Little Toot on the Mississippi

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SOCIAL STUDIES

Geography: THE MISSISSIPPI RIVER

The Mississippi River is one of the chief rivers of North America and the second longest river in the United States. Only the Missouri is longer. The Mississippi flows 2,340 miles (3,766 kilometers) from its source in northwestern Minnesota to its mouth in the Gulf of Mexico.

The Mississippi is the nation's chief inland waterway. It carries agricultural goods, industrial products, and raw materials. Ships can travel the river for more than1,800 miles (2,897 kilometers) from Minneapolis, Minn., to the Gulf of Mexico. The river ranges in depth from 9 feet (2.7 meters) to 100 feet (30 meters) during most of its course. At its widest point, the Mississippi is nearly 3 1/2 miles across.

The Mississippi, which is sometimes called "Old Man River," has played a vital role in the history of the United States. During the 1500s and 1600s, it provided a route for Spanish and French explorers. With the coming of steamboats in the 1800s, the Mississippi became a great transportation and trade route. The famous American author Mark Twain described the river vividly in his book Life on the Mississippi (1883).

The Mississippi begins as a small, clear stream that rushes out of Lake Itasca in northwestern Minnesota. The river flows northward and then eastward, linking a series of lakes.

The Mississippi begins to curve southward near Grand Rapids, Minn. As it flows between Minneapolis and St. Paul, Minn., it is joined by the Minnesota River. Beginning with its junction with the St. Croix River, the Mississippi forms part of the boundary between Minnesota and Wisconsin. It is also part of the boundaries of eight other states. Illinois, Kentucky, Tennessee, and Mississippi are to the east, and Iowa, Missouri, Arkansas, and part of Louisiana are on the western shore. (World Book Encyclopedia)

Interesting Fact: "Mississippi" is an Ojibwa (Chippewa) Indian word meaning *great river* or *gathering of waters.* (Could use as a springboard to discuss Native Americans, or just the Ojibwa people.)

Interesting Fact: A raindrop falling in Lake Itasca would arrive at the Gulf of Mexico in about 90 days. (Could use as springboard to discuss the water cycle.)

Interesting Fact: Sixty percent of all North American birds (326 species) use the Mississippi River Basin as their migratory flyway.

ACTIVITIES:

1.Make a list of all the states that the Mississippi River flows through and find those states on a map of the USA.

2.Trace the Mississippi River from beginning to end.

Family Relationships: Passing Stories down from Generation to Generation

Little Toot's grandfather told him stories of the steamboats on the Mississippi and Little Toot goes in search of them. Discuss the importance of family stories. Talk about how in times past, before so many people could read and write, stories were handed down from generation to generation through story-telling. Today stories are still told, but it's also important to write them down.

Activity: Have an older child write a story that was told to them by a grandparent. A younger child could retell it.

History -- Robert Fulton

Invention of the steamboat

A savvy artist-turned-technologist took steamboat inventions and innovated them into the first viable commercial steamboat service.

Portrait Painter

Although Robert Fulton did not invent the steamboat, as is commonly believed, he was instrumental in making steamboat travel a reality. He was born in Pennsylvania in 1765. As a young man, he set out to make his name as a portrait painter. His career would take him to Europe--and into the orbit of people with the power to back him politically and financially.

New Career

Fulton ventured into London society after he painted Benjamin Franklin's portrait. While abroad, Fulton left the arts for a career in canal and shipbuilding. He was interested in the recently-invented steam engine, and thought it could be used to power ships. Fulton's vision was not original; many others had entered the field, and the unfortunate inventor John Fitch had built a working steamship already. But like Henry Ford, Fulton's genius lay not in invention but in adaptation for the marketplace.

Submarine

Fulton was not focused entirely on the steamboat. In 1804, he tested the first successful submarine, which he had built for the British Navy. His invention would make him a celebrity upon his return to the United States two years later. Fulton's partner, Robert Livingstone, who had negotiated the Louisiana Purchase from France, obtained an exclusive license for steamboat services on New York's Hudson River. It was time for Fulton to deliver.

Steamboat Service

To build an efficient, reliable steamboat, Fulton used a special English steam engine. The ship's bottom was flat and its stern was
square. Clermont made its debut on August 17, 1807, steaming upriver from New York to Albany, and it soon entered into commercial service. The hilly terrain of New York made water travel faster than land travel, and Fulton's boat -- formerly known as "Fulton's Folly" – was a hit. Within five years, Fulton would be running services on six major rivers plus the Chesapeake Bay, and raking in the profits.

