



CU South Denver



Wonders of Living Things Teaching Trunks

Purpose:

To provide educators with supplemental hands-on inquiry activities and lab investigations that enrich and complement the topics on living things taught in grades K-6. Correlating to the Colorado Model Content Standards for Science, many of the activities can also enhance activities for middle and high school classes, Scouts, 4H, home-schooled children and informal educators.

Overview:

Our teaching trunks consist of several inquiry based activities grouped together by a common theme question. They are all standards correlated, as shown in this packet, to life science, reading, and writing standards. Each group of two or more activities is packaged together in one of eight trunks with lesson plans and supplies provided. All eight trunks also contain books that aid educators in creating the essential connection between science and literacy.

Trunk Themes

1. How do plants and animals interact?
2. What is an ecosystem?
3. What are food webs and the web of life?
4. How do body parts help an animal eat?
5. How do camouflage and skin coverings help animals survive?
6. How are living things classified?
7. Suitcase for Survival: Why are some animals endangered?
8. What's the relationship between Colorado's water and its wildlife?

How do I check out a trunk?

1. Read through the activity descriptions for each trunk and determine which one(s) fit the topic(s) you are teaching.
2. Select a two-week time frame in which you would like to check out the trunk(s).
3. Trunks are available for pickup by appointment only on Tuesday, Wednesday, or Thursday between 9:30am and 4:00pm. You may return the trunk(s) to the front desk 7 days a week between 9:30am and 5pm on or before the due date.
4. Contact Education Coordinator, Erin Kendall, at 303-315-9431 or museumeducation@ucdenver.edu, to check availability and schedule your pick-up date/time.
5. A \$15 fee is required per trunk.
6. A \$25 refundable deposit is required for each trunk. We charge a \$25 late fee and will also charge for any missing or significantly damaged items. Please keep in mind that you are financially responsible for every item on the trunk's inventory sheet. Refunds will be processed after trunk has been returned on-time and inventoried by a CU Education Coordinator.

Trunk Content and Activities

Trunk 1: How do plants and animals interact?

1. Home, Tree Home

Read a book about the interdependence of trees with other living things. Then look at animal signs (nests, partially eaten plant parts) showing who lives in the trees in our community.

2. Migration and Habitat Hurdles

Plant and animal (including human) interactions become complicated for a migratory songbird! Read and discuss the book *Flute's Journey* written by Lynne Cherry. Then play an interactive game that physically demonstrates the helpful and harmful interactions endured by a population of songbirds.

Optional Extension: Research and write your own storybook that shows interactions of your favorite animal.

Trunk 2: What is an ecosystem?

1. Organism to Ecosystem

While wearing plant/animal photo necklaces, move around the room to form organisms, populations, a community and an ecosystem. Then use ink stamps, hand-drawn symbols or computer clipart to make individual diagrams of these levels.

2. Eco-Poems: Write an Animal Ecosystem Riddle

Use information from an animal photo card to write an eco-poem that describes the animal's place (niche) in its ecosystem. Read the poem as a riddle and let other students guess the animal.

Trunk 3: What are food webs and the web of life in different ecosystems?

1. Web of Life: Connected by a String

Create a string web with the entire class that shows how all plants and animals of an ecosystem are connected, and how the loss of a species will affect others in the web of life.

2. The Search for Science in Picture Books

Read a variety of picture book stories about relationships and interactions among living things, food webs and ecosystems, and examine how the author shows the scientific concepts in the text and

illustrations. As an extension or assessment, write a scientifically accurate picture book that illustrates the scientific concept.

3. Water World of Young Insects

Catch tiny water critters (macro invertebrates) from a stream, pond or lake. Use a field guide to identify them and determine which are larvae (or nymphs) that grow into familiar flying insects as adults. In discussion or concept mapping, connect these water critters and flying insects to the incredible plant and animal diversity found around these freshwater streams, ponds and wetlands.

Investigation Report Extension: Write the steps of your scientific investigation showing how macro-invertebrates indicate the quality of their water home.

4. Dirty Lives in a Soil Habitat

Look through garden dirt (soil ecosystem) for living organisms (plant, animals, fungus and mold) and compare what you find to organisms found in other types of soils. Discuss the importance of decomposers.

Investigation Report Extension: Write the steps of your scientific investigation showing the similarities and differences in macro invertebrates found in different soils.

Trunk 4: How do body parts help an animal eat?

1. Picky Eaters

How do we find out what animals are eating our plants? Look at models demonstrating how insect's mouths work. Then examine parts of plants that have been munched on and hypothesize what kind of mouth is needed. Go outside to search for plant parts around school or your home that have become animal food.

2. Tattletale Teeth

Examine teeth of animal skulls (herbivore, gnawing herbivore, omnivore, and carnivore) to determine what the animal eats.

Trunk 5: How do camouflage and skin coverings help animals survive?

1. Hide and Seek for Survival: Camouflage Relay

Run a predator relay to collect prey (beads) from different colors of fabric. Compare the colors of prey collected with the colors of fabric they were hiding on to discover how camouflage colors affect who survives and who gets eaten. In a math option, graph the colors of prey collected from different colors of fabric. Look at camouflage of actual animals.

