What Did You Learn?

Answer the following questions about the chapter you read. Fill in the bubble next to the correct answer.

Which of these describes organisms?
- ○ environment
- ○ abiotic
- ○ biotic

Which of these is an example of a population?
- ○ a herd of elephants
- ○ a child
- ○ a sycamore tree

Which of these is not necessary for life?
- ○ food
- ○ sleep
- ○ air

What are the simple things that a group of like beings use every day?
- ○ nutrients
- ○ resources
- ○ organisms

Which of these is biotic?
- ○ pencil
- ○ pond slime
- ○ house

Which of these is abiotic?
- ○ desk
- ○ algae
- ○ zebra
What Did You Learn?

Answer the following questions about the chapter you read. Fill in the bubble next to the correct answer.

What is the largest organ in your body?

- muscles
- skin
- heart

How much of your body weight is made up of muscle?

- not quite one quarter
- almost all
- nearly half

Muscles cannot _____, they can only _____.

- push/pull
- pull/push
- lift/drop

By what are muscles attached to bones?

- ligaments
- tendons
- organs

Which of these is the job of your bones?

- help you move
- give you your shape
- protect your organs
- all of these
What Did You Learn?

Fill in the blank with the word that best fits.

<table>
<thead>
<tr>
<th>bones</th>
<th>cartilage</th>
<th>cells</th>
<th>contract</th>
</tr>
</thead>
<tbody>
<tr>
<td>dermis</td>
<td>ligaments</td>
<td>muscles</td>
<td>organs</td>
</tr>
<tr>
<td>skin</td>
<td>tendons</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

parts of the body with special jobs

protects you from diseases

building blocks

your body has over 600

your body starts with over 300

to shorten

connect muscles to bones

connect bones to bones

cushion between bones

new sheets of skin cells inside
What Did You Learn?

Fill in the blank with the word that best fits.

long tube between throat and stomach _______________
holds onto food until it’s needed _______________
breaks down food into small pieces _______________
for blood to carry through body _______________
move food from small intestine to blood _______________
takes water out of food _______________
clean waste products from blood _______________
kills bacteria on food that’s been eaten _______________
type of muscle found in digestive system _______________
leftovers of food used in the body _______________
a hole burned in the stomach _______________
What Did You Learn?

Fill in the blank with the word that best fits.

esophagus  large  liver  lungs  pancreas

eskeletal  small  smooth  stomach

You use your ___________ muscles to pick up an apple and take a bite. When you swallow the bite of apple, it heads down your ___________ and into the acidic storage of your ___________. There, ___________ muscles hold onto your food until it’s ready to be moved on in the digestion process. The apple’s next stop is your ___________ intestine, where the apple gets broken down into tiny pieces for transport to your blood. Your ___________ adds enzymes and the apple-blood goes through your ___________ where poison and waste are filtered out. The clean blood is sent to your ___________ for oxygen. The unused portion of the apple heads to your ___________ intestine and then out of the body.
Find the digestion words in the word search.

bile
digestion
enzymes
liver
digestion
test
rectum
intestine
esophagus
stomach
pancreas
gallbladder
Fill out this worksheet as you work through the experiment.

**Question:** How does chewing affect digestion?

<table>
<thead>
<tr>
<th>Container</th>
<th>Contents</th>
<th>Observations</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Whole candy in water</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Broken candy in water</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Whole candy in vinegar</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Broken candy in vinegar</td>
<td></td>
</tr>
</tbody>
</table>

**Conclusion:**

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________
Intestines

Color each part of the intestines a different color. Label the key at the bottom with the colors you use for each part.

- small intestine
- appendix
- anus
- large intestine
- rectum
What Did You Learn?

Fill in the blank with the word that best fits.

- anything relating to the heart
- move blood away from the heart
- move blood back to the heart
- smallest branch of arteries
- clear liquid that makes up blood
- carry oxygen in the blood
- attack infection in the blood

arteries  capillaries  cardiac  plasma
red blood cells  veins  white blood cells
Review the Terms

Unscramble the words and write their definitions.