Instrumental Transport

Fulton's innovation left quite a legacy. Steamboat travel was instrumental to the industrial revolution in America, helping manufacturers transport raw materials and finished goods quickly. It also opened up the American continent to exploration, settlement, and exploitation. Fulton died of pneumonia in February

1815, having created the service that carried Americans into a prosperous future. (Source: PBS.org)

History: Inventions that Changed the World

Discuss with your student the ways inventions and inventors have changed the world. Walk around your home and point out all the inventions you see: light bulbs, electricity, the computer, television, washing machines, dishwashers, dryers, air conditioning, heaters, stove, telephone, cell phone, etc. Ask him how our lives would be different without this invention.

Also discuss ways to use an invention to make things better. Robert Fulton did not invent the steamboat, but he used the technology to make travel easier and faster than ever before.

You could also discuss how times change and inventions/styles/things also change and some are even abandoned--like the steamboats were.

LANGUAGE ARTS

Vocabulary Words

levee a ridge of earth used to prevent flooding

barge a large flat-bottomed boat used to transport goods on inland waterways and usually towed.

inlet a narrow water passage between peninsulas

crescendo to increase in volume, to get louder

calliope a musical instrument played using a keyboard that consists of a series of whistles sounded by steam or compressed air.

bayou a marshy body of water

Personification: Personification is giving human-like attributes to something that is not human. Discuss how personification was used in the story. Continue this in art lesson.

Simile/Metaphor:

"Steamboats are great horned monsters. They breathe smoke and chew fire like a dragon."

Discuss with your student how the first sentence here is a metaphor, the steamboats **are** great horned monsters. The second part describes how they breathe and chew **like** dragons, so the second sentence is a simile.

Have your student describe other vehicles using similes and metaphors.

ART

Calliope Music: Calliope is a musical instrument that consists of a set of tuned whistles controlled by either a keyboard or a mechanical playing system like that of a player piano. The whistles are sounded by the release of either steam or compressed air, in the manner of an organ pipe. The calliope produces loud music, and is generally associated with river excursion steamboats and circuses. Special decorated wagons housed the calliope in circus parades. Look for a website where you can listen to calliope music.

Viewpoint: Many pictures show the river from above and some show the river as if we were sitting in it ourselves. Have your student draw the same thing from a different viewpoint. For example: Draw the scene you see when you look out of a second story window then go down and draw the same scene while sitting on the grass/ground. Discuss how these pictures are different and the same.

Reflections: Find the picture showing a sunset on the water. Discuss why the reflection is wavy and have your student draw a sunset in the water or the reflection of a boat on the water.

Personification: Discuss the different personalities shown by the steamboats and

the names the author gives each one. See if your student can name objects in your home and draw a face to match this personality.

APPLIED MATH

Tally marks, counting by 5s, and bar graphs: Have your student keep a tally of each time the different boats are mentioned in the story. Explain tally marks, how to make them and how to group them in groups of 5. After reading the book, count the tally marks together and introduce or practice counting by 5s. Then make a pictorial representation of the data, using either a bar graph. Show the student how to make a bar graph and how to display the data using the graph.

SCIENCE

Health and Safety: Emergencies

Use this story to talk with your children about various kinds of emergencies and what your family will do if one of them happens. Set up a plan and make an emergency kit.

How a steam engine works: A steam engine uses steam to change heat energy into rotary or reciprocating (back-and-forth) motion.
Most steam engines have a furnace in which coal, oil, or some other fuel is burned to produce heat energy.

Every steam engine has a boiler. The heat energy produced inside the furnace or reactor changes water into steam inside the boiler. The steam expands, taking up many times the space of the original water. This energy of expansion can be used in two ways: (1) to spin a turbine or (2) to push a piston back and forth.

<u>Simple Steam experiment</u>
A simple steam experiment that shows how heat expands is to place a deflated balloon over the mouth of a plastic or glass bottle and place the bottle in a saucepan of water. Place the saucepan on the stove and heat the water. Soon the balloon will begin to fill. The hot air expands inside the bottle and the only place it

has to go is into the balloon.

Rivers and floods and levees: Flood is a body of water that covers normally dry land. Most floods are harmful. They may destroy homes and other property and even carry off the topsoil, leaving the land barren. Sudden and violent floods, which leave people little time to prepare, may bring huge losses. Rivers, lakes, or seas may flood the land. River floods are more common, though lake and seacoast floods can be more serious. However, sometimes floods may be helpful. For example, the yearly floods of the Nile River built up the plains of Egypt and made the Nile Valley one of the most fertile regions in the world. These floods brought fertile soil from lands far to the south and deposited the soil on the Egyptian plains.

