  - 1.A.1; 3.C.1 – Explain ways that individuals and groups of organisms interact with each other and their environment.

**Let the Cattail Out of the Bag! (Grades K-6)**

- Grades PK-2
  - 1.A.1; 1.A.2 - Raise questions about the world around them and be willing to seek answers to some of them by making careful observations and trying things out.
  - 1.A.3 – Describe things as accurately as possible and compare observations with those of others.
  - 1.A.4; 1.A.5 – Seek information through reading, observation, exploration, and investigations.

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- Grades 3-5
  - 1.A.1; 5.A.2; 6.B.1; 7.D.1; 8.B.1; 8.C.1; 8.D.1; 8.E.1 – Recognize and explain that decisions influencing the use of natural resources may have benefits, drawbacks, unexpected consequences, and tradeoffs
  - 1.A.1; 7.D.1; 8.A.1; 8.B.1; 8.C.1 - Recognize and explain how renewable and nonrenewable natural resources are used by humans to meet basic needs.
  - 3.A.1; 4.A.1 – Recognize food as the source of materials that all living things need to grow and survive.
  - 1.B.2; 1.B.3; 5.A.1; 6.B.1; 7.E.1 – Recognize and describe that consequences may occur when Earth’s natural resources are used.
- Grades 6-8
  - 1.A.1 – Identify and describe problems associated with obtaining, using, and distributing natural resources.
  - 1.B.2; 1.B.3; 5.A.1; 5.A.2; 6.B.1 – Recognize and explain that human-caused changes have consequences for Maryland’s environment as well as for other places and future times.

**Marsh Munchies (Grades 5-8)**

- Grades 3-5
  - 1.A.1; 3.C.1; 4.B.1; 4.C.1; 4.D.2 – Explain ways that individuals and groups of individuals interact with each other and their environment.
  - 1.A.1; 5.A.2; 6.B.1; 7.D.1; 8.B.1; 8.C.1; 8.D.1; 8.E.1 – Recognize and explain that decisions influencing the use of natural resources may have benefits, drawbacks, unexpected consequences, and tradeoffs.
  - 3.A.1; 4.A.1 – Recognize food as the source of materials that all living things need to grow and survive.
- Grades 6-8
  - 1.A.1 – Identify and describe problems associated with obtaining, using, and distributing natural resources.
  - 3.A.1 – Explain that the transfer and transformation of matter and energy links organisms to one another and to their physical setting.

**Marsh Mystery (Grades 5-12)**

- Grades 3-5
  - 1.A.1 – 1.A.1; 1.A.2; 1.A.4 - Gather and question data from many different forms of scientific investigations, which includes reviewing appropriate print resources.
  - 1.A.1; 3.C.1 – Explain ways that individuals and groups of organisms interact with each other and their environment.
  - 1.A.1 – Recognize and explain how renewable and nonrenewable natural resources are used by humans... to meet basic needs.
  - 1.A.1; 5.A.2; 6.B.1; 7.D.1; 8.B.1; 8.C.1; 8.D.1; 8.E.1 – Recognize and explain that decisions influencing the use of natural resources may have benefits, drawbacks, unexpected consequences, and tradeoffs.
  - 1.A.1; 1.A.3; 1.B.2; 1.B.3; 5.A.1; 6.B.1; 7.E.1 – Recognize and describe that consequences may occur when Earth’s natural resources are used.
  - 1.A.3 – Identify and describe that an environmental issue affects individual 3(1 )TJ 0.006 Tc -0.003 Tw [(3(1 )