2. Investigation: Fur, Feathers and Scales, Oh My!

Examine skin coverings of mammals, birds, reptiles, and butterflies through touch, magnifying lenses, or binocular scopes. Conduct simple experiments to understand amphibian skin. Work in independent groups, teacher-guided small groups or as a full class (younger students).

Trunk 6: How are living things classified?

1. Do I have a Backbone?

Define vertebrates and invertebrates by looking at specimens and models. While holding a photo of different animals, form groups of invertebrates, vertebrates and other classification groups.

2. Vertebrate Relay

Teams run relays to gather a set of photos that represent characteristics of each vertebrate class (fishes, amphibians, reptiles, birds, mammals).

Trunk 7: Suitcase for Survival: Why are some animals endangered? (In cooperation with US Fish and Wildlife Service)

The “Suitcase for Survival” contains wildlife trade artifacts that have been confiscated and then put into an educational trunk by the US Fish and Wildlife Service. The items and activities focus on wildlife trade, biodiversity, and endangered species to raise awareness of the harm caused by illegal international wildlife trade, and the many different types of crimes against wildlife. It also helps people recognize the importance of biodiversity and the need to be aware of how their purchases and actions might have consequences for wildlife and ecosystems.

1. Why do people kill or capture wildlife?

As a class or in pairs, look at the animal specimens and products made from animals. Discuss possible reasons why people would kill or capture these animals.

2. Confiscated Wildlife Product Inventory

In this activity students become Wildlife Crime Officers. They move from station to station to inventory items recently confiscated from a suspect. Depending on your teaching focus and content, students can sort the animals by class, continent, biome/ecosystem, or type of product made.

3. Windows on the Wild: Wildlife for Sale

An entire curriculum from the World Wildlife Fund on wildlife trade and crime is provided with the trunk. Gain valuable ideas, activities, and knowledge to use within your own classroom.

Trunk 8: What’s the relationship between Colorado’s water and its wildlife? (Succession and Food Webs)

1. Add Water and They (Wildlife) Will Come!

How does a new reservoir, surrounded by dirt, change over time into a richly balanced ecosystem of plants and animals? Use 3D figures and a felt reservoir model to create the stages of succession from water and dirt to the presence of plants, herbivores, omnivores and carnivores. Show how these living and nonliving things interact and change. Look at how people can create and enhance wildlife habitats by “adding water” (a renewable resource!).

2. Water Bug Feast

Who’d have thought those tiny water bugs from our creeks and ponds hold the key to diverse and balanced land ecosystems? Trace the life cycle of many common insects from swimmers to fliers in a physically active matching game. Then create a giant model food pyramid using photo and plastic animals of many mammals, birds, reptiles, amphibians, fish, and other animals that are a part of a complex food web.

Trunk correlation to CO Academic Standards is available upon request

Colorado Academic Standards

Life Science

Trunk #1

How do plants and animals interact?	<ul style="list-style-type: none">• GR. 2 S. 2 GLE. 2• GR. 4 S. 2 GLE. 1• GR. 5 S.2 GLE. 1• GR.6 S. 2 GLE. 2
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Trunk #2

What is an ecosystem?	<ul style="list-style-type: none">• GR. 2 S. 2 GLE. 1• GR. 2 S.2 GLE. 2• GR. 4 S. 2 GLE. 3• GR. 6 S.2 GLE. 2
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Trunk #3

What are food webs and the web of life in different ecosystem?	<ul style="list-style-type: none">• GR. 6 S.2 GLE. 2
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Trunk #4

How do body parts help an animal eat?	<ul style="list-style-type: none">• GR. K S. 2 GLE. 1• GR. 1 S. 2 GLE.2• GR. 5 S. 2 GLE. 1
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Trunk #5

How do camouflage and skin coverings help animals survive?	<ul style="list-style-type: none">• GR. 1 S. 2 GLE. 2• GR. 4 S. 2 GLE. 3
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Trunk #6

How are living things classified?	<ul style="list-style-type: none">• GR. K S. 2 GLE. 1• GR. 1 S. 2 GLE. 1• GR. 4 S. 2 GLE. 1
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Trunk #7

Why are some animals endangered?	<ul style="list-style-type: none">• GR. 2 S. 2 GLE. 1• GR. 4 S. 2 GLE. 2• GR. 6 S. 2 GLE. 1• GR. 6 S. 2 GLE. 2
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Trunk #8

What's the relationship between Colorado's water and it's wildlife?	<ul style="list-style-type: none">• GR. 2 S. 2 GLE. 1• GR. 4 S. 2 GLE. 3• GR. 6 S. 2 GLE. 1• GR. 6 S. 2 GLE. 2
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Colorado Academic Standards

