Animal Spot

Animal Spot uses intriguing specimens from Cincinnati Museum Center's collections to teach children how each animal is unique to its environment. Complete a three-layer fish puzzle, observe live fish and use interactives to explore how animals move, "dress" and eat.

VOCABULARY

ENDANGERED SPECIES:
- a species in danger of extinction

INVERTEBRATE:
- An organism that does not have a backbone.

THREATENED SPECIES:
- a species that is likely to become endangered.

ACTIVITY STATIONS

STATION 1: HOW FAST DOES AN ANIMAL GO
- Observe different tasks to determine which animal performs each task.
- Look at an animal track and determine in what direction and how fast the animal is going.
- Put animals in order from fastest to slowest.

STATION 2: ANIMALS IN MOTION
- Sit in front of the cylinder with small rectangular slits, otherwise known as a zoetrope.
- Spin the cylinder and look through the slits.
- What are the animals doing?
- What do you think will happen if you spin it the other way?

STATION 3: DRAW
- Sit on the back of the horse and draw on the chalk board
- Can you draw your favorite animal?
- Can you create a new animal using your imagination?
- If it has feet what would the foot print look like?
- What does the animal eat?

STATION 4: PUT AN ANIMAL TOGETHER
- Complete the duck's skeleton.
- Which layer of the fish goes first?
- Complete the fish puzzle, starting with the organs, and then move to the skeleton and finally the skin. Take apart the puzzles when you are finished working with them.

STATION 5: SEE THROUGH ANIMAL EYES/UP CLOSE AND PERSONAL/RUBBING TABLE
- This station gives the visitor an idea of how an animal would look with human eyes.

- The station also contains a rubbing table. Place papers used on both sides in the recycle bin and ask a staff to get more if necessary.
- A magnifying glass gives an up close view of some animals. These include:
    - Anthozoan Coral
    - Cobra skin (Genus: Naja)
    - Crayfish (Order: Decapoda)
    - Echinoderm (Phylum: Echinodermata)
    - Elephant Beetle (Order: Coleoptera)
    - Giraffe fur (Giraffa camelopardalis)
    - Parrot's wing (Family: Psittacidae)
    - Piranha (Family: Serrasalmidae)
    - Pond Turtle (Genus: Clemmys)
    - Rabbit fur (Family: Leporidae)
    - Scallop (Bivalve mollusk)
    - Sponge (Phylum: Porifera)

STATION 6: EXAMINE UP CLOSE
- This station contains a clamshell, dinosaur bone and dinosaur play table. You may touch the items, sit in the giant clam and play with the dinosaur models.

CASES

CASE 1: MODES OF BALANCE AND MOVEMENT (Case design: horse legs in boots)
Animals walk, run, jump, fly, and/or slither to their destination. Animals use many different parts of their bodies to help them move. The animals in this case are:
- Blue Jay (Cyanocitta cristata)
- Broad-wing damselfly (Family: Calopterygidae)
- Brown trout (Salmo trutta)
- Bullfrog (Rona catesbrana)
- Cicada (Family: Cicadidae)
- Damselfly (Agriocnemis pygmaea)
- Eastern Mole (Scalopus aquaticus)
- Fox Squirrel (Sciurus niger)
- Giant Millipede (Subspecies: Lules)
- Gila monster (Heloderma suspectum)
- Grasshopper (Shistocerca americana)
- King Rail (Rallus elegans)
- Koala (Phascolarctos cinereus)
- Locust (Dissosteira carolina)
- Moths and Butterflies (Order: Lepidoptera)
- Murex
- Pufferfish (Family: Tetraodontidae)
- Sea slugs (Order: Chepalaspidea)

CASE 2: ENDO / EXOSKELETON (Case design: Surrounded by bones)

There are many different kinds of skeletons; some inside the body and others outside. The animals with skeletons on the inside have endoskeletons. Those animals that have skeletons on the outside have exoskeletons.

