



Lesson Title: Rangeland Mystery Box – Observe, Recall, and Classify

Grades: 2-6

Duration of Unit: 2 - 50 minute class periods.

Materials:

1 – Montana Rangelands poster

1 - Shoebox covered with paper.

Several items that are found on rangeland. These items are easily found! Check your poster and the classification list at the end of the lesson for ideas.

Prep:

Rangeland mystery box: Cover a shoe box with paper with the covering applied so the lid can open. Inside place several items depicted on the Rangelands poster, be creative! Some suggestions include: Deer antler, wool, bird feather, sage brush, juniper berries, fishing line, dried cone flowers, tree bark, small bag of soil, seeds, bunchgrass, rock types (quartz, schist, granite), petrified wood, and spruce, fir, or pine cones. Just keep it real! (Kingdom classification chart is attached, try to find items to classify in each category.) Do not hang the poster yet, this step comes later.

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STAGE 1 – DESIRED RESULTS

Montana State Standards:

ELA 2. Speaking and Listening

1. Comprehension and Collaborations: Participate in collaborative conversations with diverse partners about grade 2 topics with peers and adults in small and larger groups.

ELA 3-6. Speaking and Listening

1. Comprehension and Collaborations: Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher led) with diverse partners on grade appropriate topics and texts, building on others' ideas and expressing their own clearly.

NGSS 2. Interdependent Relationships in Ecosystems

Disciplinary Core Ideas, LS4.D: Biodiversity and Humans

There are many different kinds of living things in any area, and they exist in different places, on land and in water. (2-LS4-1)

NGSS MS. Interdependent Relationships in Ecosystems

Disciplinary Core Ideas, Ecosystems Dynamics, Functioning, and Resilience

Biodiversity describes the variety of species found in Earth’s terrestrial and oceanic ecosystems. The completeness or integrity of an ecosystem’s biodiversity is often used as a measure of its health. (MS-LS2-5)

Social Studies: Content Standard 3 - Students apply geographic knowledge and skills (e.g., location, place, human/environment interactions, movement, and regions). Benchmarks 1-4.

Understanding(s) /Big Ideas:

Students will improve their ability to make quick observations and to recall information. Students will classify items by class, and link items to rangeland.

Essential Question(s):

What link does the mystery item have to rangeland?
What classification is made for each item?

Students will know:

Students will know the necessity of a healthy rangeland for organisms that depend on rangeland. Students will know the wide variety of life forms that depend on rangelands.

Students will be able to:

Students will be able to classify and recall organisms that relate to rangelands.

STAGE 2 – ASSESSMENT EVIDENCE

Performance Task(s): Students will verbalize the classification of their secret items, and will re-evaluate the classifications. Students will work together as a group on problem solving and investigation of classifications.

Other Evidence:

Students will illustrate their secret items and compare illustrations for classification purposes.

STAGE 3 – LEARNING ACTIVITIES

Learning Activities:

Activity 1: Shake the box and let students know that you have a mystery box. Let students know that you will be letting them peek into the box for 2 seconds, and they must remember at least one item that they saw. Shake, rattle, and roll the box between each student so that the items will be rearranged. Children are enthusiastic about this game, and will want to take more than two seconds to peek, keep the time at 2 seconds!

Notes:

Let students know that they will be using their thinking and reasoning skills to discuss what mystery items they saw in the box. Let students know that all items are part of an ecosystem on a certain type of land in Montana.

Notes:

Ask students to keep the item they saw a secret! Ask students to begin thinking about where they might see the items if they were on a fieldtrip; write their answers on the chalkboard. Tally up the results and then ask the students if each of their mystery items could have been

found at each of the student's suggestions, this will eliminate some of the suggestions about where the items may have been found. Cross out the eliminated suggestions to narrow down the list.

Notes:

Now ask each student to draw their secret item, and label the drawing. Post the drawings on the board. Ask the question again about where they might see these items if they were on a fieldtrip. Ask students if they changed their minds about where the items might be found now that they have seen pictures of everyone's secret item.

Tell students that you have a visual aid that will help them with the origination of the items in the mystery box. Post the Montana Rangelands poster on the wall. Have students rethink and revise their understandings of each mystery item. Lay out all the mystery items from the mystery box, and ask students to view and discuss how each item is related to the rangeland. Ask critical thinking questions about the items in the box such as:

How would you compare _____ to _____?

How would you differentiate between _____ and _____?

What did you observe about the relationship between _____ and _____?

How could you organize the items from the mystery box?