RAEETISR

PAAILCIRELS

DACRCIA

RDCEDELOBOLS (3 WORDS)

NEVIS

TWSLIEEBOBLHODCL (3 WORDS)

LMAPAS
Red Blood Cell Journey

Describe the journey of a red blood cell through the body. You can write it in the first person if you’d like.
Find the words in the word search.

**arteries**
**capillaries**
**oxygen**
**atrium**
**circulation**
**plasma**
**blood**
**heart**
**veins**
**ventricle**
Color the muscles using the directions on the site.
Posterior View (Back View)

- Trapezius
- Deltoid
- Triceps Brachii
- Latissimus dorsi
- Gluteus maximus
- Bicep femoris
- Gastrocnemius
Find the words in the word search.

alveoli  bronchiole  diaphragm
exhale  inhale  lungs
oxygen  respiratory  trachea
Word Search

Find the words in the word search.

bathroom  bladder  fluid
kidneys  nephrons  ureter
urethra  urinary tract  urine
Reassemble the words by writing them on the lines.

<table>
<thead>
<tr>
<th>spin</th>
<th>lobe</th>
<th>hemisphere</th>
</tr>
</thead>
<tbody>
<tr>
<td>occipital</td>
<td>cere</td>
<td>brum</td>
</tr>
<tr>
<td>right</td>
<td>temporal</td>
<td>stem</td>
</tr>
<tr>
<td>parietal</td>
<td>ves</td>
<td>lobe</td>
</tr>
<tr>
<td>cere</td>
<td>left</td>
<td>flexes</td>
</tr>
<tr>
<td>lobe</td>
<td>brain</td>
<td>al cord</td>
</tr>
<tr>
<td>ner</td>
<td>re</td>
<td>hemisphere</td>
</tr>
<tr>
<td>bellum</td>
<td>frontal</td>
<td>lobe</td>
</tr>
</tbody>
</table>
What Did You Learn?

Fill in the blank with the word that best fits.

<table>
<thead>
<tr>
<th>cerebellum</th>
<th>cerebrum</th>
<th>frontal lobe</th>
<th>left hemisphere</th>
</tr>
</thead>
<tbody>
<tr>
<td>nerves</td>
<td>occipital lobe</td>
<td>parietal lobe</td>
<td>reflexes</td>
</tr>
<tr>
<td>right hemisphere</td>
<td>temporal lobe</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- problem-solving part of the brain
- controls hearing and smelling
- helps with balance and controls reflexes
- controls vision
- creative part of the brain
- contains the four lobes of the brain
- send sensory messages to spinal cord
- controls speech and movement
- involuntary actions of the body
- controls feelings of touch and pain
Assemble the Brain

Study this brain before cutting out the various sections. Mix them up and see if you can put the brain back together correctly. Let others in your family try as well.
Follow the directions on the site to make a brain hat.
What Did You Learn?

Answer the following questions about the chapter you read. Fill in the bubble next to the correct answer.

What is the part of the eye through which light enters?
- ○ pupil
- ○ iris
- ○ retina

Which part of the eye takes a picture of what is seen and sends it to the brain?
- ○ pupil
- ○ iris
- ○ retina

Which of these parts of the body contain nerve endings?
- ○ hair
- ○ fingernails
- ○ fingers

Which of these experiences sound waves first?
- ○ ear
- ○ eardrum
- ○ cochlea

Which of these is not one of the five senses?
- ○ touch
- ○ smell
- ○ humor
What Did You Learn?