Most rivers overflow their normal channels about once every two years. When a river overflows land where people live, it causes a flood. When a river overflows land where people do not live, it is said to be in flood.

Common causes of river floods include too much rain at one time and the sudden melting of snow and ice. Under such conditions, rivers may receive more than 10 times as much water as their beds can hold. Heavy rains, sometimes from thunderstorms, can produce flash floods if small rivers or streams rise suddenly and overflow.

Levee, pronounced LEHV ee, is a wide wall built along the banks of rivers to keep them from flooding over the land. Levees are made mostly of sandbags and banked-up earth. The name comes from the French word *lever*, which means to raise. In the United States, the term is used specially to describe walls, or dikes, built along the southern part of the Mississippi River. Irrigation engineers use the term levee to describe a small dike or ridge of earth which confines areas of land that are to be flooded for agricultural purposes.

Hands-on Activity: Make a river outside in the dirt and experiment with using levees and not using levees

Bayou areas and the animals that live in a there: Bayou, pronounced BY oo or BY oh, is a shallow, curving channel filled with slow-moving, sometimes stagnant water. The term was used by the French settlers of the lower Mississippi River, its delta, and the adjacent drainage areas of Louisiana, Texas, and Mississippi. It is seldom used outside that area. It may have derived from the French word *boyau*, meaning gut or channel. The word *bayou* refers to an abandoned river channel; a slow-moving stream draining a swamp or shallow lake; or an oxbow (horseshoe-shaped) lake.

A bayou is a type of wetland, a huge marsh near the lower Mississippi River. Many animals live in the water, on the water, over the water,
or near the water.

Game Activity: Play Jeopardy with these Bayou animals questions:

1. My name starts with the letter A. I live in the water, eat meat, and am large. I have four short legs, long jaws with lots of sharp teeth, and a long tail. Who am I? (Alligator)

2. My name starts with the letter D. I live on dry land and run fast with my four long legs. I have brown fur and eat grass. Who am I? (Deer)

3. I am an insect, and my name starts with the letter M. I live above the water and bite animals and people so that I can drink their blood. I lay my eggs in the water. Who am I? (Mosquito)

4. I am an amphibian; my name starts with the letter F. I lay my eggs in the water and when they hatch, little tadpoles come out swimming and breathing underwater. I live on land and breathe air. Who am I? (Frog)

5. My name starts with an O. I'm a small mammal with a long tail. I have a pouch for my babies to live in. Who am I? (Opossum)

6. I am a wildcat with a very short tail; I hunt for meat at night. My name starts with the letter B. Who am I? (Bobcat)

7. My name starts with H. I'm a bird who wades in shallow water; I eat the fish that I spear with my long bill. Who am I? (Heron)

8. I live in the water. I'm small with a hard, thin shell that covers my entire body (this is called an exoskeleton). I have eight legs, two pinchers, and four antennae. Some people like to eat me! My name starts with a C. (Crawdad or Crayfish)

9. I have two parts to my name; the first part starts with the letter S and the second starts with the letter T. I eat meat and live in the water; I have four short legs, a long tail, and a shell on my back; I'm a reptile. Sometimes I like to hide my head in my shell. (Snapping Turtle)

10. My name starts with the letter R. I have marks on my face that make me look like I'm wearing a mask; I also have a ringed tail. I'm a furry mammal. Who am I? (Raccoon)

11. I have ten legs and walk sideways. My name starts with a C. I have a thin, outer shell and eyes on stalks on my head. Who am I? (Crab)

12. I rub my legs together to sing a song. I hop, walk, and fly. I'm an insect whose name starts with a G. Who am I? (Grasshopper)

<u>Writing Activity:</u> Choose one of these animals and write a paragraph about the

animal listing at least four interesting facts about the animal.

Writing Activity: Make a list of all the types of boats and bayou animals.

BIBLE

Noah and the animals: This story of Little Toot and the steamboats saving the animals from a flood, instantly brings to mind the story of Noah and the animals he saved on board the ark. Read this story in Genesis chapters 6-9:17 and discuss it.

Why did God care about saving the animals from the flood?

Discuss the great care and details involved in building a boat for the animals and people to live in and for the care of the animals.

The story of Noah shows us that God cares deeply for all the creatures of the world and that we are to care for them with the same type of love. Stewardship over all living creatures is important and necessary for the survival of all of God's creations on earth.

Additional Reading
If your child enjoyed this story you might try others in the series:
Little Toot, Little Toot on the Thames
Little Toot on the Grand Canal
Little Toot Through the Golden Gate.
