

Wildlife Express

October 2022 – Scorpion

Activities:

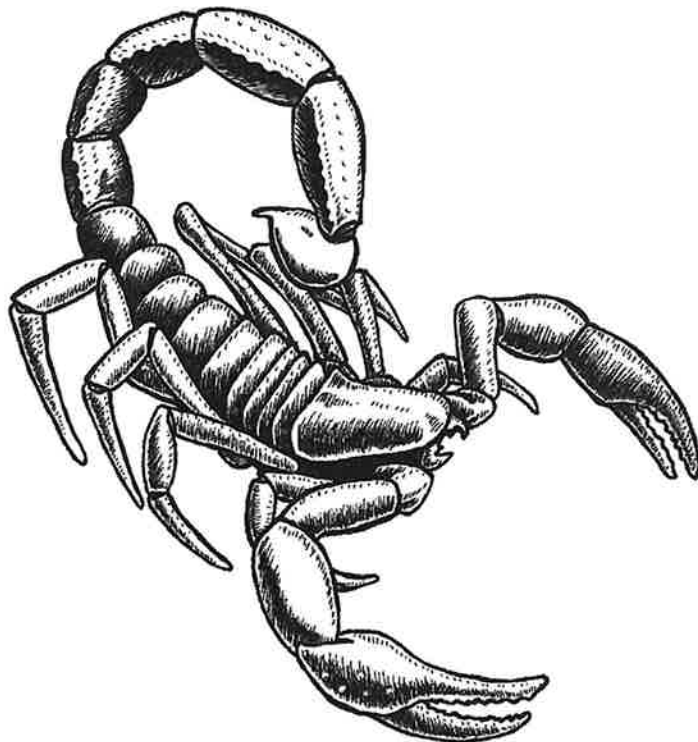
Scorpion Anatomy: Students label the parts of a scorpion.

Arachnid Dichotomous Key: Students use a dichotomous key to identify arachnids and create a dichotomous key for Idaho scorpions.

Scorpion Parts of Speech Poem: Students write a poem to review parts of speech and what they learned about Idaho scorpions.

Scorpion Symmetry Drawing Worksheet: Students use symmetry to draw a scorpion.

Project WILD's Interview a Spider or Scorpion: Students learn interviewing skills and write questions to interview an animal of their choice. Suggestion: Have students choose an arachnid.