Fill in the blank with the word that best fits.

colorful part of the eye

vibrations in the air causing noise

act like the hairs in the nose to keep dirt away

sense temperature and pain

filled with fluid and hairs

changes in size depending on light

keep your eyes wet and clean

the largest sense organ

act like windshield wipers to keep dirt away

cochlea  eyelashes  eyelids  iris

nerve endings  pupil  skin

sound waves  tears
Secret Message

Use the key to decode the message.

```
<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>I</th>
<th>J</th>
<th>K</th>
<th>L</th>
<th>M</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>3</td>
<td>10</td>
<td>16</td>
<td>6</td>
<td>21</td>
<td>25</td>
<td>13</td>
<td>18</td>
<td>7</td>
<td>23</td>
<td>19</td>
<td>1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>N</th>
<th>O</th>
<th>P</th>
<th>Q</th>
<th>R</th>
<th>S</th>
<th>T</th>
<th>U</th>
<th>V</th>
<th>W</th>
<th>X</th>
<th>Y</th>
<th>Z</th>
</tr>
</thead>
<tbody>
<tr>
<td>11</td>
<td>4</td>
<td>9</td>
<td>2</td>
<td>17</td>
<td>15</td>
<td>20</td>
<td>26</td>
<td>8</td>
<td>24</td>
<td>12</td>
<td>22</td>
<td>14</td>
</tr>
</tbody>
</table>
```

15 6 11 15 6
4 17 25 5 11 15 15 6 11 16

1 6 15 15 5 25 6 15 20 4 20 13 6

3 17 5 18 11 20 13 5 20 10 4 11 20 17 4 19

15 1 6 19 19 15 18 25 13 20 20 5 15 20 6

20 4 26 10 13 5 11 16 13 6 5 17 18 11 25
What Did You Learn?

Fill in the blank with the word that best fits.

- brain
- external senses
- mucus
- saliva
- sense organ
- smelling
- taste buds

include hearing, sight, taste, touch, and smell

organ that controls what the body does

part of your sense of taste

sense sour, salty, bitter, and sweet

liquid created in the mouth to help with taste and digestion

the one for taste is the tongue

fluid used to trap junk that enters your nose
What Did You Learn?

Fill in the blank with the word that best fits.

include hunger, thirst, and pain

when a sound wave returns to the source of the sound

some animals use this to navigate, communicate, and find food

the use of an electric charge to move and survive

curved tunnels inside the ears

the ability of a plant to grow toward the sun

useful for seeing at night
Use this sheet to record the differences (on the lines) and similarities (in the box) of prokaryotic and eukaryotic cells.

<table>
<thead>
<tr>
<th>Prokaryotic</th>
<th>Eukaryotic</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
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<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
What Did You Learn?

Answer the following questions about the chapter you read. Fill in the bubble next to the correct answer.

The covering that surrounds the cell and protects it is known as what?
- O cytoplasm
- O DNA
- O membrane

Which type of cell has organelles?
- O prokaryotic
- O eukaryotic
- O both

Which type of cell reacts to changes in the environment?
- O prokaryotic
- O eukaryotic
- O both

Which type of cell is found in the bacteria kingdoms?
- O prokaryotic
- O eukaryotic
- O both

Which of these is in order from largest to smallest?
- O kingdom, population, tissue, organ, organism, cell
- O kingdom, tissue, organism, population, organ, cell
- O kingdom, population, organism, organ, tissue, cell
- O kingdom, organism, population, tissue, organ, cell
What Did You Learn?

Fill in the blank with the word that best fits.

- small structures inside cells that have specific jobs
- make up everything inside your body
- populations are made up of individual
- making another of your own kind
- all the different kinds of life that exists
- type of cell found in bacteria
- largest grouping for living things
- gooey fluid that fills a cell
- type of cell found in animals
Use the clues to fill in the crossword puzzle.

Across:
3. small structures inside a cell with a specific job
4. the instructions for making everything an organism needs for survival
6. type of cell that contains organelles
7. gooey fluid that fills up a cell

Down:
1. type of cell found in bacteria
2. building blocks
5. nutrients, water, and air enter and exit a cell through this
What Did You Learn?

Reassemble the words by writing them on the lines.

<table>
<thead>
<tr>
<th>organ</th>
<th>mitoch</th>
<th>ribo</th>
</tr>
</thead>
<tbody>
<tr>
<td>ondria</td>
<td>nuc</td>
<td>tein</td>
</tr>
<tr>
<td>leus</td>
<td>some</td>
<td>elle</td>
</tr>
<tr>
<td>cyto</td>
<td>pro</td>
<td>plasm</td>
</tr>
</tbody>
</table>

Fill in the blank with the word that best fits.

