

4th Grade Unit 1  
9 weeks



# Structure, Function, and Information Processing - Animals and Plants

## Unit Planning Team:

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## Essential Questions

How do internal and external structures support the survival, growth, behavior, and reproduction of plants and animals?

How do animals receive, process, and respond to different types of information?

Structure, Function, and Information Processing	
Students who demonstrate understanding can:	
<b>4-PS4-2</b> Develop a model to describe that light reflecting from objects and entering the eye allows objects to be seen. [Assessment Boundary: Assessment does not include knowledge of specific colors reflected or seen, the cellular mechanisms of vision, or how the retina works.]	
<b>4-LS1-1</b> Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction. [AR Clarification Statement: Examples of structures for survival could include thorns and teeth. Examples of structures for growth could include stems and the skeleton. Examples of structures for behavior could include roots and the brain. Examples of reproduction could include pistils, stamens, and eggs.] [Assessment Boundary: Assessment is limited to macroscopic structures within plant and animal systems.]	
<b>4-LS1-2</b> 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. [Clarification Statement: Emphasis is on systems of information transfer. Use of models could include diagrams, computer simulations, and physical models.] [Assessment Boundary: Assessment does not include the mechanisms by which the brain stores and recalls information or the mechanisms of how sensory receptors function.]	
The performance expectations above were developed using the following elements from the NRC document <i>A Framework for K-12 Science Education</i> .	

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<b>Developing and Using Models</b> Modeling in 3–5 builds on K–2 experiences and progresses to building and revising simple models and using models to represent events and design solutions. <ul style="list-style-type: none"> <li>Develop a model to describe phenomena. (4-PS4-2)</li> <li>Use a model to test interactions concerning the functioning of a natural system. (4-LS1-2)</li> </ul>	<b>PS4.B: Electromagnetic Radiation</b> <ul style="list-style-type: none"> <li>An object can be seen when light reflected from its surface enters the eyes. (4-PS4-2)</li> </ul> <b>LS1.A: Structure and Function</b> <ul style="list-style-type: none"> <li>Plants and animals have both internal and external structures that serve various functions in growth, survival, behavior, and reproduction. (4-LS1-1)</li> </ul> <b>LS1.D: Information Processing</b> <ul style="list-style-type: none"> <li>Different sense receptors are specialized for particular kinds of information, which may be then processed by the animal's brain. Animals are able to use their perceptions and memories to guide their actions. (4-LS1-2)</li> </ul>	<b>Cause and Effect</b> <ul style="list-style-type: none"> <li>Cause and effect relationships are routinely identified. (4-PS4-2)</li> </ul> <b>Systems and System Models</b> <ul style="list-style-type: none"> <li>A system can be described in terms of its components and their interactions. (4-LS1-1, 4-LS1-2)</li> </ul>
<b>Engaging in Argument from Evidence</b> Engaging in argument from evidence in 3–5 builds on K–2 experiences and progresses to critiquing the scientific explanations or solutions proposed by peers by citing relevant evidence about the natural and designed world(s). <ul style="list-style-type: none"> <li>Construct an argument with evidence, data, and/or a model. (4-LS1-1)</li> </ul>		

# Structure, Function, and Information Processing

Background knowledge videos:

[LS1A - Structure and Function](#)

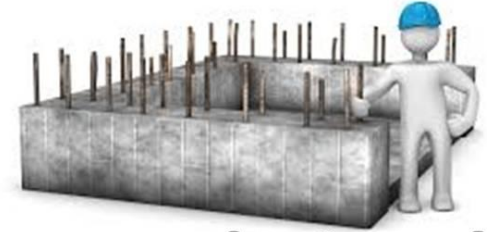
[LS1D - Information Processing](#)

[PS4B - Electromagnetic Radiation](#)

These videos are designed to assist in providing background knowledge with the associated DCI. The information in the videos follows the progression through high school.

## Prior to 4th grade, students should have knowledge, understanding of, and experiences with the following ideas:

- ★ All organisms have external parts.
- ★ Different animals use their body parts in different ways to see, hear, grasp objects, protect themselves, move from place to place, and seek, find, and take in food, water, and air.
- ★ Plants have different parts (roots, stems, leaves, flowers, fruit) that help them survive, grow, and produce more plants.
- ★ Animals have body parts that capture and convey different kinds of information needed for growth and survival (ex: eyes for light, ears for sounds, and skin for temperature or touch).
- ★ Animals respond to these inputs with behaviors that help them survive (ex: find food, run from a predator) and plants also respond to some external input (ex: turn leaves toward the sun).