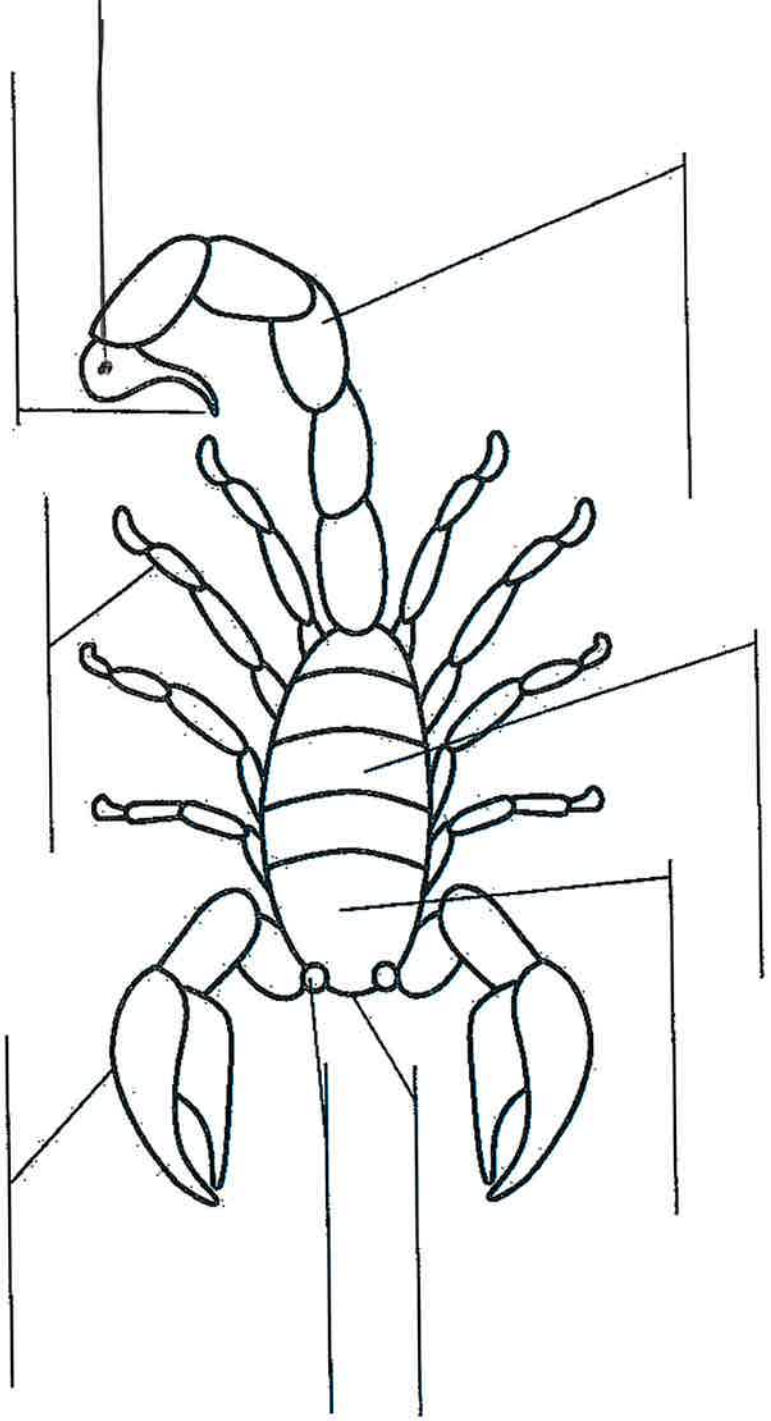


Scorpion Anatomy Sheet

Use the word bank to label the parts of this scorpion. For answers not found in Wildlife Express, you may have to look online.

Word Bank:

- pedipalp or pincer
- mesosoma
- prosome or cephalothorax
- eye
- clawed legs (four pairs)
- telson
- chelicera (mouthparts)
- aculeus (stinger)

