

Kansas Ponds, Lakes & Reservoirs

www.ksagclassroom.org

Grade Level: 5-6

Academic Area(s): Science, Technology

Topic(s): Earth Science, Computer Technology, Geography



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Overview:

Students will study the ponds, lakes and reservoirs in Kansas. They will come to understand that the majority of ponds, lakes and reservoirs are not natural to Kansas but rather are made by humans, which may lead to the discussion of the importance of constructing such bodies of water.

Objectives:

The student will be able to:

1. learn the similarities and differences between ponds, lakes and reservoirs.
2. understand how reservoirs are distributed across Kansas and learn the names of several of them.
3. explain that most ponds, lakes and reservoirs in Kansas are man-made, and have many uses.

Background Information and Facts:

Almost all ponds and lakes in Kansas are the result of human efforts. These water bodies have been built to meet a variety of human needs, including the needs for drinking water, water to irrigate crops, and water for recreational activities, as well as to reduce flood damages and the impact on human lives due to flooding. Simultaneously, ponds and lakes provide wildlife habitat and enhance the natural environment. Bodies of water, no matter the size, can have a significant impact on the homes, communities and natural areas that surround them.

What is the difference between a pond, a lake, and a reservoir? There are many definitions of each body of water, and while there is not clear-cut way to identify beyond debate what the difference is, there are some general guiding factors.

A lake is larger and deeper than a pond. Lakes are usually over ten acres in size, while ponds are smaller than ten acres.

Contents:

- Activity 1 -
- Activity 2 -
- Activity 3 -

Worksheets:

- Is it a Pond or a Lake?
- Kansas Reservoirs

Handouts:

- List each one separately

Estimated Teaching Time:

- Activity 1:
- Activity 2:
- Activity 3:



A lake is larger and deeper than a pond. Lakes are usually over ten acres in size, while ponds are smaller than ten acres. Lakes are too deep for plants to grow to the surface except around the shore, while ponds are shallow enough to allow sunlight to reach the bottom so rooted plants may grow in even the deepest sections. There are also differences in water temperatures between lakes and ponds. Ponds generally have a uniform water temperature from top to bottom that may change with air temperature. Lakes, however, have more stable water temperatures, but they may develop distinct layers with different water temperatures. In addition, ponds experience very little wave action while lakes have enough surface water exposed to the wind to develop waves.

A reservoir is a man-made body of water, typically formed by building a dam on a river or stream and used for the collection and storage of water. By definition, then, a small man-made farm pond can be called a reservoir, but generally the term “reservoir” is used to describe large lakes built for multiple purposes: flood control, drinking water, irrigation, and recreational activities. The actual names attached to most of these large lakes were a result of legislation passed by U.S. Congress.

Kansas has hundreds of public and private lakes within its borders, including 26 large reservoirs, 40 state fishing lakes and more than 200 community lakes owned by local governments. According to the Kansas Department of Wildlife and Parks, there are over 150,000 privately owned farm ponds in the state of Kansas.

Even though most of them are man-made, the ponds, lakes, and reservoirs of Kansas are important natural resources. Farmers and ranchers use ponds to provide drinking water for their livestock or to irrigate their crops. Birds and animals depend on ponds and lakes for their food, water, and shelter. Communities rely upon reservoirs for drinking water, flood protection, and recreation. Through a commitment to conservation, the citizens of Kansas can ensure future generations enjoy these vital water resources.

Important Facts

There are 40 state fishing lakes in Kansas.

There are 26 federal reservoirs in Kansas 2 of which were built for power generation.

There are over 150,000 ponds in Kansas.



Acre: a unit of area used in land measurements equal to 43,560 square feet or approximately the size of a high school football field excluding the end zone.

Dam: a barrier constructed to hold back water and raise its level, the resulting reservoir being used in the generation of electricity or as a water supply.

Lake: a body of water- usually over ten acres in size- that is too deep for plants to grow to the surface, except around the shore.

Pond: a body of water less than ten acres in size which is shallow enough to allow rooted plants to grow in the water.

Reservoir: a natural or artificial place to store water; sometimes created by a dam.



Lesson Plan Title

Student Handout
Handout Title - Page 2



Preparation:

Short - 3 to 5 sentences.

Procedures:

1. List using numbered steps.
2. Try to keep to one to two pages for each activity.

Materials:

- List each material or item needed in this box

Photos of activity/project

A large, empty rectangular box with a black border, intended for students to paste or draw photos of their activity or project.

If no photos, delete

A large, empty rectangular box with a black border, intended for students to indicate if they have no photos to share.



Background Information:

If background information is needed just for this activity, list it here. If it is not required, delete the Background Information header.

Procedures:

1. List each step here.
2. Keep a space between each step.
3. Try not to exceed one to two pages for each activity.

Materials:

- List each material or item needed in this box

Photos of activity/project

A large, empty rectangular box with a black border, intended for pasting photos of the activity or project.

If no photos, delete

A large, empty rectangular box with a black border, intended for text if no photos are provided.A smaller, empty rectangular box with a black border, located at the bottom of the photo section.



Ponds, lakes, and reservoirs are all standing bodies of water but they possess characteristics that make them different from each other. Each statement below describes either a pond or a lake. Write either a "P" for pond or an "L" for lake at the end of each statement.

1. Less than 10 acres in surface size. ____
2. Too deep for plants to grow at the surface except around the shore. ____
3. Waves can develop on the surface. ____
4. Have a uniform water temperature from top to bottom that changes with the air temperature. ____
5. Wave generally do not develop on the surface. ____
6. Over 150,000 in Kansas, mostly privately owned. ____
7. More than 10 acres in surface size. ____
8. Have a stable water temperature from top to bottom that does not change with the air temperature. ____
9. Shallow enough for plant to grow throughout. ____
10. More than 240 in Kansas, mostly publicly owned. ____

Brainstorm reasons why a human would want to build a pond or lake and list them below.

What are ways that a pond or lake could form naturally?



Technically, a reservoir is any human-made body of water that stores water for future use. Therefore, most ponds and lakes in Kansas could be called reservoirs. However, when most people refer to a reservoir in Kansas, they mean one of the 26 largest lakes created by dams built on a major river.

Below is a map of Kansas that shows all 26 reservoirs. Use the map to answer the following questions.



1. Which reservoir is closest to your home town?
2. List all the reservoirs that you have visited.
3. Which part(s) of the state has the most reservoirs? Which part(s) of the state has the least reservoirs?
4. Give a possible reason for the unequal distribution of reservoirs across the state.
5. List 4 reasons reservoirs were established in Kansas.



Extensions:

Social Studies: Explore legislation regarding Kansas Ponds, Lakes and Rivers.

Math:

Technical Writing:

Recommended Resources:

Kansas Foundation for Agriculture in the Classroom (KFAC):

www.ksagclassroom.org

Look for other lesson plans, resource materials and teacher training opportunities!

List each relevant resource (i.e. Educator's Guide, Kids Connection magazine, etc)

Other resources/websites:

List the resource here. If there is a website, make sure to make it a hyperlink and have the entire link typed out.

[Hyperlink](#)

Other Resource:

List here. Hyperlink.