- Endoskeletons
    - Frog (Family: Salientia)
    - Gibbon (Species: Hylobates)
    - Hellbender salamander (Genus: Cryptobranchus)
    - Meadow vole (Subfamily: Microtinae)
    - Perch (Genus: Perca)
    - Python (Family: Boidae)
    - Sand Dollars (Mellita quiquies perforata)
    - Sea Urchin (Species: Psammechinus)
    - Toucan (Family: Ramphastidae)
    - Whale vertebrae (Order: Cetacea)
- Exoskeletons
    - Barnacles (Phylum: Arthropoda)
    - Coral (Species: scolymsa)
    - Crinoid (Species: stelerocrinus)
    - Glass Sponge (Class: Hexactinellida)
    - Horseshoe crab (Species: limulus)
    - Sea Biscuit (Clypeaster subdeprellus)
    - Sea Whip (Species: alcyonarian)
    - Solitary coral (Class: Anthozoa)
    - Triton's Trumpet (Charonia tritonis)

CINCINNATI UNDER THE SEA

450 million years ago Cincinnati was beneath a shallow tropical sea that covered most of the United States. Living in this sea were many different kinds of animals. These animals were invertebrates – animals without backbones. The preserved remains of these animals can be found in our local rocks and fossils. Here are some fossilized animals that you can find if you go fossil hunting in the Cincinnati area.

- Brachiopods
- Corals
- Crinoids
- Snails
- Trilobites

CASE 3: WHAT DO ANIMALS USE TO EAT? (An open mouth of a hippo)

Every animal has the proper equipment to help them eat. Some use teeth to chomp their food, while others use talons to tear their food into small bits. Animals are classified into three categories, based on what they eat.

- Carnivores are animals that eat meat:
    - American alligator (Alligator mississippiensis)
    - Broad-winged hawk (Buteo platypterus)
    - Drum fish (Family: Sciaenidae)
    - Great White Shark (Caracharadon carchurios)

- o Lion (Panthero leo)
- o Norther Flicker (Colaptes auratus)
- o Pencil Urchin (Diadema euchidaris)
- o Perch (Genus: Perca)
- o Python
- o Rattlesnake (Genus: Crotalus)
- o Sea Anemone (Phylum: Echinodermata)
- o Sponge (Phylum: Porifera)
- o Starfish (Phylum: Echinodermata)
- o Stingray jaw (Class: Chondrichtyes)
- Herbivores are animals that eat plants:
  - o Gorilla (Gorilla gorilla)
  - o Moose (Alces alces)
  - o Sea fan (Phylum: Echinodermata)
- Omnivores are animals that eat both plants and animals:
  - o Chipmunk (Tamias striatus)
  - o Giant clam (Tridacna gigas)
  - o Red-bellied Pitta (Pitta erythrogaster)

CASE 4: ANINAL PROTECTION (surrounded by a raincoat)
Animals will vary in the type of protection they have according to their environment. Fur, feathers, scales and skin are just a few forms of protection that animals use. The coverings are suited to how they move, how they get their food and how they avoid being killed by a predator. Their coverings will help them stay warm or cool depending on their environment. Some examples in this case are:

- Atlantic Puffin (Fratercula artica)
- Bull snake (Pituophis melanoleucus)
- Clouded Leopard (Neofelis nebulos)
- Common Eastern Mud Turtle (Kinosternon subrubrum)
- Echidna (Tachyalossus aculeatus)
- Fluted giant clam (Tridacna gigas)
- Grey tree frog (Hila versicolor)
- Horse conch (Pleuroploca gigantean)
- Impejan Pheasant (Lophophorus impejanus)
- Leopard cowries (Species: Cypraea)
- Pangolin (Manis temminckii)
- Pencil Urchin (Diadema Eucidaris)
- Pipe Organ Coral (Species: Tubiopora)
- Raggiana Bird of Paradise (Paradisaea raggiana)
- Sea mouse (Species: Lovenia)
- Sea Urchin (Species: psammechinus)
- Waterfowl chick

CENTER CASE
- Aquarium

- Animal Search Display Case
  - Many things in the world are not animals. Only one thing in this case is an animal.
  - What characteristics make an animal a living thing?
  - What items in the case have similar characteristics but are not living?

SAFETY TIPS:

WALK

- This is a high-energy exhibit, please remind students to walk at all times.

MEETING SPOT

- Since it is often difficult to stay directly with your group, provide a meeting spot for students and do visual checks periodically. Find a staff member to help you locate lost students!

FIRST AIDE

- If you need first aid during your visit, please see a staff member. Staff can always be found at the entrance of the museum.

RULES OF THE EXHIBIT

NO RUNNING!