- the boss of the cell               RNA
- the office which contains the boss RNA
- these decode the message           ribosomes
- new messages read by organelles    DNA
- the message sent into the cytoplasm nucleus
Color the animal cell according to the key at the bottom.

- Nucleus – red
- Ribosomes – orange
- ER – brown
- Lysosome – green
- Mitochondria - blue
- Vacuole - purple
- Golgi body - pink
- Cytoplasm - yellow
Use the key to decode the message.

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>I</th>
<th>J</th>
<th>K</th>
<th>L</th>
<th>M</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>O</td>
<td>P</td>
<td>Q</td>
<td>R</td>
<td>S</td>
<td>T</td>
<td>U</td>
<td>V</td>
<td>W</td>
<td>X</td>
<td>Y</td>
<td>Z</td>
</tr>
</tbody>
</table>

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Unscramble

Unscramble the words below, and then write definitions for each on the lines.

LOBGDYOIG (2 wds.) ____________________________

YHLHORLOCPL ____________________________

ZMEEYNS ____________________________

ALELCLWL (2 wds.) ____________________________

THRLCOPOLAS ____________________________

OLMSOSYE ____________________________
Experiment Worksheet

Fill out this worksheet as you work through the experiment.

Question: ________________________________

Hypothesis: ________________________________

Materials: ________________________________

Procedure: ________________________________

Observations/data: ________________________

Conclusion: ______________________________
Plant Cell

Color the plant cell according to the key at the bottom.

Nucleus – red
Ribosomes – orange
ER – brown
Chloroplast – green
Mitochondria - blue
Vacuole - purple
Golgi body - pink
Lysosome - yellow
What Did You Learn?

Fill in the blank with the word that best fits.

1. rids the cell of waste: __________________
2. organelle only found in plant cells: __________________
3. wraps proteins into a bundle: __________________
4. using sunlight, nutrients, and water to make food: __________________
5. chemical that soaks up sunlight to use for energy: __________________
6. stores extra water and nutrients: __________________
7. a stiff structure that surrounds the cell and protects it: __________________
Fill in the blanks of the sentence using the words in the box.

bacteria  flagella  liquid  push  whip

The _____________ is a long ___________ that helps
to _________ a ____________ through ____________.

Fill in the blanks of this chart with a “yes” or “no.”

<table>
<thead>
<tr>
<th></th>
<th>Plant cell</th>
<th>Animal cell</th>
<th>Bacteria cell</th>
</tr>
</thead>
<tbody>
<tr>
<td>cell membrane</td>
<td>yes</td>
<td></td>
<td>yes</td>
</tr>
<tr>
<td>cell wall</td>
<td>no</td>
<td></td>
<td>yes</td>
</tr>
<tr>
<td>chlorophyll</td>
<td>yes</td>
<td></td>
<td>some</td>
</tr>
<tr>
<td>chloroplast</td>
<td>no</td>
<td></td>
<td>no</td>
</tr>
<tr>
<td>cytoplasm</td>
<td>yes</td>
<td>yes</td>
<td></td>
</tr>
<tr>
<td>DNA</td>
<td>yes</td>
<td></td>
<td>yes</td>
</tr>
<tr>
<td>ER</td>
<td>yes</td>
<td></td>
<td>no</td>
</tr>
<tr>
<td>Golgi body</td>
<td>yes</td>
<td>yes</td>
<td></td>
</tr>
<tr>
<td>lysosome</td>
<td>yes</td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td>mitochondria</td>
<td>yes</td>
<td></td>
<td>no</td>
</tr>
<tr>
<td>nucleus</td>
<td></td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td>ribosome</td>
<td>yes</td>
<td>yes</td>
<td></td>
</tr>
<tr>
<td>vacuole</td>
<td>yes</td>
<td></td>
<td>no</td>
</tr>
<tr>
<td>cytoplasm</td>
<td>DNA</td>
<td>Golgi body</td>
<td>lysosome</td>
</tr>
<tr>
<td>-----------------</td>
<td>----------------</td>
<td>-----------------</td>
<td>----------------</td>
</tr>
<tr>
<td>mitochondria</td>
<td>nucleus</td>
<td>ribosomes</td>
<td>vacuole</td>
</tr>
</tbody>
</table>