- Grades 6-8
  - 1.A.1 – Identify and describe problems associated with obtaining, using, and distributing natural resources.
  - 1.A.1 – Identify and describe a...regional environmental issue.
  - 1.A.1; 5.A.1; 5.B.1; 6.C.1; 7.A.1; 7.B.1 – Analyze why and how people modify their natural environment and the impact of those modifications.
  - 1.B.1 – Identify and describe that ecosystems can be impacted by human activities.
  - 3.A.1; 4.A.1 – Explain that the transfer and transformation of matter and energy links organisms to one another and to their physical environment.
- Grades 9-12
  - 1.A.1; 1.B.2; 1.B.3; 7.A.1; 7.B.1 – The student will recognize that real problems have more than one solution and decisions to accept one solution over another are made on the basis of many issues.
  - 1.A.1; 6.B.1; 7.B.1; 7.E.1 – Evaluate how the principles of economic costs, benefits, and opportunity cost are used to address public policy issues, such as... environmental concerns.
  - 3.A.1; 3.C.1; 4.A.1 – Demonstrate that matter cycles through and between living systems and the physical environment...
  - 3.C.1; 4.B.1; 5.A.1; 6.A.1; 7.A.1 – The student will investigate how natural and man-made changes in environmental conditions will affect individual organisms...

**Nature's Filter** (Grades K-3 as demonstration; Grades 4-12)

- Grades PK-2
  - 1.A.1; 1.A.2 - Raise questions about the world around them and be willing to seek answers to some of them by making careful observations and trying things out.
  - 1.A.4; 1.A.5 – Seek information through reading, observation, exploration, and investigations.
  - 1.B.2; 5.A.1; 5.A.2 – Recognize and describe that the activities of individuals or groups of individuals can affect the environment.

- 1.A.4; 1.A.5 – Seek information through reading, observation, exploration, and investigations.
- 1.A.4 – Use tools such as thermometers, magnifiers, rulers, or balances to extend their senses and gather data.
- 2.A.1 – Use examples of observations from places around the school and neighborhood to describe ways Earth’s materials can change.
- 2.B.1 – Provide evidence from investigations to identify processes that can be used to change physical properties of materials.
- 3.A.1; 4.A.1 - Develop an awareness of the relationship of features of living things and their ability to satisfy basic needs that support their growth and survival.
- 3.C.1 – Investigate a variety of familiar places where plants and animals live to describe the place and the living things found there.
- Grades 3-5
  - 1.A.1; 1.A.2; 1.A.4 - Gather and question data from many different forms of scientific investigations, which includes...observing what things are like.
  - 1.A.1; 3.A.1; 4.A.1 – Recognize that materials continue to exist even though they change from one form to another.
  - 1.A.1; 3.C.1; 4.B.1; 4.C.1; 4.D.2 – Explain ways that individuals and groups of individuals interact with each other and their environment.
  - 3.A.1; 4.A.1 – Recognize that some source of energy is needed for all organisms to grow and survive.
- Grades 6-8
  - 4.A.1 – Explain that the transfer and transformation of matter and energy links organisms to one another and to their physical setting.

**Nutrients: Nutrition or Nuisance?**

Part 1: Musical Nutrients (Grades 1-4)

- Grades PK-2
  - 3.A.1; 4.A.1 – Develop an awareness of the relationship of features of living things and their ability to satisfy basic needs that support their growth and survival.
  - 3.A.1; 4.A.1; 4.C.1 – Describe some of the ways animals depend on plants and on each other.
  - 2.B.2; 4.D.2 – Examine a variety of physical models and describe what they teach about the real things they are meant to resemble.
- Grades 3-5
  - 1.A.1; 3.C.1; 4.B.1; 4.C.1; 4.D.1 – Explain ways that individuals and groups of organisms interact with each other and their environment.
  - 2.B.2; 4.D.1 –