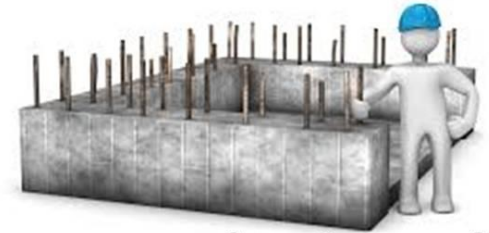


## Foundational Knowledge

*With the implementation of new standards, students may not have had opportunities to engage in these foundational understandings and ideas before 4th grade. You may need to provide opportunities for students to experience these ideas as you move forward.*

## Prior to 4th grade, students should have knowledge, understanding of, and experiences with the following ideas:

- ★ All animals and plants need food in order to live and grow. Animals obtain their food from plants or from other animals, while plants need light to produce food and grow.
- ★ Plants and animals grow and change and have predictable characteristics at different stages of development.
- ★ Adult plants and animals can have young. In many kinds of animals, parents and the offspring themselves engage in behaviors that help the offspring to survive.
- ★ Objects can be seen only when light is available to illuminate them.
- ★ Light travels from place to place (experiences with light sources, mirrors, and shadows).
- ★ Mirrors and prisms can be used to redirect a light beam.



## Foundational Knowledge

*With the implementation of new standards, students may not have had opportunities to engage in these foundational understandings and ideas before 4th grade. You may need to provide opportunities for students to experience these ideas as you move forward.*

How do internal and external structures support the survival, growth, behavior, and reproduction of plants and animals?

How do animals receive, process, and respond to different types of information?



## Big Ideas

- ★ Plants and animals have both internal and external structures that serve various functions in growth, survival, behavior and reproduction.
- ★ Different sense receptors are specialized for particular kinds of information, which may then be processed by the animal's brain.
- ★ Animals are able to use their perceptions and memories to guide their actions.
- ★ Some responses to information are instinctive – that is, animals' brains are organized so that they do not have to think about how to respond to certain stimuli.

How do internal and external structures support the survival, growth, behavior, and reproduction of plants and animals?

How do animals receive, process, and respond to different types of information?



## Big Ideas

- ★ An object can be seen when light reflected from its surface enters the eye.
- ★ Because lenses bend light beams, they can be used to provide magnified images of objects too small or too far away to be seen with the naked eye.
- ★ A system can be described in terms of its components and their interactions.
- ★ Models can be used to describe phenomena and test interactions in the functions of a natural system.





## Structure, Function, and Information Processing

Students who demonstrate understanding can:

**4-LS1-1 Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction.** [AR Clarification Statement: Examples of structures for survival could include thorns and teeth. Examples of structures for growth could include stems and the skeleton. Examples of structures for behavior could include roots and the brain. Examples of reproduction could include pistils, stamens, and eggs.] [Assessment Boundary: Assessment is limited to macroscopic structures within plant and animal systems.]

### Disciplinary Core Ideas

#### LS1.A: Structure and Function

- Plants and animals have both internal and external structures that serve various functions in growth, survival, behavior, and reproduction. (4-LS1-1)

### Clarifications:

- Every plant and animal can be describe in terms of its internal and external structures and their interactions.
- These structures have specific functions that support survival, growth, behavior, and reproduction of the organism.

Examples of structures could be: thorns, stems, roots, colored petals, heart, stomach, lung, brain, skin, scales, fins, tentacles, shells, tails, quills, etc.

Observations: can be direct or through using text and digital resources.

Models include drawings, diagrams, pictures, computer simulations, and physical models

Identify and  
CLARIFY the  
STANDARDS



## Structure, Function, and Information Processing

Students who demonstrate understanding can:

**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.** [Clarification Statement: Emphasis is on systems of information transfer. Use of models could include diagrams, computer simulations, and physical models.] [Assessment Boundary: Assessment does not include the mechanisms by which the brain stores and recalls information or the mechanisms of how sensory receptors function.]