- rids the cell of waste: **lysosome**
- the instructions: **DNA**
- packing station of the cell: **Golgi body**
- the largest organelle in a cell: **mitochondria**
- turns nutrients into energy: **mitochondria**
- the warehouse of the cell: **vacuole**
- gel-like substance that fills a cell: **cytoplasm**
- the decoders: **ribosomes**
Gather objects to represent each of the organelles on the list.

<table>
<thead>
<tr>
<th>Organelle</th>
<th>Function</th>
<th>Object selected</th>
</tr>
</thead>
<tbody>
<tr>
<td>cell wall</td>
<td>protects plant/bacteria cells</td>
<td></td>
</tr>
<tr>
<td>chlorophyll</td>
<td>collects sunlight in plants</td>
<td></td>
</tr>
<tr>
<td>ER</td>
<td>highway; sends messages</td>
<td></td>
</tr>
<tr>
<td>flagella</td>
<td>helps bacteria cell move</td>
<td></td>
</tr>
<tr>
<td>Golgi body</td>
<td>packages proteins</td>
<td></td>
</tr>
<tr>
<td>lysosome</td>
<td>gets rid of waste</td>
<td></td>
</tr>
<tr>
<td>mitochondria</td>
<td>makes energy for the cell</td>
<td></td>
</tr>
<tr>
<td>nucleus</td>
<td>houses the DNA</td>
<td></td>
</tr>
<tr>
<td>ribosome</td>
<td>decode; make proteins</td>
<td></td>
</tr>
<tr>
<td>vacuole</td>
<td>stores water and nutrients</td>
<td></td>
</tr>
</tbody>
</table>
Find the immune system words in the word search.

bacteria        disease        immune system
lysozyme        skin            white blood cells
What Did You Learn?

Fill in the blank with the word that best fits.

- immune system over-working to get rid of something: ______________
- result when the immune system misses bacteria: ______________
- protects the body from things that can hurt it: ______________
- chemicals that attack bacteria: ______________
- bacteria-destroying enzyme: ______________
- attack foreigners in the body: ______________
Red and White Blood Cells

Use this sheet to record the differences (on the lines) and similarities (in the box) of red and white blood cells.

<table>
<thead>
<tr>
<th>Red blood cells</th>
<th>White blood cells</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Use this sheet to record your findings.

<table>
<thead>
<tr>
<th>Cup #</th>
<th>Contents</th>
<th>Prediction</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>nothing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>meat</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>antibacterial agent</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>meat and antibacterial agent</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Fill in the blank with the word that best fits.

- turns nutrients into energy
- single-celled organisms
- whip-like tail to help with movement
- surrounds and protects some cells
- contains the DNA
- uses sunlight to make food
- more complex cells
- bundles proteins
- gets rid of waste
- sends protein messages to organelles
- stores extra water and nutrients
Unit Review

Answer the following questions about the unit. Fill in the bubble next to the correct answer.

Which of these represents the boss and office of a cell?
- DNA and nucleus
- ER and ribosomes
- Golgi body and lysosome

Which of the following is true?
- prokaryotic cells are found in plants
- eukaryotic cells have organelles
- prokaryotic and eukaryotic cells have chlorophyll

