

Title Classifying Animals: What are Invertebrates? (Third Grade)

Key Ideas: Animals can be classified by their structures. There are two main groups of animals: vertebrates and invertebrates.

Materials Needed: pictures of animals (including vertebrates and invertebrates), science textbooks (MacMillan/McGraw-Hill Science: A Closer Look, Ohio edition), *Amazing Invertebrates* reader, concept map for *Amazing Invertebrates*

Learning Activities:

Day 1: Animal Sort

Put students in pairs, and explain the task. Students will work with their partners to sort the animals into groups (classify). The animals can go in a group together if they are alike in some way. Students need to be ready to explain their groups. Pass out the materials. Students will need to cut the pictures apart to sort them.

Assess: As students are working, walk around and observe how they are sorting. From my experience, they will likely sort based on characteristics they can see – color, number of legs, wings/no wings, etc. Be ready to prompt groups that are “stuck” by asking them, what is the same about two of the animals.

Discuss as a class how students classified their animals. Ask pairs to share a group of animals and why they put them together.

Introduce the idea that scientists also group animals in order to study them. Today we are going to look at one way scientists classify animals. As a class, read and discuss page 46 and 47 in the student textbook, which discusses vertebrates and invertebrates. It defines the two words and gives examples. There is also a picture of a jelly and a raccoon with an x-ray view of its backbone. Have students feel their own backbones.

Assess: Have students sort their animal pictures again into vertebrates and invertebrates. Observe whether students are able to do this task. I have noticed that most students are able to say that vertebrates have backbones and invertebrates don't, but are unable to decide which animals go into which group.

Day 2: Invertebrates

Today we are going to explore invertebrates in more detail. Begin by using the pictures of invertebrates on page 48 and 49 of the student textbook to discuss kinds of invertebrates. Together, read the captions that describe each kind of invertebrate (sponges, worms, sea stars and urchins, jellies, arthropods, and mollusks).

Next, students will read *Amazing Invertebrates* with a partner. This is a leveled reader that goes with our science textbook. There are two versions of the book written on different reading levels, but with the same information, pictures, and layout. I will assign students to pairs and to a book based on their reading level. This book goes into more detail about the different kinds of invertebrates and why they are grouped together. For example, Chapter 1 is about arthropods and explains that they have exoskeletons and jointed legs, along with other characteristics. As they read, students will complete a concept map that will help them think about what the animals in each group have in common.

After students have read the book, discuss the notes they took on their concept map. What did they learn about the different kinds of invertebrates?

Assess: Have students answer this question: How can you tell whether an animal is an invertebrate? Give an example.

Name _____

Amazing Invertebrates