### Disciplinary Core Ideas

#### LS1.D: Information Processing

- Different sense receptors are specialized for particular kinds of information, which may be then processed by the animal's brain. Animals are able to use their perceptions and memories to guide their actions. (4-LS1-2)

### Clarifications:

- Many animals, like humans, have sense organs that gather information from the environment through hearing, seeing, feeling, smelling, and tasting.
- Some animals have sensory receptors or other mechanisms that allow them to sense such things as light, temperature, moisture, and movement.
- All animals receive information through senses or sensory receptors.

Observations: can be direct or through using text and digital resources.

Models include drawings, diagrams, pictures, computer simulations, and physical models

Identify and  
CLARIFY the  
STANDARDS

## Structure, Function, and Information Processing

Students who demonstrate understanding can:

**4-PS4-2 Develop a model to describe that light reflecting from objects and entering the eye allows objects to be seen.**

[Assessment Boundary: Assessment does not include knowledge of specific colors reflected or seen, the cellular mechanisms of vision, or how the retina works.]



### Disciplinary Core Ideas

#### PS4.B: Electromagnetic Radiation

- An object can be seen when light reflected from its surface enters the eyes. (4-PS4-2)

### Clarifications:

- Students need to develop the conceptual understanding the role that light plays in allowing us to see objects.

In order to fully develop this understanding, may need experiences with the following concepts (1st Grade standards):

- Objects can be seen only when illuminated
- Effects of placing different materials in the path of a beam of light
- Behavior of light when it comes into contact with objects (lights, mirrors, lenses, solid objects)
- Light travels in a straight line. Some objects/materials allow light to pass through; some allow it to pass through but it bends (refracts); others reflect it; and others block it.

Models include drawings, diagrams, pictures, computer simulations, and physical models

Identify and  
CLARIFY the  
STANDARDS

## LIFE SCIENCE



### UNIT: Systems for Survival

[View Unit](#) ▶

#### CONCEPT:

**Growth and Development**

**Physical Features**

**Reproduction**

**Receiving and Using Information**

**Shelter and Defense**

**Gather and  
study the  
RESOURCES**

Discovery Education  
Science Techbook Units



Weeks	Performance Expectation/ DCI	5E Lesson Plan and Resources	
1-2	<p><b>Growth &amp; Development</b>            4-LS1-1 - Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction.</p> <p>4-LS1-1.4.1 - A system can be described in terms of its components and their interactions.</p> <p>4-LS1-1.7.1 - Construct an argument with evidence, data, and/or a model.</p> <p><b><u>Essential Questions for all weeks (1-9):</u></b>            -How do internal and external structures support the survival, growth, behavior, and reproduction of plants and animals?            -How do animals receive, process, and respond to different types of information?</p>	<p><a href="#">Option 1: Model Lesson from Discovery Ed</a></p> <p><b>Option 2: 5E Suggested Model</b></p> <p><b>Engage</b>  <a href="#">Various Animal Videos</a>            Video: <a href="#">Growth and development-human</a>            Video: <a href="#">Life cycle - Butterflies</a>            *These videos will help students see the differences in different animal structures. These would be good resources after questioning and KLEWS (see below)  <a href="#">KLEWS chart</a>  <a href="#">KLEWS Chart video</a>  <a href="#">KLEWS blank chart</a></p> <p><b>Guiding Questions:</b>            What are structures?            What is a function?</p> <p><b>Explore</b>  <a href="#">Reading passage</a> - passage of how animals grow and change.  <a href="#">Lesson</a> - In this lesson, students observe several animals' mouth structures and explore how these structures help the animal obtain, handle, and eat food.  <a href="#">Observing plant structures.</a></p>	<p><b>Explain</b>  <a href="#">Lesson</a>-Student Lesson in Claim, Evidence, and Reasoning (4-LS1-1.7.1)  <a href="#">Vocabulary Development</a>- graphic on scientific explanations.  <a href="#">Video</a>- Example with students completing experiment and explaining process.            Refer back to the KLEW chart: What are similarities? Where can more evidence be found for support.</p> <p><b>Elaborate</b>  <a href="#">Thinking Skill Activity</a>            *In this activity students will compare the growth rate of two or more animals</p> <p><b>Evaluate</b>  <a href="#">Unit assessment</a>  <a href="#">Brief Constructed Response</a></p> <p><b><a href="#">Additional Resources</a></b></p>