Which of these surrounds an animal cell?
- flagella
- cell membrane
- cell wall

Which of these surrounds a plant cell?
- flagella
- cell membrane
- cell wall

The gel-like substance that fills a cell is known as what?
- membrane
- mucus
- cytoplasm
- chloroplast
<table>
<thead>
<tr>
<th>Lightning</th>
<th>Heart</th>
<th>Cloud</th>
<th>Sun</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lightning</td>
<td>Heart</td>
<td>Cloud</td>
<td>Sun</td>
</tr>
<tr>
<td>Lightning</td>
<td>Heart</td>
<td>Cloud</td>
<td>Sun</td>
</tr>
<tr>
<td>Lightning</td>
<td>Heart</td>
<td>Cloud</td>
<td>Sun</td>
</tr>
<tr>
<td>Lightning</td>
<td>Heart</td>
<td>Cloud</td>
<td>Sun</td>
</tr>
<tr>
<td>Lightning</td>
<td>Heart</td>
<td>Cloud</td>
<td>Sun</td>
</tr>
<tr>
<td>Heart</td>
<td>Sun</td>
<td>Cloud</td>
<td>Lightning</td>
</tr>
<tr>
<td>-------</td>
<td>-----</td>
<td>-------</td>
<td>-----------</td>
</tr>
<tr>
<td>Heart</td>
<td>Sun</td>
<td>Cloud</td>
<td>Lightning</td>
</tr>
<tr>
<td>Heart</td>
<td>Sun</td>
<td>Cloud</td>
<td>Lightning</td>
</tr>
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<td>Lightning</td>
</tr>
<tr>
<td>Heart</td>
<td>Sun</td>
<td>Cloud</td>
<td>Lightning</td>
</tr>
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<td>Sun</td>
<td>Cloud</td>
<td>Lightning</td>
</tr>
<tr>
<td>Heart</td>
<td>Sun</td>
<td>Cloud</td>
<td>Lightning</td>
</tr>
</tbody>
</table>
Dog Traits

Hair

Tail

Eyes

Coat

Brown
Black
Red-Brown
Yellow
This page is your body bingo board.
Body Bingo

Cut out the pieces and arrange them on your board in a random order. There are more pieces than squares for variation purposes.
Body Bingo

Have someone read out the questions and see if you have the answer on your bingo board. Can you figure it out without the answer being given to you?

1. This part controls all your body systems. (brain)
2. This part mixes your food into a paste. (stomach)
3. This part leads from the mouth to the stomach. (esophagus)
4. This helps you digest sugars. (pancreas)
5. This organ has a part called the pupil. (eye)
6. This muscle allows the lungs to expand. (diaphragm)
7. Vitamins and minerals pass into blood here. (small intestine)
8. This body part moves your bones. (muscles)
9. If you “swallow wrong,” your food tries to go here. (trachea)
10. This body part is made up of valves. (heart)
11. This organ keeps your blood clean. (liver)
12. This organ filters the liquid in your body. (kidney)
13. This organ stores bile. (gall bladder)
14. Taste buds can be found here. (tongue)
15. These transfer oxygen from the air to your blood. (lungs)
16. This organ removes extra water from your food. (large intestine)
17. This organ includes the cochlea. (ear)
18. These send sensory messages to your spinal cord. (nerves)
19. This gives your body structure and support. (bone)
20. This body part is responsible for smell as well as taste. (nose)
Use this sheet to record your observations.

<table>
<thead>
<tr>
<th>Plants</th>
<th>Things that need plants</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Photosynthesis

Fill in the blanks.

Gas produced by factories, vehicles, and humans exhaling

_________________________

Energy source; comes from the sun

_________________________

Soaked up through the roots; carries nutrients

_________________________

Tree produces this to use as its food

_________________________

Tree produces this gas humans need to survive

_________________________
Fill out this worksheet as you work through the experiment.

Question: ________________________________

Hypothesis: ______________________________

Materials: ________________________________

Procedure: ________________________________

Observations/data: _________________________

Conclusion: ______________________________
Fill out this worksheet as you work through the experiment.

**Plant in the dark**
What I think will happen: ____________________________

__________________________

What actually happened: ____________________________

__________________________

**Plant without water**
What I think will happen: ____________________________

__________________________

What actually happened: ____________________________

__________________________

**Plant with light and water**
What I think will happen: ____________________________

__________________________

What actually happened: ____________________________

__________________________
Plant Categories

Write or draw as many examples of you can think of for each category.

<table>
<thead>
<tr>
<th>Roots</th>
<th>Seeds</th>
<th>Leaves</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fruits</th>
<th>Flowers</th>
<th>Stems</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Tree Observation

Sit quietly near your tree. Take notes on your observations.