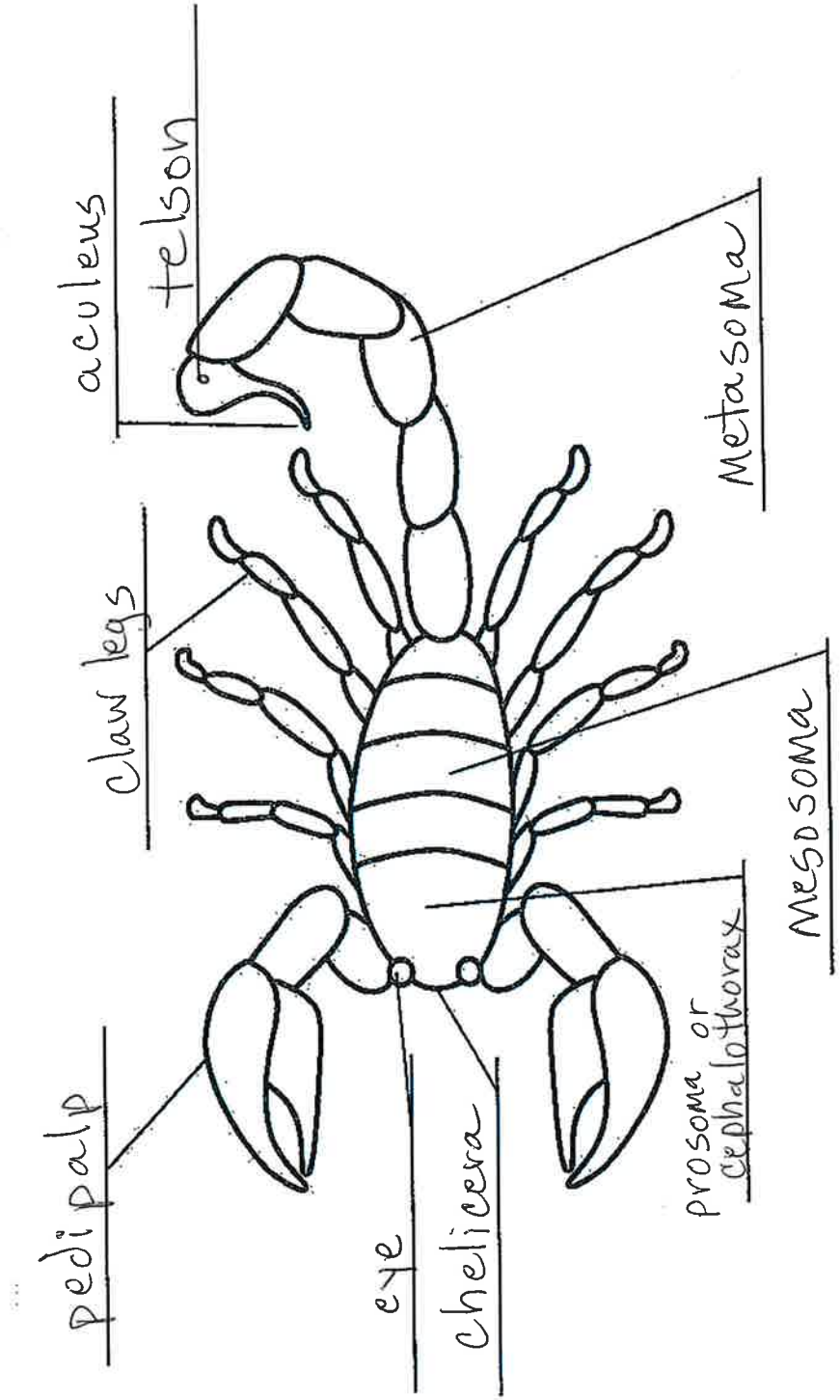


Scorpion Anatomy Sheet

Use the word bank to label the parts of this scorpion. For answers not found in Wildlife Express, you may have to look online.

Word Bank:

chela (claw of pedipalp) or pincher prosoma or cephalothorax clawed legs (four pairs)
metasoma mesosoma eye telson chelicera (mouthparts) aculeus (stinger)



Using Dichotomous Key to Identify Arachnids

(modified & retyped from <https://www.gblions.org>)

Objective: Students will be able to use a dichotomous key to identify types of arachnids. Students will construct a dichotomous key for Idaho's four scorpions.

Materials: Pen and paper. Optional: A field guide to arachnids and insects.

Background information: One kind of arachnid, the wind scorpion (not found in Idaho), is so named because it seems to run as fast as the wind. The sea spider, another arachnid, lives on the ocean floor. The trapdoor spider digs a hole in the ground, covers it with a silk trapdoor, camouflages it with leaves, and waits for its prey to walk across the trapdoor. The spider feels the vibrations when its prey passes above it and opens the trapdoor to capture it. These arachnids are only three examples of the thousands of different types of arachnids. Arachnids, as well as other organisms, are often identified by their physical traits. A dichotomous key, based on visible physical traits, can help identify members of a group of related organisms. Dichotomous means branching into two parts. As you use a dichotomous key, you read pairs of descriptions and decide which description of each pair is true about the organism you are identifying. In the activity, your students will use and make dichotomous keys.

Directions:

Part A:

1. Before you use the dichotomous key to identify the arachnids on the following page, review arachnid anatomy. In all arachnids, the body is divided into two sections: the cephalothorax and the abdomen. Hand out illustrations of the two arachnids on the following page. Have students find the cephalothorax and the abdomen. Note the following two items: 1) how the cephalothorax and abdomen are joined 2) is the abdomen segmented?
All arachnids have six pairs of appendages: one pair of jaws, eight walking legs and two pedipalps.
2. Hand out the dichotomous key on the following page. Ask students to identify each arachnid by beginning with the first pair of statements. They should decide which statement is true for the arachnid. Next, have them proceed to the second pair of statements on the key. When the key lists a name rather than a number of a statement pair, then they have identified the arachnid.

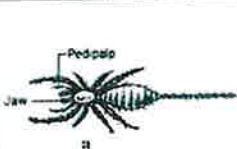













Part B:

- Study the descriptions of Idaho's four scorpions in this month's Scorpion Wildlife Express. On a separate piece of paper, create a dichotomous key to identify each Idaho scorpion. Use the key from Part A as a model.