Weeks	Performance Expectation/ DCI	5E Lesson Plan and Resources	
3-4	<p><b>Physical Features &amp; Reproduction</b></p> <p>4-LS1-1 - Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction.</p> <p>4-LS1-1.4.1 - A system can be described in terms of its components and their interactions.</p> <p>4-LS1-1.7.1 - Construct an argument with evidence, data, and/or a model.</p> <p>4-LS1-1.LS1.A.1 - Plants and animals have both internal and external structures that serve various functions in growth, survival, behavior, and reproduction.</p> <p><b>This two weeks will be a combination of the two topics.</b></p>	<p><a href="#">Option 1: Model Lesson from Discovery Ed</a></p> <p><b>Option 2: 5E Suggested Model</b></p> <p><b>Engage</b></p> <p><a href="#">Features that Help Animals Survive Video</a></p> <p><a href="#">Tiny Chick in Egg (First 49 seconds)</a></p> <p><a href="#">Reproduction Video</a></p> <p><b>*Big Idea Questions:</b></p> <ul style="list-style-type: none"> <li>-What do you already know about the physical features of plants and animals that help them survive and reproduce?</li> <li>-What are similarities and differences you notice between different plants and animals?</li> <li>-How can we group plants and animals based on their physical features?</li> <li>-How do animals reproduce?</li> </ul> <p><b>Explore</b></p> <p><a href="#">Moving and Finding Food</a></p> <p><a href="#">Choosing Features for Survival</a></p> <p><a href="#">Saving the Black Footed Ferret</a></p> <p><a href="#">Reproductive Parts of a Flower</a></p>	<p><b>Explain</b></p> <p><a href="#">Animal Adaptations Video</a></p> <p><a href="#">Vocabulary Development Physical Features</a></p> <p><a href="#">Vocabulary Development Reproduction</a></p> <p><a href="#">Questions for Discussion and Clarification</a></p> <p><a href="#">Sea Life Diversity</a></p> <p><a href="#">Plant Reproduction</a></p> <p><a href="#">Cell Reproduction</a></p> <p><b>Elaborate</b></p> <p><a href="#">Inferring Similarities and Differences of Physical Features</a></p> <p><a href="#">Self Defense Features</a></p> <p><a href="#">Comparing Physical Features</a></p> <p><a href="#">Eggs-ellent Design</a></p> <p><b>Evaluate</b></p> <p><a href="#">Quiz</a></p> <p><a href="#">Reproduction Constructed Response</a></p> <p><a href="#">Physical Features Constructed Response</a></p> <p><b><a href="#">Additional Resources Physical Features</a></b></p> <p><b><a href="#">Additional Resources Reproduction</a></b></p>

Weeks	Performance Expectation/ DCI	5E Lesson Plan and Resources	
5-6	<p><b>Receiving and Using Information</b></p> <p>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.</p> <p>4-LS1-2.2.1 - Use a model to test interactions concerning the functioning of a natural system.</p> <p>4-LS1-2.4.1 - A system can be described in terms of its components and their interactions.</p> <p>4-LS1-2.LS1.D.1 - Different sense receptors are specialized for particular kinds of information, which may be then processed by the animal's brain. Animals are able to use their perceptions and memories to guide their actions</p>	<p><a href="#">Option 1: Model Lesson from Discovery Ed</a></p> <p><b>Option 2: 5E Suggested Model</b></p> <p><b>Engage</b>  <a href="#">Brain Games Video: Receiving information through your senses</a>            *Watch video and then create an anchor chart about what we know about the senses and how different animals use them to process information. (Student knowledge may be limited here. You will add to your chart over the next 2 weeks)  <b>Guiding Questions:</b>            -What senses do people have?            -How are these similar to animal senses?            -How are they different from animal senses?  <b>Explore</b>  <a href="#">Article: Senses for Survival</a>  <a href="#">Article: Animal vs. Human Senses</a>  <a href="#">Video: Thermal Reception</a>  <a href="#">Video: Giraffe and Chameleon Vision</a>  <a href="#">Student Companion Guide for note-taking</a>            *Students will explore articles and videos in order to gain knowledge about how animals use their senses and process information in different ways.</p>	<p><b>Explain</b>  <a href="#">Vocabulary Development</a>  <b>*Big Idea Questions:</b>            -What happens to sensory information in the brain?            -How do different parts of the body work together as a system to receive, transmit, and react to information?            *Discuss vocabulary and the Big Idea questions.            Discussion is based on student knowledge gained from exploring. Use this time to make connections with how the eye gathers light (4-PS4-2)            Optional Lesson/Support videos can be found at this link: <a href="#">Night Primates and Eye Adaptations</a>  <b>Elaborate</b>            Have students research the sense organs of an animal. They can create a Venn diagram to compare and contrast the animal's sense organs to their own.  <b>Evaluate</b>  <b>Student Constructed Response Options:</b>            -<a href="#">Receiving and Using Information: Related Senses</a>            -<a href="#">Teacher Guide</a>            -<a href="#">Receiving and Using Information: Diagramming Sensory Input</a>            -<a href="#">Teacher Guide</a>    <a href="#">Answers to guiding questions/big ideas</a>  <a href="#">Additional Resources</a></p>

