

# Introduction to Animals

## Before You Read

Use the “What I Know” column to list the things you know about animals. Then list the questions you have about animals in the “What I Want to Find Out” column. **Accept all reasonable responses.**

K What I Know	W What I Want to Find Out	L What I Learned

### Science Journal

*Describe at least three characteristics that distinguish animals from plants.*

**Accept all reasonable responses.**

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# Introduction to Animals

## Section 1 Animal Characteristics

**Main Idea** \_\_\_\_\_ **Details** \_\_\_\_\_

**Scan** the titles, boldfaced words, pictures, figures, and captions in Section 1 of the chapter. Write two facts you discovered about animals as you scanned the section.

1. **Accept all reasonable responses.** \_\_\_\_\_
2. \_\_\_\_\_

**Review Vocabulary**

*protist*

Use your book or dictionary to define protist.

**diverse group of unicellular or multicellular eukaryotes that lack complex organ systems and live in moist environments**

**New Vocabulary**

Compare the terms in the table by defining them side by side.

*blastula*  
*endoskeleton*  
*exoskeleton*  
*external fertilization*  
*gastrula*  
*hermaphrodite*  
*internal fertilization*  
*invertebrate*  
*vertebrate*  
*zygote*

vertebrate <b>animal with an endoskeleton and a backbone</b>	invertebrate <b>animal without a backbone</b>
endoskeleton <b>internal skeleton</b>	exoskeleton <b>hard or tough outer covering that provides a framework of support</b>
internal fertilization <b>sperm and egg combine inside the animal's body</b>	external fertilization <b>sperm and egg combine outside the animal's body</b>
blastula <b>fluid-filled ball of cells formed during early embryo development</b>	gastrula <b>two-cell-layer sac with an opening at one end, formed when blastula cells move inward during embryo development</b>
hermaphrodite <b>produces both eggs and sperm in the same body</b>	
zygote <b>fertilized egg cell</b>	

List the cell layers from the most interior to the most exterior. Identify the tissues that develop from each layer.

*ectoderm*  
*endoderm*  
*mesoderm*

Layers of Cells in the Gastrula	
<b>endoderm:</b>	<b>digestive organs and lining of the digestive tract</b>
<b>mesoderm:</b>	<b>muscle tissue, circulatory system, excretory system, and, in some animals, respiratory system</b>
<b>ectoderm:</b>	<b>nervous tissue and skin</b>

**Section 1 Animal Characteristics (continued)**

**Main Idea**

**Details**

**General Animal Features and Feeding and Digestion**

*I found this information on page \_\_\_\_\_.*

**SE, p. 693**  
**RE, p. 283**

**Support**

*I found this information on page \_\_\_\_\_.*

**SE, p. 693**  
**RE, p. 283**

**Habitats**

*I found this information on page \_\_\_\_\_.*

**SE, p. 693**  
**RE, p. 284**

**Animal Cell Structure and Movement**

*I found this information on page \_\_\_\_\_.*

**SE, p. 694**  
**RE, p. 284**

**Identify** *the following facts about animals.*

earliest true animals from which all others likely evolved

**choanoflagellates**

features that mark the branching points of the evolutionary tree

**adaptations in form**

different ways that animals digest food

**some digest food in specific cells; others digest food in cavities or organs.**

**Classify** *each animal below as having an endoskeleton or an exoskeleton.*

beetle **exoskeleton** shark **endoskeleton**

horse **endoskeleton** cicada **exoskeleton**

**Analyze** *each habitat below. Give an example of an adaptation that enables an animal to live in that habitat.*

Habitat	Adaptation
Polar region	<b>Accept all reasonable responses.</b>
Ocean	
Rain forest	

**Summarize** *the important differences between animals and plants.*

• **Accept all reasonable responses.**

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**Section 1 Animal Characteristics (continued)**

**Main Idea**

**Details**

**Reproduction**

I found this information on page \_\_\_\_\_.

SE, pp. 695–697  
RE, pp. 284–285

**Sequence** *the development of an animal from fertilization to birth by completing the following paragraph.*

During **sexual** reproduction, fertilization occurs when an **egg cell** is penetrated by a **sperm cell**, forming a **zygote**. After **mitosis** and cell division begin, the egg is called an embryo. The cells form a fluid-filled ball called a **blastula**. Some cells migrate inside, forming a cup-shaped structure called the **gastrula**, which has two cell layers. The layer on the outside is the **ectoderm** and will form the **nerve tissue and skin**. The inner layer is called the **endoderm**, which will form **the animals’s digestive tract lining and digestive organs**.

All animals retain the two embryonic cell layers throughout their lives, but others develop a third cell layer, the **mesoderm**, between the other layers. This layer forms **the muscles and other systems of the body**.

**Identify** *the tissue types into which each cell layer develops.*

Cell Layer	Forms These Tissues
Mesoderm	<b>muscle, circulatory, excretory, sometimes respiratory</b>
Ectoderm	<b>skin, nerve</b>
Endoderm	<b>digestive tract lining and organs</b>

**SUMMARIZE**

Next to each prefix, write a vocabulary word from this section that uses this prefix. Then write what you think the prefix means.

endo- **endoskeleton or endoderm; inside**

exo- **exoskeleton; outside**

meso- **mesoderm; middle**