

Rubrics

Level 4

- Student can accurately describe an invertebrate and an arthropod and can list at least four characteristics of insects.
- Student can describe what aquatic macroinvertebrates are, understands that some are pollution tolerant and some are pollution intolerant species, and can describe how this is related to assessment of stream health.
- Student understands the differences between complete and incomplete metamorphosis and can list the different stages of each life cycle.
- Student understands that aquatic microorganisms can be both beneficial and harmful to humans and can list several benefits and problems they cause.

Level 3

- Student can accurately describe an invertebrate and an arthropod and can list at least three characteristics of insects.
- Student can describe what aquatic macroinvertebrates are and understands that diversity of these organisms is an indicator of stream health (without necessarily knowing why).
- Student understands the differences between complete and incomplete metamorphosis and can list some of the stages of each life cycle.
- Student understands that aquatic microorganisms can be both beneficial and harmful to humans and can list at least one benefit and one problem they cause.

Level 2

- Student has difficulty describing either invertebrates or arthropods and can list at least two characteristics of insects.
- Student has a slightly inaccurate definition for aquatic macroinvertebrates and does not realize that diversity of these organisms can indicate stream health.
- Student understands metamorphosis but not the differences between complete and incomplete metamorphosis and has trouble listing the different stages of each life cycle.
- Student understands that aquatic microorganisms can be both beneficial and harmful to humans and can list at least one problem they cause, but cannot list any benefits they provide.

Level 1

- Student has difficulty describing either invertebrates or arthropods and has difficulty listing characteristics or examples of insects with accuracy.
- Student has an inaccurate definition for aquatic macroinvertebrates and does not understand how their assessment can relate to stream health.
- Student does not understand metamorphosis or the different stages in the life cycle
- Student understands that microorganisms live in water, but does not understand how they affect humans.

Follow the Garbage Trucks: A Look at a Landfill

Phinizy Center for Water Sciences

Rubrics

Level 4

- Students understand that a landfill is a municipal facility and it requires a large amount of resources from the community to operate and maintain.
- Students can list at least 3 ways that their purchasing and disposal choices can lessen solid waste impacts in their local communities.
- Students can list at least 3 impacts that solid waste disposal can have on the environment and describe how modern landfills are designed to lessen those impacts.

Level 3

- Students do not have a clear understanding that a landfill is a municipal facility, but understand that it requires a large amount of resources to operate and maintain.
- Students can list at least 2 ways that their purchasing and disposal choices can lessen solid waste impacts in their local communities.
- Students can list at least 2 impacts that solid waste disposal can have on the environment and describe how modern landfills are designed to lessen those impacts.

Level 2

- Students do not have a clear understanding that a landfill is a municipal facility or that it requires a large amount of resources to operate and maintain a landfill.
- Students have a hard time listing ways that their purchasing and disposal choices can lessen solid waste impacts in their local communities.
- Students can list 1 impact that landfills can have on the environment, but cannot explain how modern landfill design reduces the impact.

Level 1

- Students do not know who pays for a landfill.
- Students do not understand that their purchasing and disposal choices can lessen solid waste impacts in their homes, local communities, regions, or global environment.
- Students have a hard time listing impacts that landfills can have on the environment and cannot explain how modern landfill design reduces the impact.

Rubrics

Level 4

- Student can provide at least three basic needs of plants.
- Student comprehends that wetlands act as homes for many types of animals, and they can accurately list more than three of these animals.
- Students can accurately describe what a habitat is and list at least five different types of habitat found in Georgia.
- Student can provide at least three basic needs of animals.

Level 3

- Student can provide at least two basic needs of plants.
- Student comprehends that wetlands act as homes for many types of animals, and they can accurately list more than two of these animals.
- Students can accurately describe what a habitat is and list at least four different types of habitat found in Georgia.
- Student can provide at least two basic needs of animals.

Level 2

- Student can provide at least one basic need of plants.
- Student comprehends that wetlands act as homes for many types of animals, and they can accurately list more than one of these animals.
- Students can accurately describe what a habitat is and list at least three different types of habitat found in Georgia.
- Student can provide at least one basic need of animals.