Weeks	Concepts/ DCIs	Resources
7-8	<p><b>Shelter and Defense</b></p> <p>4-LS1-1 - Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction.</p> <p>4-LS1-1.4.1 - A system can be described in terms of its components and their interactions.</p> <p>4-LS1-1.7.1 - Construct an argument with evidence, data, and/or a model.</p> <p>4-LS1-1.LS1.A.1 - Plants and animals have both internal and external structures that serve various functions in growth, survival, behavior, and reproduction.</p>	<p><a href="#"><u>Option 1: Model Lesson from Discovery Ed</u></a></p> <p><b>Option 2: 5E Suggested Model</b></p> <p><b>Engage</b></p> <p><a href="#"><u>Video-Picathartes: Building a Nest</u></a></p> <p><b>Explore</b></p> <p><a href="#"><u>Shelter and Defense Interactive</u></a></p> <p><a href="#"><u>Student Companion Sheet</u></a></p> <p><a href="#"><u>Teacher Guide</u></a></p> <p><b>Explain</b></p> <p><a href="#"><u>Why do animals need shelter?</u></a></p> <p><a href="#"><u>Passage</u></a></p> <p><a href="#"><u>Vocabulary Development</u></a></p> <p><b>Elaborate</b></p> <p>Construct an insect</p> <p><a href="#"><u>Help save the endangered mountain yellow-legged frog.</u></a></p> <p><b>Evaluate</b></p> <p><a href="#"><u>Student Constructed Response</u></a></p> <p><a href="#"><u>Additional Resources</u></a></p>



Week	Concepts/ DCIs
9	<p>End of Unit Writing Task or Project Summative Assessments</p>
	<p>Resources</p>
	<p><b>Option 1: Board Builder</b> Students create a board using information from the unit to demonstrate their ability to answer 1 or more of the essential questions.</p> <p><b>Option 2: Process Writing Piece</b> Have students research an animal with an unusual defense mechanism, such as a poison dart frog or a flounder. Students should prepare a short written report describing the animal's particular defense and how it is used against predators in its habitat.</p> <p><u><a href="#">Structure and Function design challenge STEM Challenge</a></u> with Design Loop Focus: Toy Box Tower (correlates to text: <u><a href="#">Tales of a Fourth Grade Nothing</a></u>, Judy Blume)</p>

# Make or locate SUMMATIVE and PERFORMANCE ASSESSMENTS

## Assessments from Science Techbook Unit Concept: Growth and Development

### Assessment (online)

### Assessment

Assign  
Print Assessment  
Print with Answers

### Growth and Development

INSTRUCTIONS  
Check your understanding with this practice assessment.

The butterfly shows complete metamorphosis because it has \_\_\_\_\_.

A) a pupa stage  
B) a nymph stage  
C) an egg stage  
D) an adult stage

Explanation:  
The answer is A. Complete metamorphosis has a pupa stage and incomplete metamorphosis does not.

The butterfly shows complete metamorphosis because it has \_\_\_\_\_.

A) a pupa stage  
B) a nymph stage  
C) an egg stage  
D) an adult stage



### Constructed Response

### Discovery EDUCATION SCIENCE

Name \_\_\_\_\_ Date \_\_\_\_\_  
Brief Constructed Response

You will need about 15–20 minutes to complete this brief constructed response.