## Part 1: Watershed Model

- Grades 3-5
  - 1.A.1; 1.B.3; 5.A.2; 7.A.1; 8.B.1; 8.C.1; 8.D.1; 8.E.1 – Recognize and describe that people in Maryland depend on, change, and are affected by the environment.
  - 2.B.2; 4.D.1 – Examine and modify models and discuss their limitations.
  - 4.C.1; 5.A.1; 5.A.2; 7.A.1; 7.B.1 – Describe how people adapt to, modify, and impact the natural environment.
- Grades 6-8
  - 1.B.1 – Identify and describe that ecosystems can be impacted by human activities.
  - 2.B.2; 4.D.1; 4.D.2 – Analyze the value and the limitations of different types of models in explaining real things and processes.
  - 8.A.1 – Identify and explain land use issues that illustrate the conflict between economic growth and using the environment.
- Grades 9-12
  - 5.A.2; 5.B.1; 6.B.1; 7.A.1; 7.F.1; 8.A.1; 8.D.1 – The student will evaluate the interrelationship between humans and water quality and quantity.

## Part 2: Topographic Map

- Grades 3-5
  - 1.A.1; 1.A.2; 1.A.4 - Gather and question data from many different forms of scientific investigations, which include...observing what things are like.
  - 1.A.1; 1.B.3; 5.A.2; 7.A.1; 8.B.1; 8.C.1; 8.D.1; 8.E.1 – Recognize and describe that people in Maryland depend on, change, and are affected by the environment.
  - 1.A.3 – Identify a problem/situation that requires further study. (Wrap Up)
  - 2.A.1 – Describe ways that the following processes contribute to changes always occurring on the Earth’s surface: weathering, erosion, deposition.
  - 4.C.1; 5.A.1; 5.A.2; 7.A.1; 7.B.1 – Describe how people adapt to, modify, and impact the natural environment.
  - 6.A.1 – Recognize and explain how physical weathering and erosion cause changes to the Earth’s surface.
- Grades 6-8
  - 1.A.1 – Identify and describe a local...environmental issue.
  - 1.B.1 – Identify and describe that ecosystems can be impacted by human activities.
  - 1.B.2; 1.B.3; 5.A.1; 5.A.2; 5.B.1; 6.B.1; 8.A.18.B.1 – Recognize and explain that human-caused changes have consequences for Maryland’s environment as well as for other places and future times.
  - 8.A.1 – Identify and explain land use issues that illustrate the conflict between economic growth and using the environment.
- Grades 9-12
  - 1.A.1; 1.A.2 – Identify an environmental issue and formulate related research questions.
  - 1.A.3 – Analyze geographic issues and problems using geographic concepts.
  - 1.B.1; 1.B.3 – The student will apply the skills, processes, and concepts of...earth science to societal issues.
    - 1.B.1 – Apply the conclusions to develop and implement an action plan.





## **A Rottin' Experiment** (Grades 2-12)

### Part 1: Model Composter

- Grades K-2
  - 1.A.1; 1.A.2 - Raise questions about the world around them and be willing to seek answers to some of them by making careful observations and trying things out.
  - 1.A.4; 1.A.5 – Seek information through reading, observation, exploration, and investigations.
  - 1.A.5 – Develop reasonable explanations for observations made, investigations completed, and information gained...
  - 2.B.1 – Provide evidence from investigations to identify processes that can be used to change the physical properties of materials.
  - 2.B.2 – Examine a variety of physical models and describe what they teach about the real things they are meant to resemble.
  - 3.A.1 – Provide evidence from investigations that things can be done to materials to change some of their properties.
- Grades 3-5
  - 1.A.1; 1.A.2; 1.A.4 - Gather and question data from many different forms of scientific investigations, which include...observing what things are like and doing experiments.
  - 1.A.1; 3.A.1; 4.A.1 – Recognize that materials continue to exist even though they change from one form to another.
  - 1.A.5 – Develop explanations using knowledge possessed and evidence from observations and...investigations.
  - 2.B.2; 4.D.1 – Examine and modify models and discuss their limitations.
  - 3.C.1; 4.B.1; 4.C.1; 4.D.1 – Explain ways that individuals and groups of organisms interact with each other and their environment.
- Grades 6-8
  - 1.A.4 – Design, analyze, or carry out simple investigations and formulate appropriate conclusions based on data obtained or provided.
  - 2.B.2; 4.D.1; 4.D.2 – Analyze the value and the limitations of different types of models in explaining real things and processes.
  - 4.E.1 – Explain that in any particular environment, the growth and survival of organisms and species depend on the physical conditions.
- Grades 9-12
  - 1.A.4 – The student will identify the appropriate methods for conducting an investigation (independent and dependent variables, proper controls, etc.)
  - 2.B.2 – The student will use models...to extend his/her understanding of scientific concepts.