Level 1

- Student cannot provide any basic needs of plants.
- Student comprehends that wetlands act as homes for many types of animals, but cannot accurately list any of the animals that live there.
- Students can accurately describe what a habitat is and list only one or two different types of habitat found in Georgia.
- Student cannot provide any basic need of animals.

Reduce Reuse Recycle: Save the Landfill

Phinzy Center for Water Sciences

Rubrics

Level 4

- Students understand that a landfill is a municipal facility and it requires a large amount of resources from the community to operate and maintain.
- Students can list at least 4 ways that their purchasing and disposal choices can lessen solid waste impacts in their homes, local communities, regions, or global environment.
- Students understand that there are both harmful and beneficial microorganisms, and that microorganisms are crucial to the operation of a landfill.
- Students can list at least 3 impacts that solid waste disposal can have on the environment and describe how modern landfills are designed to lessen those impacts.

Level 3

- Students do not have a clear understanding that a landfill is a municipal facility, but understand that it requires a large amount of resources to operate and maintain.
- Students can list at least 3 ways that their purchasing and disposal choices can lessen solid waste impacts in their homes, local communities, regions, or global environment.
- Students understand that microorganisms are crucial to the operation of a landfill, but have a hard time differentiating between harmful and beneficial microorganisms.
- Students can list at least 2 impacts that solid waste disposal can have on the environment and describe how modern landfills are designed to lessen those impacts.

Level 2

- Students do not have a clear understanding that a landfill is a municipal facility or that it requires a large amount of resources to operate and maintain a landfill.
- Students have a hard time listing ways that their purchasing and disposal choices can lessen solid waste impacts in their homes, local communities, regions, or global environment.
- Students understand that there are both harmful and beneficial microorganisms, but do not understand their role in the operation of a landfill.
- Students can list 1 impact that landfills can have on the environment, but cannot explain how modern landfill design reduces the impact.

Level 1

- Students do not know who pays for a landfill.
- Students do not understand that their purchasing and disposal choices can lessen solid waste impacts in their homes, local communities, regions, or global environment.
- Students do not understand that some microorganisms are beneficial and others are harmful.
- Students have a hard time listing impacts that landfills can have on the environment and cannot explain how modern landfill design reduces the impact.

Rubrics

Level 4

- Student understands that a healthy stream is important to the survival of aquatic animals and can list at least five characteristics that indicate a healthy stream habitat.
- Student can accurately describe the water cycle, including more than seven places where water is located; name the three states of water, and can list at least four ways to conserve water.
- Student can describe more than five ways that human activities affect water quality in our wet habitats.

Level 3

- Student understands that a healthy stream is important to the survival of aquatic animals and can list at least three characteristics that indicate a healthy stream habitat.
- Student can accurately describe the water cycle, including more than five places where water is located; name the three states of water, and can list at least three ways to conserve water.
- Student can describe more than three ways that human activities affect water quality in our wet habitats.

Level 2

- Student understands that a healthy stream is important to the survival of aquatic animals but can only list a few characteristic that indicates a healthy stream habitat.
- Student can describe some parts of the water cycle, including at least three places where water is located; can name up to two states of water, and can list at least one way to conserve water.
- Student understands that human activities affect water quality but can only describe a few of these activities.

Level 1

- Student understands that a healthy stream is important to the survival of aquatic animals but has trouble listing characteristics that indicate a healthy stream habitat.
- Student has difficulty describing the water cycle and does not understand the need to conserve water.
- Student understands that human activities affect water quality but has trouble describing any of these activities.

Rubrics

Level 4

- Student can accurately describe the water cycle, including more than seven places where water is located; list at least six processes that move water from one location to the next, and name three states of water.
- Student understands how a watershed functions, can define point versus non-point source pollution, and can list five ways humans can reduce watershed pollution.
- Students realizes that we have the same need for water use as early Americans and can list at least five water uses as well as several ways to conserve our water use.