Reading and Writing

Trunk #1

How do plants and animals interact?	<p>Reading:</p> <ul style="list-style-type: none">• GR. K S. 2 GLE. 1• GR. K S. 2 GLE. 2• GR. 1 S. 2 GLE. 1• GR. 3 S. 2 GLE. 3• GR. 4 S. 2 GLE. 1• GR. 4 S. 2 GLE. 2• GR. 5 S. 2 GLE. 1• GR. 6 S. 2 GLE. 1• GR. 6 S. 2 GLE. 2 <p>Writing (based off extension):</p> <ul style="list-style-type: none">• GR. 1 S. 3 GLE. 1• GR. 4 S. 3 GLE. 1• GR. 4 S. 3 GLE. 2• GR. 5 S. 3 GLE. 3• GR. 6 S. 3 GLE. 1• GR. 6 S. 3 GLE. 2
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Trunk #2

What is an ecosystem?	<p>Reading:</p> <ul style="list-style-type: none">• GR. K S. 2 GLE. 1• GR. K S. 2 GLE. 2• GR. 1 S. 2 GLE. 1• GR. 3 S. 2 GLE. 3• GR. 4 S. 2 GLE. 1• GR. 4 S. 2 GLE. 2• GR. 5 S. 2 GLE. 1• GR. 6 S. 2 GLE. 1• GR. 6 S. 2 GLE. 2 <p>Writing:</p> <ul style="list-style-type: none">• GR. 1 S. 3 GLE. 1• GR. 4 S. 3 GLE. 1• GR. 4 S. 3 GLE. 2• GR. 5 S. 3 GLE. 3• GR. 6 S. 3 GLE. 1• GR. 6 S. 3 GLE. 2
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Trunk #3

What are food webs and the web of life in different ecosystems?

Reading:

- GR. K S. 2 GLE. 1
- GR. K S. 2 GLE. 2
- GR. 1 S. 2 GLE. 1
- GR. 3 S. 2 GLE. 3
- GR. 4 S. 2 GLE. 1
- GR. 4 S. 2 GLE. 2
- GR. 5 S. 2 GLE. 1
- GR. 6 S. 2 GLE. 1
- GR. 6 S. 2 GLE. 2

Writing (based off extension):

- GR. 1 S. 3 GLE. 1
- GR. 3 S. 3 GLE. 1
- GR. 3 S. 3 GLE. 2
- GR. 4 S. 3 GLE. 1
- GR. 4 S. 3 GLE. 2
- GR. 6 S. 3 GLE. 1
- GR. 6 S. 3 GLE. 2

Research (based off extension):

- GR. 1 S. 4 GLE. 1
- GR. 4 S. 4 GLE. 1
- GR. 4 S. 4 GLE. 2
- GR. 5 S. 4 GLE. 1
- GR. 5 S. 4 GLE. 2

Trunk #4

How do body parts help an animal eat?

Reading:

- GR. K S. 2 GLE. 1
- GR. K S. 2 GLE. 2
- GR. 1 S. 2 GLE. 1
- GR. 3 S. 2 GLE. 3
- GR. 4 S. 2 GLE. 1
- GR. 4 S. 2 GLE. 2
- GR. 5 S. 2 GLE. 1
- GR. 6 S. 2 GLE. 1
- GR. 6 S. 2 GLE. 2

Trunk #5

How do camouflage and skin coverings help animals survive?	Reading: <ul style="list-style-type: none">• GR. K S. 2 GLE. 1• GR. K S. 2 GLE. 2• GR. 1 S. 2 GLE. 1• GR. 3 S. 2 GLE. 3• GR. 4 S. 2 GLE. 1• GR. 4 S. 2 GLE. 2• GR. 5 S. 2 GLE. 1• GR. 6 S. 2 GLE. 1• GR. 6 S. 2 GLE. 2
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Trunk #6

How are living things classified?	Reading: <ul style="list-style-type: none">• GR. K S. 2 GLE. 1• GR. K S. 2 GLE. 2• GR. 1 S. 2 GLE. 1• GR. 3 S. 2 GLE. 3• GR. 4 S. 2 GLE. 1• GR. 4 S. 2 GLE. 2• GR. 5 S. 2 GLE. 1• GR. 6 S. 2 GLE. 1• GR. 6 S. 2 GLE. 2
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Trunk #7

Why are some animals endangered?	Reading: <ul style="list-style-type: none">• GR. K S. 2 GLE. 1• GR. K S. 2 GLE. 2• GR. 1 S. 2 GLE. 1• GR. 3 S. 2 GLE. 3• GR. 4 S. 2 GLE. 1• GR. 4 S. 2 GLE. 2• GR. 5 S. 2 GLE. 1• GR. 6 S. 2 GLE. 1• GR. 6 S. 2 GLE. 2
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Trunk #8

What's the relationship between Colorado's water and it's wildlife?

Reading:

- GR. K S. 2 GLE. 1
- GR. K S. 2 GLE. 2
- GR. 1 S. 2 GLE. 1
- GR. 3 S. 2 GLE. 3
- GR. 4 S. 2 GLE. 1
- GR. 4 S. 2 GLE. 2
- GR. 5 S. 2 GLE. 1
- GR. 6 S. 2 GLE. 1
- GR. 6 S. 2 GLE. 2