Classification:

Sorting objects and putting them in a specific place is classification. Adjust classification for grade level. Some suggestions include:

- Grade 2: Plants or animals
- Grade 3: Animal's habitats and needs
- Grade 4: Classification (Kingdoms)
- Grade 5-6: Classification detailed:
 - amphibians
 - arachnids
 - birds
 - bony fishes
 - cartilaginous fishes
 - cnidarians
 - crustaceans
 - echinoderms
 - insects
 - mammals
 - mollusks
 - reptiles

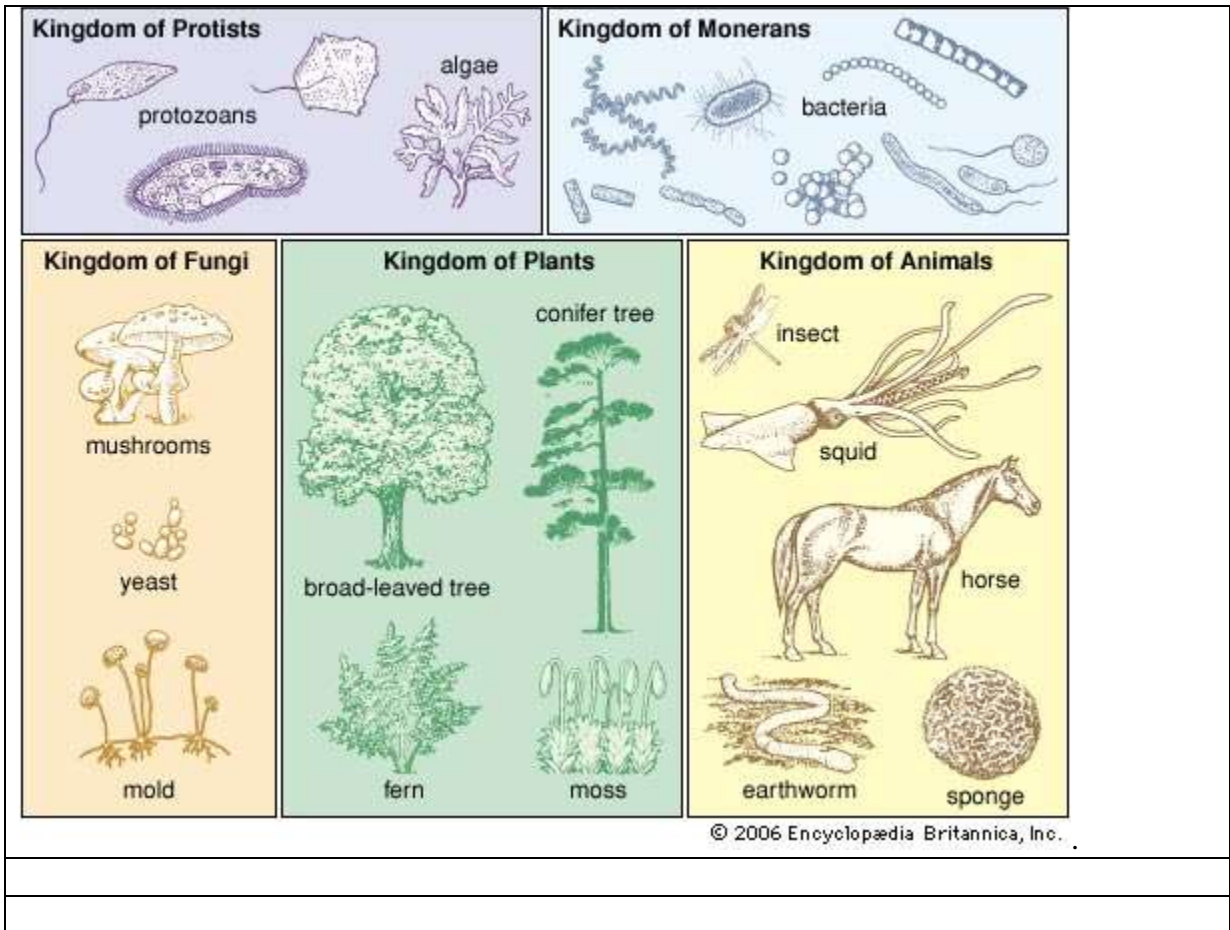


Chart from Encyclopedia Britannica, Inc., for educational purposes only.

"This project was a coordinated effort by Montana Department of Natural Resources & Conservation, Montana Department of Agriculture, and Agriculture in Montana Schools to educate students about the value of Montana Rangeland. Contributions and support for this project was also given by the USDA Natural Resources Conservation Service and Montana Weed Control Association."

For more information please contact:

<http://agr.mt.gov/> or <http://dnrc.mt.gov/cardd/camps/default.asp>