<table>
<thead>
<tr>
<th>Looking</th>
<th>Listening</th>
</tr>
</thead>
<tbody>
<tr>
<td>What living things do you see in and near your tree?</td>
<td>Do you hear animals playing or singing in the tree? Do you hear wind moving leaves or branches?</td>
</tr>
</tbody>
</table>

Draw the tree. Use a tape measure to record the measurement around the tree.

<table>
<thead>
<tr>
<th>Touching</th>
<th>Smelling</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is the bark smooth or rough? Are the leaves soft or prickly?</td>
<td>What does the bark smell like? The leaves? Are there flowers on the tree?</td>
</tr>
</tbody>
</table>

Make a rubbing or trace a leaf.

<table>
<thead>
<tr>
<th>Any other observations?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Has the tree changed since the previous season?</td>
</tr>
</tbody>
</table>
Sit quietly near your tree. Take notes on your observations.

<table>
<thead>
<tr>
<th>Looking</th>
<th>Listening</th>
</tr>
</thead>
<tbody>
<tr>
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<tr>
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</table>

Make a rubbing or trace a leaf.

<table>
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<tr>
<th>Any other observations?</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Has the tree changed since the previous season?</td>
<td></td>
</tr>
</tbody>
</table>
Use this page for your scavenger hunt if it is currently fall.

**Fall**

Look for these:

- A falling leaf
- A crawling insect
- A bird
- 3 different color leaves

Colors found: ____________________________

Listen for these:

- Something moved by the wind
- Leaves crunching
- An animal’s call
- An insect

What else do you hear?

Touch these:

- A crunchy, crinkly leaf
- A smooth rock
- Tree bark

What did it feel like?

Smell these:

- Campfire
- Pine cones

What else do you smell?
Scavenger Hunt

Use this page for your scavenger hunt if it is currently spring.

Spring

Look for these:

- Mud
- A bird
- A small wildflower
- Weeds
- A crawling insect
- New leaves on a tree
- A bird’s nest
- A tall wildflower
- A worm
- A flying insect

Listen for these:

- Something moved by the wind
- A bird’s song/call
- An animal’s call
- An insect

What else do you hear?

Touch these:

- A warm, sunny spot
- A shady, cool spot
- Flower petals
- A smooth rock
- Wet mud
- Tree bark

What did it feel like?

Smell these:

- A flower
- Grass

What else do you smell?
Scavenger Hunt

Use this page for your scavenger hunt if it is currently summer.

Summer

Look for these:

- A bird flying
- Fruit or berries
- A crawling insect
- Something red: __________
- Something green: __________

Listen for these:

- A flying insect
- Something moved by the wind
- An animal’s call

What else do you hear?

Touch these:

- Something hot from the sun
- A smooth rock
- Somewhere cool and shady
- Tree bark

What did it feel like?

Smell these:

- A flower
- Grass

What else do you smell?
Scavenger Hunt

Use this page for your scavenger hunt if it is currently winter.

Winter

Look for these:

- Animal tracks
- An acorn or pinecone
- Berries on a plant
- Trees with no leaves
- A bird
- A feather
- Something with thorns
- Trees with a few leaves

Listen for these:

- An animal’s call
- Something moved by the wind
- What else do you hear?

Touch these:

- Something wet
- A smooth rock
- Smooth tree bark
- Rough tree bark
- A pinecone

Smell these:

- Hot cocoa!
- A crackling fire
- What else do you smell?
Soil Observations

Fill out this worksheet as you observe your soil.

I found in the soil: ____________________________

__________________________________________________________________________

__________________________________________________________________________

I think that in the soil there might also be: __________

__________________________________________________________________________

__________________________________________________________________________

Measure how deep your soil is: _________________

Draw a picture of your soil or the things you found in it.
**Soil Square Observations**

Use the boxes to record your observations.

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
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<td></td>
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<td></td>
</tr>
</tbody>
</table>


Soil Substitute Observations

Use the boxes to record your observations.