A  
List or diagram the life stages of a pond frog and of a raccoon. If you draw diagrams, be sure to label all the important parts.

B  
Pond frog parents don't take care of their young, but raccoons do. Why is it that both new frogs and new raccoons will survive? As you write your answer, be sure to think about the following:

- number of offspring
- what the offspring eat
- protection from predators

Brief Constructed Response: Growth and Development © 2008 Discovery Communications, LLC

Make or locate  
**SUMMATIVE**  
and  
**PERFORMANCE**  
**ASSESSMENTS**

# Assessments from Science Techbook Unit Concept: Physical Features

## Assessment (online)

**Assessment**

[Assign](#)  
[Print Assessment](#)  
[Print with Answers](#)

### Physical Features

**INSTRUCTIONS**  
Check your understanding with this practice assessment.

1) Three of the four statements below accurately describe how a particular body structure helps an animal to survive in its environment. Which one does not?

A) an osprey's talons are shaped to help it catch and carry its prey  
 B) a polar bear's thick fur is actually clear, not white, allowing light to get to its skin to warm it  
 C) penguins can use their wings as flippers to swim under water as fast as 22 mph to catch food  
 D) birds bones are filled with pockets of fluid which make the bird especially light for flying

**Explanation:**  
The answer is D. Most bird bones contain many little vacuoles, or hollow holes, which make them lighter.

2) Three of the four statements below accurately describe how a particular body structure helps an animal to survive in its environment. Which one does not?

A) an osprey's talons are shaped to help it catch and carry its prey  
 B) a polar bear's thick fur is actually clear, not white, allowing light to get to its skin to warm it  
 C) penguins can use their wings as flippers to swim under water as fast as 22 mph to catch food  
 D) birds bones are filled with pockets of fluid which make the bird especially light for flying

**Explanation:**  
The answer is D. Most bird bones contain many little vacuoles, or hollow holes, which make them lighter.

3) Unlike many other animals, earthworms have thin \_\_\_\_\_ that lets air and water through.

A) gills  
 B) mouths  
 C) lungs  
 D) skin

**Explanation:**  
The correct answer is D. Earthworms have a thin skin that lets air and water through.

4) Unlike many other animals, earthworms have thin \_\_\_\_\_ that lets air and water through.



## Constructed Response

Name \_\_\_\_\_  
 Date \_\_\_\_\_

**Constructed Response**

**Physical Features**

- Choose an herbivore (plant eater) and a carnivore (meat eater). Describe two differences in physical characteristics that help these animals get their food.
- Explain how a green tree frog's feet, tongue, and color help it survive in a forest.
- Identify and describe two features of plants that help them survive in their environments.

Discovery Education Science
 Page 1 of 1
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# Make or locate SUMMATIVE and PERFORMANCE ASSESSMENTS

## Assessments from Science Techbook Unit Concept: Reproduction



### Assessment (online)

**Assessment**

Assign  
Print Assessment  
Print with Answers

### Reproduction

**INSTRUCTIONS**  
Check your understanding with this practice assessment.

1) Female gametes are called \_\_\_\_\_.

A) eggs  
B) sperm  
C) pollen  
D) seeds

**Explanation:**  
The correct answer is A. Female gametes are called eggs.

2) Female gametes are called \_\_\_\_\_.

A) eggs  
B) sperm  
C) pollen  
D) seeds

**Explanation:**  
The correct answer is A. Female gametes are called eggs.

3) Male gametes are called \_\_\_\_\_.

A) egg  
B) sperm  
C) pollen  
D) seeds

**Explanation:**  
The correct answer is B. Male gametes are called sperm. In seed plants, sperm is carried in pollen grains.

4) Male gametes are called \_\_\_\_\_.

### Constructed Response

**Discovery EDUCATION** Name \_\_\_\_\_ Date \_\_\_\_\_

**SCIENCE** \_\_\_\_\_ **Brief Constructed Response**

You will need about 15–20 minutes to complete this brief constructed response.

**Part A**  
Look at the three pictures of plant seeds. Tell how the shape of each seed makes it likely that it will travel away from the parent plant.