Level 3

- Student can accurately describe the water cycle, including at least five places where water is located; list at least four processes that move water from one location to the next, and name three states of water.
- Student understands a little about watershed functions, can define point versus non-point source pollution, and can list three ways humans can reduce watershed pollution.
- Students realizes that we have the same need for water use as early Americans and can list at least three water uses as well as a few ways to conserve our water use.

Level 2

- Student can not accurately describe the water cycle but can list three places where water is located, can describe one or two of the processes that move water from one location to another, and can name two state of water.
- Student has trouble understanding watershed functions, can mention point and non-point source pollution but has difficulty understanding the difference, and can list only a few ways humans can reduce watershed pollution.
- Students realizes that we have the same need for water use as early Americans and can list at least three water uses but is unsure about water conservation.

Level 1

- Student knowledge of the water cycle is minimal with student not understanding the relationship between where water is located and how it moves from one location to the next.
- Student does not understand the concept of a watershed, cannot define point versus non-point source pollution, and can not think of any way to reduce watershed pollution.
- Students realizes that we have the same need for water use as early Americans and can list at least three water uses but is unsure about water conservation.

Rubrics

Level 4

- Student can list at least five clues that help identify a wetland habitat and can describe at least three ways that a wetland soil is different from a non-wetland soil.
- Student realizes that plants and animals adapt to survive in various habitats and can list at least 5 adaptations of plants and animals in a wetland habitat.
- Student can describe at least five wet habitats and how they are each different.

Level 3

- Student can list up to three clues that help identify a wetland habitat, and can describe one or two ways that a wetland soil is different from a non-wetland soil.
- Student understands that plants and animals adapt to survive in various habitats and can list at least 3 adaptations of plants and animals in a wetland habitat.
- Student can describe up to three wet habitats and may know how they are each different.

Level 2

- Student can list several clues that help identify a wetland habitat but have difficulty listing ways (besides “wet”) that a wetland soil is different from a non-wetland soil.
- Student understands that plants and animals adapt to survive in various habitats but has trouble listing any adaptations in a wetland habitat.
- Student can describe different wet habitats and but can not tell how they are each different.

Level 1

- Student has trouble listing clues that help identify a wetland habitat and have difficulty listing ways (besides “wet”) that a wetland soil is different from a non-wetland soil.
- Student does not understand that plants and animals adapt to survive in various habitats.
- Student has difficulty describing different wet habitats.

Rubrics

Level 4

- Student can accurately list all three characteristics of a wetland and can describe at least three ways that a wetland soil is different from a non-wetland soil.
- Student can describe at least five values of wetlands.
- Student can describe the difference between a producer, consumer, and decomposer, and can explain how they are interrelated.
- Student can describe the three types of herbaceous wetland plants and can name at least three plant adaptations to wetland habitats.

Level 3

- Student can accurately list all three characteristics of a wetland, but has difficulty listing more than one or two ways that a wetland soil is different from a non-wetland soil.
- Student can describe at least four values of wetlands.
- Student can define the words producer, consumer, and decomposer, but has difficulty when asked to describe their interrelationships.
- Student can describe the three types of herbaceous wetland plants and can name one or two plant adaptations to wetland habitats.

Level 2

- Student can accurately list only two of the three characteristics of a wetland and has difficulty listing one way (besides “wet”) that a wetland soil is different from a non-wetland soil.
- Student can describe only two or three values of wetlands.
- Student has only partial accuracy in their definitions of producer, consumer, and decomposer, and has little or no understanding of how they are related.
- Student can describe one or two of the three types of herbaceous wetland plants but has difficulty naming plant adaptations to wetland habitats.

Level 1

- Student can only list “wet” as a characteristic of a wetland and has no real knowledge of how a wetland soil is different from a non-wetland soil.
- Student can barely describe one value of wetlands.
- Student cannot accurately define a producer, consumer, and decomposer, and cannot explain how they are interrelated.
- Student cannot describe the types of herbaceous wetland plants and can have difficulty naming plant adaptations to wetland habitats.