### Part 2: Plant Experiment

- Grades K-2
  - 1.A.1; 1.A.2 - Raise questions about the world around them and be willing to seek answers to some of them by making careful observations and trying things out.
  - 1.A.4; 1.A.5 – Seek information through reading, observation, exploration, and investigations.
  - 1.A.5 – Develop reasonable explanations for observations made, investigations completed, and information gained...
- Grades 3-5
  - 1.A.1; 1.A.2; 1.A.4 - Gather and question data from many different forms of scientific investigations, which include...observing what things are like and doing experiments.
  - 1.A.5 – Develop explanations using knowledge possessed and evidence from observations and...investigations.
  - 3.C.1; 4.B.1; 4.C.1; 4.D.1 – Explain ways that individuals and groups of organisms interact with each other and their environment.

Grades 6-8

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### **Tracking Plants and Keeping Track (Grades 5-12)**

- Grades 3-5
  - 1.A.1; 1.A.2; 1.A.4 - Gather and question data from many different forms of scientific investigations, which includes...observing what things are like.
  - 1.A.1 – Explain ways that individuals and groups of organisms interact with each other and with their environment.
  - 4.B.1; 4.E.1 – Explain the idea that in any particular environment, some kinds of plants and animals survive well, some less well, and some cannot survive at all.
  - 4.E.1 – Explain that in any particular environment, the growth and survival of organisms and species depend on the physical conditions.
- Grades 6-8
  - 1.A.4 – Design, analyze, or carry out simple investigations and formulate appropriate conclusions based on data obtained...

### **Water Purifiers (Grades 6-12)**

#### Part 1: The Mechanical Method

- Grades 6-8
  - 1.A.1 – Identify and describe problems associated with obtaining, using, and distributing natural resources.
  - 1.A.4 – Design, analyze, or carry out simple investigations and formulate appropriate conclusions based on data obtained or provided

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- Grades 6-8
  - 1.A.4 – Design, analyze, or carry out simple investigations and formulate appropriate conclusions based on data obtained or provided.
  - 1.A.1; 5.A.1; 5.B.1; 6.C.1; 7.A.1; 7.B.1 –

- Grades 6-8
  - 1.A.1; 5.A.1; 5.B.1; 6.C.1; 7.A.1; 7.B.1 – Analyze why and how people modify their natural environment and the impact of those modifications.
  - 1.B.1 – Identify and describe that ecosystems can be impacted by human activities.
  - 2.B.2; 4.D.1; 4.D.2 – Analyze the value and the limitations of different types of models in explaining real things and processes.
- Grades 9-12
  - 2.B.2 – The student will use models...to extend his/her understanding of scientific concepts.
  - 5.A.2; 5.B.1; 6.B.1; 7.A.1; 7.F.1; 8.A.1; 8.D.1 – The student will evaluate the interrelationship between humans and water quality and quantity.

**Wetland Tradeoffs** (Grades 9-12)

- Grades 9-12
  - 1.A.1; 1.B.2; 1.B.3; 7.A.1; 7.B.1 – The student will recognize that real problems have more than one solution and decisions to accept one solution over another are made on the basis of many issues.
  - 1.A.1; 6.B.1; 7.B.1; 7.E.1 – Evaluate how the principles of economic costs, benefits, and opportunity cost are used to address public policy issues, such as environmental concerns.

**Wetland Weirdos**

