

Science Concept:

A river system has many parts. (NOTE: This lesson should occur at the end of a unit on rivers.)

Objectives:

The student will:

- identify the parts of a river system;
- make and record observations about the parts of a river system; and
- write a paragraph with includes supporting details about the parts of a river system.

GLEs Addressed:

Science

[3] SD2.1 The student demonstrates an understanding of the forces that shape earth by being able to identify and compare a variety of earths land features (i.e., rivers, deltas, lakes, glaciers, mountains, valleys and islands.)

[3] SA1.2 The student develops an understanding of the processes of science by observing and describing their world to answer simple questions.

Writing

[3] W1.1.2 The student writes about a topic by writing a paragraph on a single topic with two or more supporting details.

Vocabulary:

downriver – in the direction of, or nearer to, the mouth of the river; also called downstream

floodplain – relatively flat land stretching from either side of a river, which may flood during heavy rain or snowmelt; often rich in nutrients and ideal for growing food, since it is built of materials deposited by a river

meander – a loop in a river channel; a meandering river winds back and forth, rather than following a straight course

river mouth – the place where a river flows into a larger body of water, such as a lake or an ocean

river source – the beginning of a river; also called headwaters; may be fed by an underground spring, or by runoff from rain, snow or glacial melt; often located in mountains

tributaries – a smaller stream or river that joins a larger stream or river; also called a small river

upriver – in the direction of, or nearer to, the source of the river; also called upstream

wetlands – low-lying areas saturated with water long enough to support growth of vegetation adapted to wet conditions; wetlands help maintain river quality by filtering out pollutants and sediments and regulating nutrient flow

Materials:

- Butcher paper
- Water
- Water container
- Paper
- Small plastic cups
- Drop cloth (plastic)
- Washable tempura paint, one pint each of at least five colors
- Aprons (optional)
- Food coloring (optional)
- Miscellaneous recycled items for landscape construction (aluminum cans, crumpled scrap paper, etc.)
- STUDENT INFORMATION SHEET: “River System Dictionary”
- STUDENT WORKSHEET: “River System”

RIVER SYSTEM

INSTRUCTIONS
Grade 3



Activity Preparation:

1. Thin paints by stirring in water so they will pour easily.
2. Tear off several lengths of butcher paper (1 for each group).
3. Spread a drop cloth on the work area.

Activity Procedure:

Please refer to the assessment task and scoring rubric located at the end of these instructions. Discuss the assessment descriptors with the class before teaching the lesson.

Gear Up

Process Skills: communicating and describing

1. Distribute the STUDENT WORKSHEET: "River System" and ask students to label the parts of the river system using the words in the word box.
2. Ask the following questions and discuss.
 - a. How many parts of a river are there?
 - b. In what part of the river systems are the wetlands found and why?
 - c. In which direction does water flow and why?

Explore

Process Skills: communicating, observing, describing, questioning, and investigating

3. Ask students how they can model a river system. Guide students to think about the parts of a river system that they have learned (in prior lessons) and discussed.
4. Divide students into groups and distribute materials. Instruct students to make an uneven landscape by placing crumpled paper, rocks, cans, or other classroom objects on a large plastic drop cloth on the floor.
5. Ask students to place butcher paper over the uneven landscape to create a river system model.
6. Instruct students to pour the paint, representing rain, onto the river system model. Ask them to observe the path the "rain" takes. While students are working, circulate and question students about their observations.

Generalize

Process Skills: observing, describing, infer and communicating

7. Ask groups to share the following with the class:
 - a. Where does the water come from to start your river?
 - b. What is a wetland?
 - c. Where is the mouth of the river located?
 - d. Explain what upstream and downstream mean in a river system.

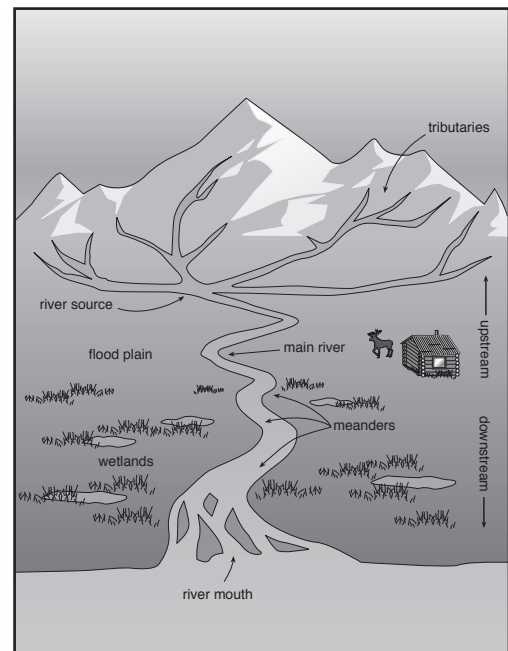
Apply

Process Skills: describing, communicating, observing

8. Ask students what part of the river system they would choose to go duck hunting and why.
9. Instruct students to write a paragraph with details about at least three parts of a river system. Remind them to use a topic sentence, details, correct capitalization, and periods.

Answers:

See diagram at right.



RIVER SYSTEM

RUBRIC

Assessment Task

Ask students to imagine they are taking a river trip. In the journal they are keeping during the trip, ask them to write a paragraph that identifies at least three parts of a river system. The paragraph should include at least three details about the river system.

Rubric

Objective	GLE	Below Proficient	Proficient	Above Proficient
The student identifies the parts of a river system.	[3] SD2.1	The student identifies two or fewer parts of a river system.	The student identifies three parts of a river system.	The student identifies four or more parts of a river system.
The student makes observations and answers simple questions about the parts of a river system.	[3] A1.2	The student makes observations about two or fewer parts of a river system when using a model.	The student makes observations about three parts of a river system when using a model.	The student makes observations about four or more parts of a river system when using a model.
The student writes a paragraph that includes supporting details about the parts of a river system.	[3] W1.1.2	The student writes a paragraph that includes two or fewer supporting details about parts of a river system.	The student writes a paragraph that includes three supporting details about parts of a river system.	The student writes a paragraph that includes four or more supporting details about parts of a river system.

DOWNSTREAM

Downstream is in the direction of, or nearer to, the mouth of a river.

FLOODPLAIN

A fully-developed floodplain is relatively flat land stretching from either side of a river, which may flood during heavy rain or snowmelt. Built of materials deposited by a river, floodplain soil is often rich in nutrients and ideal for growing food.

MAIN RIVER

The main river is the primary channel and course of a river.

MEANDER

A meander is a loop in a river channel. A meandering river winds back and forth, rather than following a straight course.

RIVER MOUTH

The mouth is the place where a river flows into a larger body of water, such as a lake or an ocean.

RIVER SOURCE

The source, also called the headwaters, is the beginning of a river. Often located in mountains, the source may be fed by an underground spring, or by runoff from rain, snow, or glacial melt.

TRIBUTARY (SMALL RIVER)

A tributary is a smaller stream or river that joins a larger stream or river.

WETLAND

A wetland is a low-lying area saturated with water for a long enough period to support vegetation adapted to wet conditions. Wetlands help maintain river quality by filtering out pollutants and sediments and regulating nutrient flow.

NAME: _____
RIVER SYSTEM

Directions:

Label the parts of the river system using the words in the word box.