**Part B**  
What are three things that will help a seed start to grow when it reaches a new place?

**Make or locate  
SUMMATIVE  
and  
PERFORMANCE  
ASSESSMENTS**

# Assessments from Science Techbook Unit Concept: Receiving and Using Information



## Assessment (online)

Assessment

Assign  
Print Assessment  
Print with Answers

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## Receiving and Using Information

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**INSTRUCTIONS**

In this assessment, you will be asked [x] multiple choice questions to help you better understand your level of knowledge of Receiving and Using Information. At the end of the assessment, you will be provided with an overall score as well as a score broken out by concepts that comprise Receiving and Using Information. You will also have the opportunity to see a list of recommended materials for these concepts that you want to spend some time reviewing.

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**1) Which best describes what happens after the brain receives and processes sensory information?**

**A) The brain decides how the body should respond to the information.**

B) The brain deletes the information.

C) The brain commands the sensory receptors to respond.

D) The brain converts the electrical impulses into sensory stimuli.

**Explanation:**

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**2) Which best describes what happens after the brain receives and processes sensory information?**

**A) The brain decides how the body should respond to the information.**

B) The brain deletes the information.

C) The brain commands the sensory receptors to respond.

D) The brain converts the electrical impulses into sensory stimuli.

**Explanation:**

---

**3) Four students write what they know about sense receptors. Evaluate each student's response. Who is not correct?**


A) Julia says sense organs like the ear, mouth, and skin all have sense receptors.

B) Sam says sense receptors collect information from our environments.

**C) Marian says all sense organs are the same.**

D) Juan says sense organs are connected to nerves.

## Constructed Response




Name \_\_\_\_\_

Date \_\_\_\_\_

Brief Constructed Response

Diagramming Sensory Input

Diep hears her alarm. Draw a simple diagram to show the path the sensory input from the alarm takes through her body. Then describe how her body is likely to respond.



Name \_\_\_\_\_

Date \_\_\_\_\_

Brief Constructed Response

Related Senses

Jorge has a cold and a stuffy nose. He loves chicken soup. His mom makes him a large bowl. He takes a sniff. He can't smell the food, because his nose is so stuffy. Then, he takes a bite. The soup doesn't taste as good as it usually does.

Use what you know about senses and how the brain receives information to explain why Jorge's soup does not taste as good as is usually does

# Make or locate SUMMATIVE and PERFORMANCE ASSESSMENTS

## Assessments from Science Techbook Unit Concept: Shelter and Defense

### Assessment (online)

Assessment

[Assign](#)  
[Print Assessment](#)  
[Print with Answers](#)

### Shelter and Defense

**INSTRUCTIONS**  
Check your understanding with this practice assessment.

1) What feature enables some plants to protect themselves?

A) sharp thorns  
B) bright colors  
C) sweet fragrance  
D) large leaves

Explanation:

2) What feature enables some plants to protect themselves?

A) sharp thorns  
B) bright colors  
C) sweet fragrance  
D) large leaves

Explanation:

3) How are a bear's den and a beaver's lodge different?

A) A bear's den provides protection from predators, while a beaver's lodge does not.  
B) A beaver's lodge provides protection from extreme temperatures, wind, and rain, but a bear's den does not.  
C) Bears sleep in their dens with their young cubs, while beavers do not bring their young into the lodge.  
D) A bear's den is naturally provided by the habitat, while a beaver uses materials in the habitat to build a lodge.

Explanation:

4) How are a bear's den and a beaver's lodge different?

A) A bear's den provides protection from predators, while a beaver's lodge does not.  
B) A beaver's lodge provides protection from extreme temperatures, wind, and rain, but a bear's den does not.  
C) Bears sleep in their dens with their young cubs, while beavers do not bring their young into the lodge.



### Constructed Response

**Discovery**  
**EDUCATION**  
**SCIENCE**

Name \_\_\_\_\_ Date \_\_\_\_\_  
**Brief Constructed Response**

You will need about 15–20 minutes to complete this brief constructed response.

The eastern box turtle is commonly found on the ground in the woods. It is patterned in brown and dull yellow. Unlike many other turtles, the box turtle can pull in its head, tail, and legs and completely close its shell. This turtle has strong digging claws and may dig into the soil to hibernate.

