



CACHE LA CATTAILS * 2021

Grade: 3rd

Setting: Natural Area/Wetland area with Cattails

Theme: Cattails are plants that have special adaptations for living in water.

Description: Using various tools, students will examine cattails and come to conclusions about how they are able to survive in water without drowning.

Recommended Time: 30 minutes

State Standards:

- **Life Science 1.2.1:** All organisms have external parts that they use to perform daily functions
- **Life Science 3.2.3:** Different organisms vary in how they look and function because they have different inherited information; the environment also affects the traits that an organism develops.
- **Life Science 4.2.1:** Organisms have both internal and external structures that serve various functions.

MATERIALS LIST:

- Background Information folder
- laminated cattail diagram and cross section photos, laminated chart of cattail uses by pond inhabitants and humans
- 6 student tool bags (scissors, hand lenses, marker, and scraper), 6 clipboards to use as cutting boards, 1 teacher tool bag for adult use (a sharp knife, strong scissors and 2 extra hand lenses), and Sani-Hands wipes.
- Bag of Towels
- First Aid Kit
- A large bucket of cattails for dissection, and a trash bag for dissected discards.

ENGAGE

- Gather the students around in a group where everyone can see the cattail bed.
- **ASK:** Does anyone know the name of these plants? (cattails)
 - Remark that these plants are very common and people have had fun calling them by different names such as “sausage plants”. Ask if they have experience with cattails or call them by funny names. Point out that sometimes when something is very common we tend to think there is nothing special about it. Today you are going to help them learn the true story of these common old cattails!
- Show the cattail diagram and review the parts of the plant. Notice the cool 2-part flower that is part male and part female.



- **ASK:** if anyone has ever killed a plant by over-watering it? Drowned it?
 - After hearing the response ask the students why these cattails, which are growing in standing water, are doing so well? How do they breathe and how do they get their oxygen when the roots are submerged in water? Allow for some guesses and discussion.

EXPLORE

1. Divide the students into research teams and hand out the tools and specimens.
2. Begin the activity: Their **goal** is to dissect new and old cattails to discover how cattails get their oxygen and survive in water using the tools provided.
 - **Explain:** They can use their laminated sheets and expo markers to draw out their thinking.
 - Wander from group to group asking **inquiry questions:**
 - What are you seeing? Do you think these plants work differently than the grass around you? Do you think this plant looks different in different seasons?

EXPLAIN

1. After about 5-10 minutes of time call everyone back together and ask for reports. Use the diagram to help the students be precise in their description of what they found. Use the photos of the cross sections of cattail stems and leaves to show the large air spaces in the spongy tissue in the fresh specimens. Explain that these air spaces transport the air through the plant. (see background notes) Also point out the hollow stem of the dead cattails and explain that it acts like a straw to suck the oxygen down into the roots where it is stored for growth.

ELABORATE

1. **ASK:** what have we learned today that explains why cattails are so successful living in water?
 - Their adaptations of storing oxygen and sucking up water allow them to be successful.

EVALUATE

1. Turn the group back to looking at the cattail stand. Ask them if they think these cool cattails are important to the creatures in the pond? Use the laminated pictures to prompt discussion on how each creature uses the cattails.
 - Ask if humans use cattails. Use the laminated chart for this discussion. Have the students make notes as you go through the uses if teachers indicate it is appropriate.

Nat Note: Do not let the students eat the cattails. Although cattails are edible, we do not encourage this during school field trips.

