



Life in Freshwater with *Russell the Mussel*

A Supplemental Activity

All successful ecosystems begin with producers making their own food from nonliving substances and a source of energy. Healthy freshwaters enable microscopic algae or phytoplankton to thrive.

Certain freshwater environments, namely wetlands gain their name by the plant producers that are most numerous.

Swamps are tree filled that tolerate water most of the year or all year in some places. Marshes are filled with reeds and rushes and cattails. Bogs contain mosses and peat plants with very little water movement.

To support life these freshwater environments must begin with creatures that produce their own food from the nonliving sources of sunlight , water and carbon dioxide. This is known as photosynthesis.

Producers who photosynthesize start the food chain providing food energy to the herbivores. Many producers are simple plants and they feed small animals. In water tiny phytoplankton, algae, often feed zooplankton. In turn these microscopic animal- like critters offer sustenance to carnivores such as fish babies, or frye. Many insects like water beetles, mayfly larvae, and midges assure clean waters. Larger carnivores include smaller fish such as many kinds of shiners and darters. These third step food chain members are fodder or food for the ultimate predators, large fish such as bass, hellbender salamanders, crayfish etc.. Freshwater ecosystems are teeming with life and

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diversity as well. To recycle this diversity decomposers flourish. Fungi, vultures, bacteria of decay can be found cleaning up and clearing the areas of dead and rotting life.

Wetlands provide the best possible way to support life in these environments. Keeping conditions clean and healthy, avoiding pollution like run-off from agricultural settings, sewage, erosion that can muddy the waters, unwanted debris from careless trash tossing will help maintain the balance necessary to support abundant life.

After watching Russell the Mussel, try to complete this table of organisms by eating type.

Producers or Autotrophs	Consumers- Herbivores	Consumer- Carnivores	Decomposers

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What are 3 substances required for PHOTOSYNTHESIS:

Name three types of wetlands:

Trees in water most of the year create: _____

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