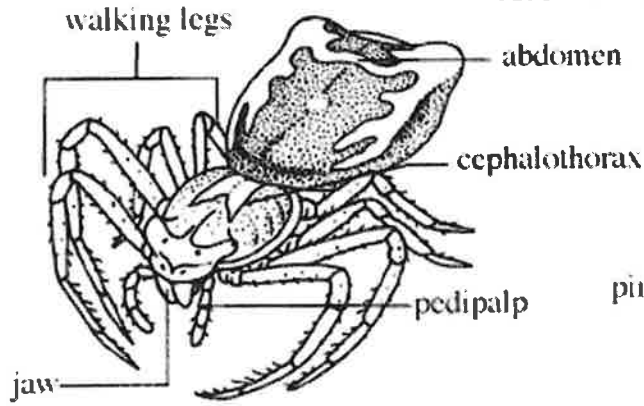
Evaluation:

- Name three traits common to all arachnids.
- State why behavioral traits such as "preys on small insects" or "spins intricate web" would not be appropriate for dichotomous keys.
- How is "dichotomous" an appropriate word to describe the keys you used and constructed in this activity?

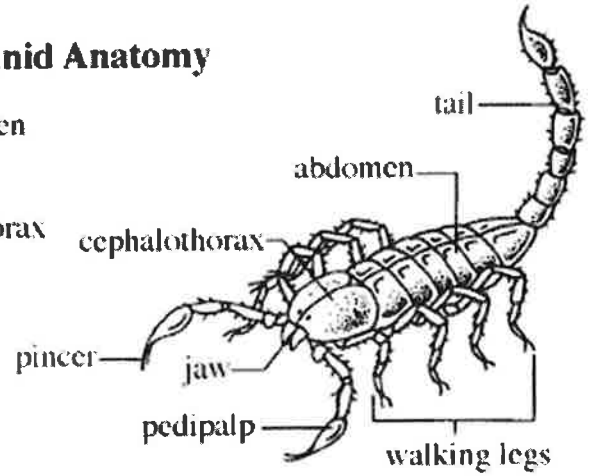
Use the dichotomous key to identify the following arachnids.

 <p>segmented abdomen, tail with no stinger, pincers on jaws.</p> <p>micro whip scorpion</p>	 <p>segmented cephalothorax, abdomen larger than cephalothorax, pedipalps shorter than legs, stilt-like legs</p> <p>daddy long leg</p>	 <p>segmented, has a stinger</p> <p>scorpion</p>
 <p>segmented, no tail, equal length legs, large abdomen, pedipalps same size as legs, pedipalps lack pincers</p> <p>wind scorpion</p>	 <p>not segmented, no narrowing, spine covered</p> <p>mite</p>	 <p>segmented, no tail, long first legs</p> <p>whip spider</p>
 <p>not segmented, no narrowing, large oval body</p> <p>tick</p>	 <p>segmented, no tail, equal length legs, small abdomen</p> <p>sea spider</p>	
 <p>not segmented, narrows at abdomen, partly hairy, small thin jaws</p> <p>Argiope</p>	 <p>not segmented, narrowing where abdomen joins, all hairy, curved pedipalps</p> <p>jumping spider</p>	 <p>not segmented, narrowing where abdomen joins, all hairy, straight pedipalps</p> <p>tarantula</p>
 <p>segmented abdomen, tail with no stinger, pincers on pedipalps.</p> <p>whip scorpion</p>	 <p>not segmented, narrows at abdomen, partly hairy, plated cephalothorax</p> <p>trapdoor spider</p>	 <p>segmented, no tail, equal length legs, large abdomen, pedipalps longer than legs</p> <p>pseudoscorpion</p>