- Please walk while in the ANIMAL SPOT. It can get busy and kids will be kids, but there should be no running so that no one gets hurt. If you see someone running, ask if they could please walk. If you feel as though you need assistance, please call a staff person.

NO TAG!

- Yes, the ANIMAL SPOT would be a cool place to play tag, but this is an outside game. It should be played outside the museum since running is not allowed and these games tend to involve the players in running. If you see a group playing tag, remind them that it is an outdoor game, not an inside game. Give them an option; tell them that they could play follow the leader or complete the treasure hunt.

STATE CONTENT STANDARDS (Ohio)

EARLY LEARNING AND DEVELOPMENT

- Social and Emotional Development
  - Peer Interactions and Relationships – Cooperative Play
  - Empathy
- Physical Well Being and Motor Development
  - Small Muscle: Touch, Grasp, Reach and Manipulate
  - Sensory Motor
  - Physical Activity
- Approaches Toward Learning
  - Initiative and Curiosity – Explore and Experiment
  - Initiative and Curiosity – Self Direction & Questioning
  - Planning, Action and Reflection – Planning & Action
  - Planning, Action and Reflection - Reflection
  - Persistence
- Cognition and General Knowledge
  - Reasoning and Problem-Solving
  - Number Sense and Counting
  - Group and Categorize
  - Describe and Compare Measurable Attributes
  - Spatial Relationships
  - Identify and Describe Shapes
  - Inquiry
  - Explorations of the Natural World
  - Explorations of Living Things
- Language and Literacy
  - Receptive Language and Comprehension
  - Expressive Language
  -

LANGUAGE ARTS

See National Common Core

MATH

See National Common Core

SCIENCE

K-LS-1 Living things are different from nonliving things.

K-LS-2 Living things have physical traits and behaviors, which influence their survival.

1-LS-1 Living things have basic needs, which are met by obtaining materials from the physical environment.

1-LS-2 Living things survive only in environments that meet their needs.

2-LS-2 Some kinds of individuals that once lived on Earth have completely disappeared, although they were something like others that are alive today.

5-LS-1 Organisms perform a variety of roles in an ecosystem.

SOCIAL STUDIES
None

NATIONAL CONTENT STANDARDS
LANGUAGE ARTS – Common Core

RL-K-1 With prompting and support, ask and answer questions about key details in a text

RL-K-4 Ask and answer questions about unknown words in a text.

RL-1-1 Ask and answer questions about key details in a text.

RL-2-1 Ask and answer such questions as who, what, where, when, why, and how to demonstrate understanding of key details in a text

RL-2-7 Use information gained from the illustrations and words in a print or digital text to demonstrate understanding of its characters, setting, or plot

RI-K-1 With prompting and support, ask and answer questions about key details in a text

RI-K-4 With prompting and support, ask and answer questions about unknown words in a text.

RI-1-1 Ask and answer questions about key details in a text.

RI-1-4 Ask and answer questions to help determine or clarify the meaning of words and phrases in a text.

RI-1-7 Use the illustrations and details in a text to describe its key ideas.

RI-2-1 Ask and answer such questions as who, what, where, when, why, and how to demonstrate understanding of key details in a text.

SL-K-1 Participate in collaborative conversations with diverse partners about kindergarten topics and texts with peers and adults in small and larger groups.

a. Follow agreed-upon rules for discussions (e.g., listening to others and taking turns speaking about the topics and texts under discussion).

b. Continue a conversation through multiple exchanges

SL-K-2 Confirm understanding of a text read aloud or information presented orally or through other media by asking and answering questions about key details and requesting clarification if something is not understood.

SL-K-3 Ask and answer questions in order to seek help, get information, or clarify something that is not understood.

SL-1-1 Participate in collaborative conversations with diverse partners about grade 1 topics and texts with peers and adults in small and larger groups.

> **a.** Follow agreed-upon rules for discussions (e.g., listening to others with care, speaking one at a time about the topics and texts under discussion).
>
> **b.** Build on others' talk in conversations by responding to the comments of others through multiple exchanges.
>
> **c.** Ask questions to clear up any confusion about the topics and texts under discussion.

SL-1-2 Ask and answer questions about key details in a text read aloud or information presented orally or through other media.