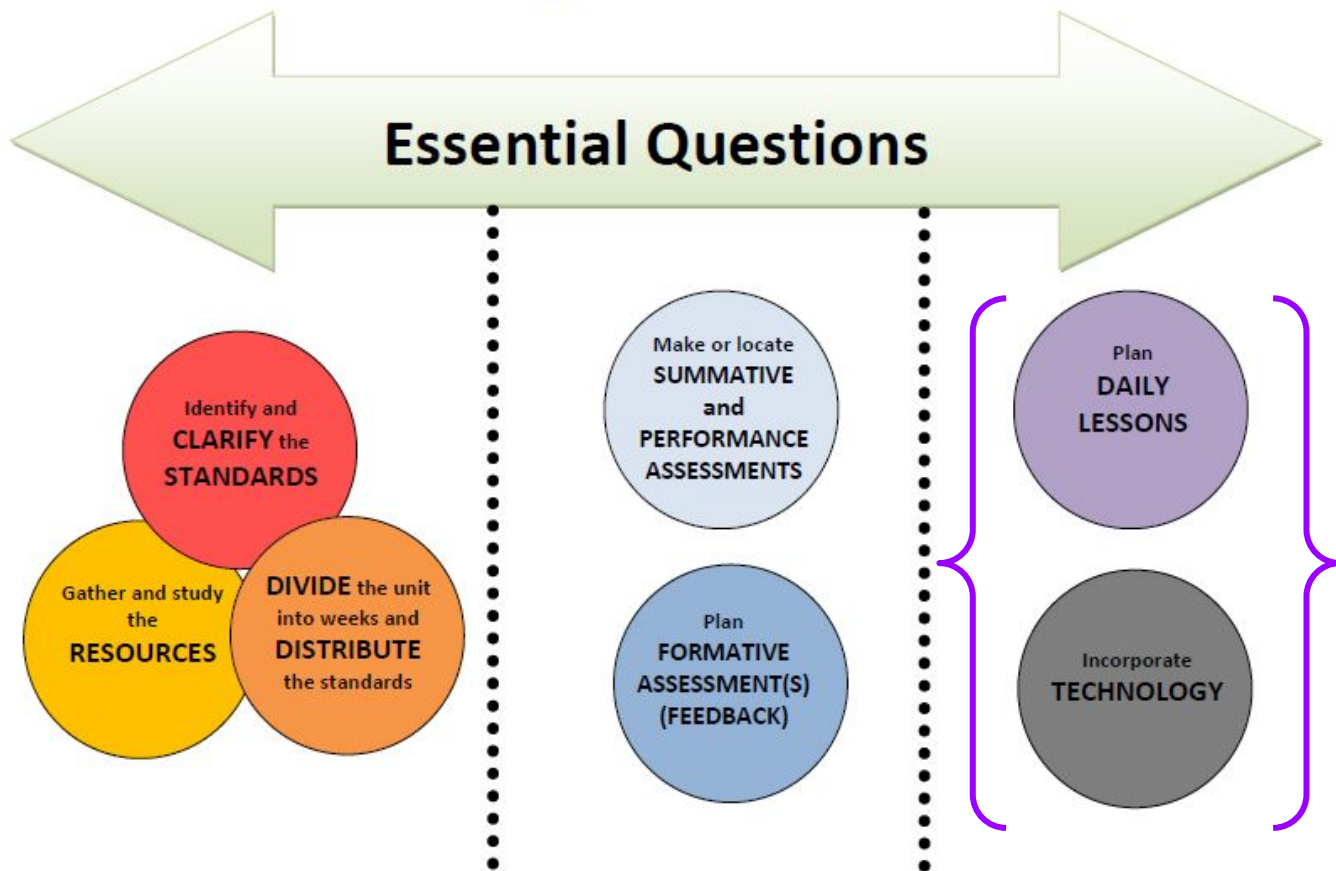
**Part A**  
Describe how the eastern box turtle protects itself from the weather. In your answer, be sure to include information about its physical features and its behavior. You may write or draw and label your answer.

**Part B**  
Describe how the eastern box turtle hides or escape from predators. In your answer, be sure to include information about the turtle's physical features and its behavior. You may write or draw and label your answer.

**Brief Constructed Response:** Shelter and Defense

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## Backward Unit Planning 1.0



Now you're  
ready to  
plan your  
daily  
lessons!