Arachnid Anatomy

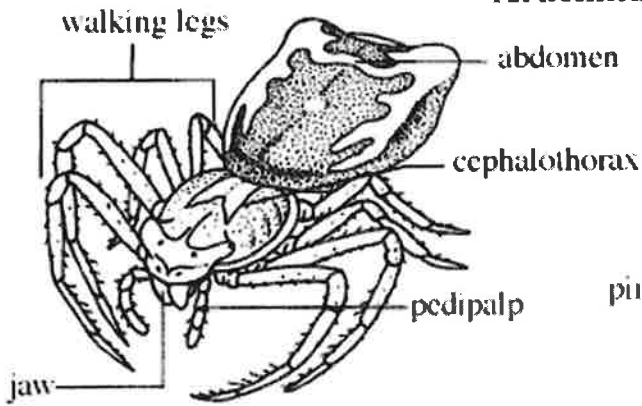


Crab spider

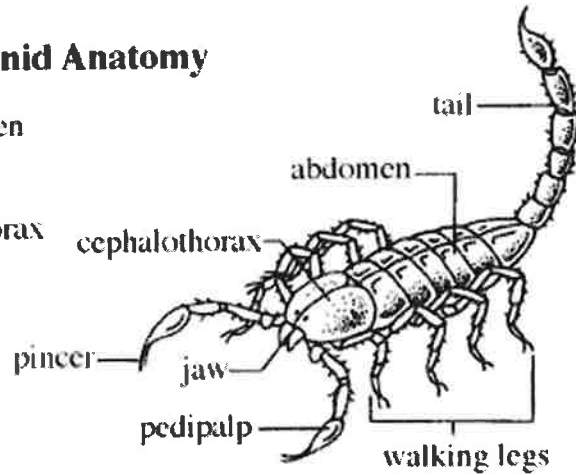


Yellow Vaejovis

Arachnid Anatomy

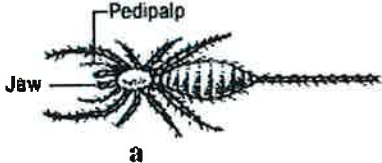
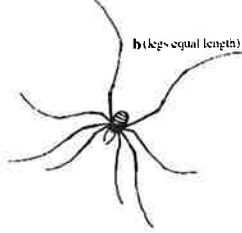
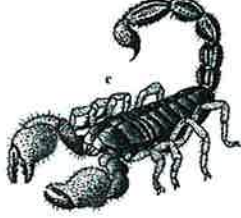




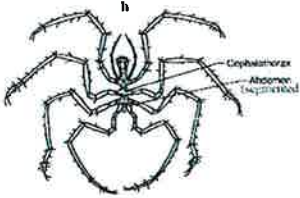





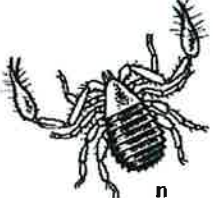


Crab spider



Yellow Vaejovis

Use the dichotomous key to identify the following arachnids.

 <p>a</p> <p>segmented abdomen, tail with no stinger, pincers on jaws.</p>	 <p>b (legs equal length)</p> <p>segmented cephalothorax, abdomen larger than cephalothorax, pedipalps shorter than legs, stilt-like legs</p>	 <p>c</p> <p>segmented, has a stinger</p>
 <p>d</p> <p>segmented, no tail, equal length legs, large abdomen, pedipalps same size as legs, pedipalps lack pincers</p>	 <p>e</p> <p>not segmented, no narrowing, spine covered</p>	 <p>f</p> <p>segmented, no tail, long first legs</p>
 <p>g</p> <p>not segmented, no narrowing, large oval body</p>	 <p>h</p> <p>segmented, no tail, equal length legs, small abdomen</p>	
 <p>i</p> <p>not segmented, narrows at abdomen, partly hairy, small thin jaws</p>	 <p>j</p> <p>not segmented, narrowing where abdomen joins, all hairy, curved pedipalps</p>	 <p>k</p> <p>not segmented, narrowing where abdomen joins, all hairy, straight pedipalps</p>
 <p>l</p> <p>segmented abdomen, tail with no stinger, pincers on pedipalps.</p>	 <p>m</p> <p>not segmented, narrows at abdomen, partly hairy, plated cephalothorax</p>	 <p>n</p> <p>segmented, no tail, equal length legs, large abdomen, pedipalps longer than legs</p>

