

Spineless Wonders

This packet is to help introduce your students to terms and ideas that will be discussed during your visit to Peoria Zoo. It is designed to enhance your program experience, either through class prep or follow-up.

By using the vocabulary, activities, and ideas it will help reinforce the program and meet the State Standards listed on page 2

Terms to introduce to students:

- Abdomen (insect) – the hind section of the insect containing the parts for digestion and excretion
- Antennae – an insect organ used primarily for touch
- Composting – turning organic matter into soil
- Endoskeleton – an organism whose support is located on the inside
- Exoskeleton – an organism whose support and protection is located on the outside
- Head (insect) – the front section of the insect containing the mouth and antennae
- Invertebrate – an animal without a backbone
- Molting – to shed the outer covering periodically for growth
- Pollination – the way plants reproduce
- Thorax (insect) – the mid section of the insect containing the wings and legs
- Vertebrate – an animal with a backbone

Ideas covered in program

- Discuss the differences between invertebrates and vertebrates and explain that of all the animals identified, over 95% of them are invertebrates
- Discuss the difference between endoskeleton and exoskeleton and discuss the advantages and disadvantages of both
- Introduce the different parts of an insect (head, thorax, and abdomen) and their importance.
- Talk about the different important duties performed by invertebrates like pollination, composting, population control (by eating other invertebrates), and food production
- Consider the size of invertebrates (ex. most invertebrates are small with the exception of some marine invertebrates like the Octopus and Giant Squid)
- Identify some animals that are vertebrates, but also appear to have an exoskeleton (ex. armadillo, turtle, etc.)

Activities for students:

FIELD BIOLOGIST

- (Spring, Fall, and Summer activity) Make a small, blank booklet for the students and explain that they are going to be field biologists. Take them outside and have them draw and describe as many insects as they can in the given time. Make sure they note what the insects were doing and where they saw them. Then go inside and have the students identify the insects using local field guides for insects and arachnids.

SCAVENGER HUNT

- Classroom scavenger hunt: Hide several numbered pictures of insects around the room. Provide the students with description of the insects. Have the students find the numbered insects and match them to their description.
If you are doing this in the spring you can list bugs commonly found in your area and give the students a few days to locate them all (noting where they saw them, etc)

LIST IT

- To give students an idea of how many “spineless wonders” there are out there, have them, as a group or in pairs, come up with as many invertebrates as they can. Make it a game by challenging them to come up with ones no one else has, they can research it any way they want they just need to be able to tell about them, and whoever has the most unique invertebrates wins.

AMAZING INVERTEBRATES

- Have students pair up and look for adaptations that make invertebrates amazing (how far a flea can jump, how much an ant can lift, etc). They can then make them into multiple choice questions and ask the other students.

State Standards met by:

Listening to the program:

4.A.2b-c; 4.B.2b; 12.A.2a-b; 12.B.2a-b

Writing about animals they saw:

3.A.2; 3.B.2a-d; 3.C.2a; 4.A.2c; 12.B.2a-b; 17.B.2b

Field Biologist:

11.A.2a-e; 12.B.2a-b

List it:

11.A.2b

Amazing Invertebrates:

3.A.2; 5.A.2a-b; 5.C.2a-b