SL-1-3 Ask and answer questions about what a speaker says in order to gather additional information or clarify something that is not understood.

SL-2-1 Participate in collaborative conversations with diverse partners about grade 2 topics and texts with peers and adults in small and larger groups.

> **a.** Follow agreed-upon rules for discussions (e.g., gaining the floor in respectful ways, listening to others with care, speaking one at a time about the topics and texts under discussion).
>
> **b.** Build on others' talk in conversations by linking their comments to the remarks of others.
>
> **c.** Ask for clarification and further explanation as needed about the topics and texts under discussion.

SL-2-2 Recount or describe key ideas or details from a text read aloud or information presented orally or through other media.

SL-2-3 Ask and answer questions about what a speaker says in order to clarify comprehension, gather additional information, or deepen understanding of a topic or issue.

SL-3-1 Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher led) with diverse partners on grade 3 topics and texts, building on others' ideas and expressing their own clearly.

b. Follow agreed-upon rules for discussions (e.g., gaining the floor in respectful ways, listening to others with care, speaking one at a time about the topics and texts under discussion).

c. Ask questions to check understanding of information presented, stay on topic, and link their comments to the remarks of others.

SL-3-2 Determine the main ideas and supporting details of a text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally.

SL-3-3 Ask and answer questions about information from a speaker, offering appropriate elaboration and detail.

SL-4-1 Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher led) with diverse partners on grade 4 topics and texts, building on others' ideas and expressing their own clearly.

b. Follow agreed-upon rules for discussions and carry out assigned roles.

c. Pose and respond to specific questions to clarify or follow up on information, and make comments that contribute to the discussion and link to the remarks of others.

SL-5-1 Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher led) with diverse partners on grade 5 topics and texts, building on others' ideas and expressing their own clearly.

b. Follow agreed-upon rules for discussions and carry out assigned roles.

c. Pose and respond to specific questions by making comments that contribute to the discussion and elaborate on the remarks of others.

SL-6-1 Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher led) with diverse partners on grade 6 topics, texts, and issues, building on others' ideas and expressing their own clearly.

b. Follow rules for collegial discussions, set specific goals and deadlines, and define individual roles as needed.

SL-6-2 Interpret information presented in diverse media and formats (e.g., visually, quantitatively, orally) and explain how it contributes to a topic, text, or issue under study.

MATH – Common Core

K-CC-5 Count to answer "how many?" questions about as many as 20 things arranged in a line, a rectangular array, or a circle, or as many as 10 things in a scattered configuration; given a number from 1–20, count out that many objects.

K-CC-6 Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group, e.g., by using matching and counting strategies.1

K-CC-7 Compare two numbers between 1 and 10 presented as written numerals.

K-MD-1 Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object.

K-MD-2 Directly compare two objects with a measurable attribute in common, to see which object has "more of"/"less of" the attribute, and describe the difference. For example, directly compare the heights of two children and describe one child as taller/shorter.

K-MD-3 Classify objects into given categories; count the numbers of objects in each category and sort the categories by count.

K-G-1 Describe objects in the environment using names of shapes, and describe the relative positions of these objects using terms such as above, below, beside, in front of, behind, and next to.

1-MD-1 Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.

1-MD-2 Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.

1-MD-4 Understand subtraction as an unknown-addend problem. For example, subtract 10 – 8 by finding the number that makes 10 when added to 8.

2-MD-3 Estimate lengths using units of inches, feet, centimeters, and meters.

SCIENCE – Next Generation

K-LS1-1 Use observations to describe patterns of what plants and animals (including humans) need to survive.

K-ESS2-2 Construct an argument supported by evidence for how plants and animals (including humans) can change the environment to meet their needs.

K-ESS3-1 Use a model to represent the relationship between the needs of different plants or animals (including humans) and the places they live.

1-LS1-1 Use materials to design a solution to a human problem by mimicking how plants and/or animals use their external parts to help them survive, grow and meet their needs

3-LS3-2 Use evidence to support the explanation that traits can be influenced by the environment.

3-LS4-3 Construct an argument with evidence that in a particular habitat some organisms can survive well, some survive less well, and some cannot survive at all.

4-LS1-1 Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction.

4-LS1-2 Use a model to describe that animals receive different types of information through their senses, process the information in their brain, and respond to the information in different ways.

SOCIAL STUDIES – National Standards
None