Dichotomous Key

1. a) Cephalothorax or abdomen is segmented.....Go to 2
b) Neither cephalothorax nor abdomen is segmented.....Go to 9
2. a) Abdomen has a tail.....Go to 3
b) Abdomen has no tail..... Go to 5
3. a) Thick tail has a stinger at the tip.....scorpion
b) slender tail without a stinger at tip.....Go to 4
4. a) pincers on pedipalps: large arachnid.....whip scorpion
b) pincers on jaws; small arachnid.....micro whip scorpion
5. a) first leg long and whip-like..... whip spider
b) legs about equal length.....Go to 6
6. a) abdomen much smaller than cephalothorax.....sea spider
b) abdomen as large or larger than cephalothorax.....Go to 7
7. a) pedipalps longer than legs.....pseudoscorpion
b) pedipalps about the same size or shorter than legs.....Go to 8
8. a) legs long and stilt-like.....daddy long legs
b) legs not longer than body; pedipalps lack pincers.....wind scorpion
9. a) no narrowing where cephalothorax and abdomen join.....Go to 10
b) narrowing where cephalothorax and abdomen join.....Go to 11
10. a) tiny and covered with spines.....mite
b) large, oval body; few spines if any.....tick
11. a) entire body and all legs covered with "hair"Go to 12
b) only parts of body covered with "hair"Go to 13
12. a) pedipalps curved.....jumping spider
b) pedipalps straight.....tarantula
13. a) large, thick jaws that are close together;
cephalothorax covered by plate.....trapdoor spider
b) small, thin jaws; long hair-covered legs;
cephalothorax covered with short hairs.....Argiope

Wildlife Worksheet

Parts of speech poem

Use your knowledge of Idaho scorpions and parts of speech to write a poem.

Parts of speech review:

Noun: a person, place, thing or idea.

Adjective: a word that describes a noun, (tells how many, what kind, which one)

Conjunction: a connecting word (and, or & but)

Verb: describes an action or state of being

Adverb: describes a verb or another adverb (tells when, where or how)

Directions for a Parts of Speech Poem:

Line 1: Noun

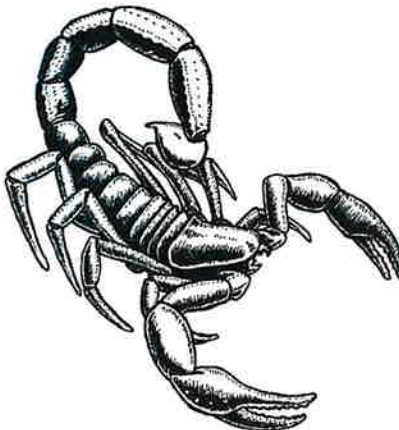
Line 2: Adjective, conjunction, adjective

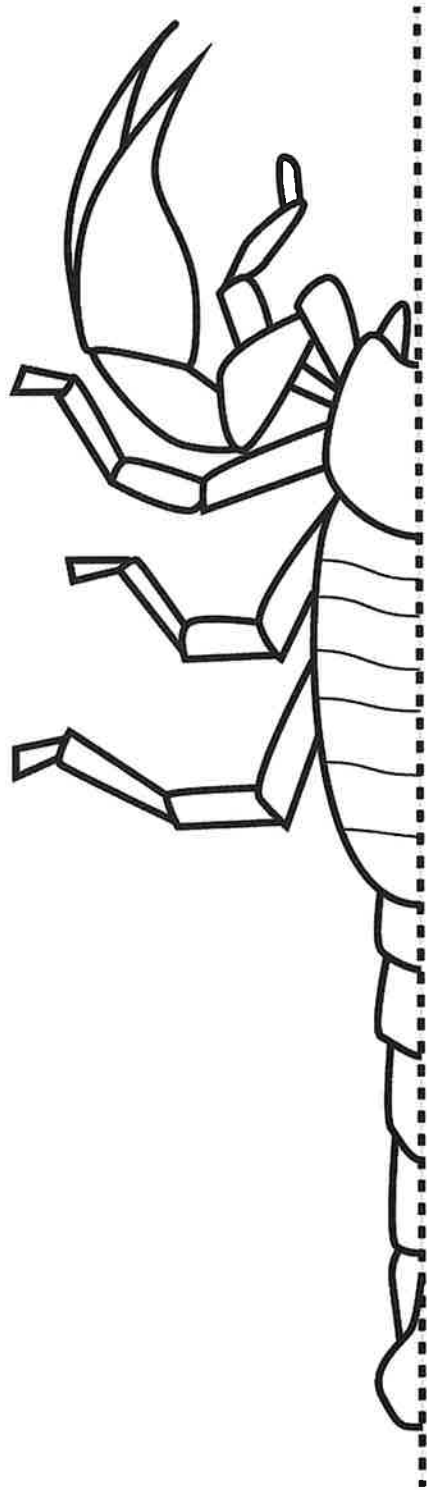
Line 3: Verb, conjunction, verb

Line 4: Adverb

Line 5: Rename title

Your turn!





symmetry coloring page
SCORPION



Interview a Spider

What animal would you interview for a web talk show?

Objectives

Students will (1) generalize that wildlife ranges in size and occurs in a variety of forms, colors, and adaptations, and (2) become familiar with several species of native wildlife.

Background

The diversity of wildlife species is immense. Although many people think of mammals and perhaps birds as wildlife, wildlife also includes fish, reptiles, amphibians, insects, spiders, and worms and other invertebrates. A goal for conservation is some understanding and appreciation of native species and their habitats. This activity will help students learn about a variety of local species through an engaging talk show format.

NOTE: Students may have a tendency to project human characteristics on animals, especially because the “interview” format puts the “animals” in a human situation. Assist the students in avoiding this tendency, known as “anthropomorphism.”

Procedure

1. Explain to students that they are reporters for their state wildlife agency, and their assignment is to interview wildlife species for a web (Internet) talk show.
2. Have the students brainstorm a list of native wildlife species. Check the list to make sure it includes many different types of wildlife.
3. Work with students to establish a plan for researching, interviewing, and reporting to help guide them as reporters. For example, try these:

Research

Each team of two students could:

- decide what animal to interview,
- develop a list of questions to ask,

Grade Level:
Upper Elementary

Content Areas:
Language Arts, Science,
Environmental Education

Method: Students research and interview native wildlife species in a mock web talk show.

Materials: Writing and research materials

Activity Time: three 30-minute sessions; some research and writing done by students

People Power: any

Setting: indoors and outdoors

**Conceptual Framework
Topic Reference:** WPIA2

Terms to Know:
wildlife, interview, reporting,
anthropomorphism

Appendices:
Field Ethics, Using Local
Resources, Early Childhood



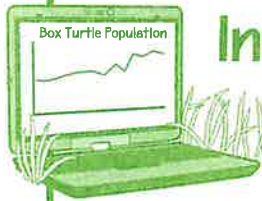


WILD Work

Those passionate about nature with a knack for writing may enjoy working as a **Wildlife**

Journalist. Want to learn how to turn a passion and skill into a fulfilling career? Visit www.projectwild.org for more information.

Contact and interview an **Entomologist** employed by your state wildlife agency. Apply your skills as a reporter to develop a special feature article on how your state wildlife agency is working to conserve one or more species of insects or spiders.



In Step with STEM

■ Develop a digital slide presentation to illustrate myths and misconceptions associated with animals.

- Have students produce, record, and edit a talk show about local wildlife that includes multiple guest interviews.
- Research which plants and animals examined in this activity are native, non-native, or invasive in your region.
- Play recordings of animal sounds. Let the “animal” explain each of its calls.

- go outside and observe the animal, consult reference materials, or both to find appropriate responses to the questions,
- revise the list of questions based on interesting things they have learned about that animal. Sample questions:
 - What kind of animal are you?
 - What do you eat, and how do you find your food?
 - In what kinds of habitat do you live?
 - Describe one thing that is special about you.
 - What is something most kids don't know about you?
 - How can kids be helpful to you?

Interview

During the interview, one student asks questions while the other student assumes the role of the animal and responds to the interviewer's questions. Instruct the students to then switch roles. Remind the students to convey the perspective of the interviewed animal without projecting inapplicable human attributes.

Reporting

Next, organize the information gathered through the process of researching and interviewing the animal. Using this information, have the students develop a script for their video or audio interview about the animal. **OPTIONAL:** Instead of a talk show, have students write a news article.

4. Conclude this activity by discussing the diversity of wildlife. Ask each student to define wildlife—verbally, in writing, or pictorially—in a way that shows his or her understanding of the term, including that wildlife ranges from microscopic organisms to whales and exists in a variety of forms and colors.

Variation

To develop public speaking skills, each team can conduct its interview in front of the other students.

Extensions

1. Make an audio or video recording of the interviews and play them back for students. For additional fun, have students make and wear costumes or create pictures to stand in as the animals.
2. Discuss how each of the animals being interviewed is connected in the food web and why those connections are important to maintaining diversity.
3. Discuss conservation of native species and how students can be helpful to local wildlife.