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>7</td>
<td>8</td>
<td>9</td>
</tr>
</tbody>
</table>

1. ____________________________
2. ____________________________
3. ____________________________
4. ____________________________
5. ____________________________
6. ____________________________
7. ____________________________
8. ____________________________
9. ____________________________
Germination Observations

Use the boxes to record your observations.

<table>
<thead>
<tr>
<th>1.</th>
<th>2.</th>
<th>3.</th>
<th>4.</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.</td>
<td>6.</td>
<td>7.</td>
<td>8.</td>
</tr>
<tr>
<td>9.</td>
<td>10.</td>
<td>11.</td>
<td>12.</td>
</tr>
<tr>
<td>13.</td>
<td>14.</td>
<td>15.</td>
<td>16.</td>
</tr>
<tr>
<td>17.</td>
<td>18.</td>
<td>19.</td>
<td>20.</td>
</tr>
</tbody>
</table>
Germination

Radicle  Hypocotyl  Seed Coat  Roots

Cotyledon  Plumule Leaves
Use this template to make your minibook.

4-Window Minibook

Valley fold

Mountain fold

Before cutting, lightly number the pages with a pencil.
Cut on solid lines. Fold on dotted lines.
Plant Parts

Label the plant parts.
Does it Come from a Plant?

Do the following come from plants? Fill in the chart with yes or no. If the item does come from a plant, name the plant it comes from.

<table>
<thead>
<tr>
<th>Object</th>
<th>Yes or No/ Name of Plant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paper clip</td>
<td></td>
</tr>
<tr>
<td>Tea/tea bag</td>
<td></td>
</tr>
<tr>
<td>Rope</td>
<td></td>
</tr>
<tr>
<td>Knife</td>
<td></td>
</tr>
<tr>
<td>Cotton ball</td>
<td></td>
</tr>
<tr>
<td>Thread</td>
<td></td>
</tr>
<tr>
<td>Toothpicks</td>
<td></td>
</tr>
<tr>
<td>Chopsticks</td>
<td></td>
</tr>
<tr>
<td>Paper</td>
<td></td>
</tr>
<tr>
<td>Marble</td>
<td></td>
</tr>
</tbody>
</table>
Use this page for your first leaf rubbing.

Height at the tallest point: ______________
Width at the widest point: ______________
Color: ______________
Texture (How does it feel?): _________________________________________
Any other observations: ____________________________________________
Leaf Rubbings

Use this page for your second leaf rubbing.

Height at the tallest point: _____________
Width at the widest point: _____________
Color: ________________
Texture (How does it feel?): ____________________________
Any other observations: ____________________________

_________________________________________________________________
Fill in the sections of this chart as you work through the project.

**Topic:**

<table>
<thead>
<tr>
<th>Topic:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>What I Know</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>What I Want to Know</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>What I Learned</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>
Draw the process from pollen to fruit.
Fill in the sections of this chart as you work through the project.

**Topic:**

<table>
<thead>
<tr>
<th>What I Know</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>What I Want to Know</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>What I Learned</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>
Find the plant words in the word search.

autotrophic  conifer  
moss  nonflowering  
rhizomes  vascular  
photosynthesis
What Did You Learn?

Fill in the blank with the word that best fits.

an example of a non-flowering, vascular plant

doesn’t produce flowers, but does produce seeds

make their own food

areas on a root where a new plant can grow

cannot move water from roots to stem to leaves

an example of a nonvascular plant
Use these paper flowers to complete the experiment.
Fill in the blank with the word that best fits.

- Chemicals made by an organism to help the organism: ________________
- Animal-like protists: ________________
- Do not make their own food: ________________
- Plant-like protists: ________________
- These break down biotic material into more useful forms: ________________
- Fungus-like protists: ________________
Complete these lapbook pieces for lessons 151 and 152.

Steps of the Scientific Method piece:
Cut out on outer lines. Accordion fold leaving title section on top. Write one step in each section.

What is the Scientific Method?

What is a hypothesis?
Cut on the dark black lines. Fold on the center line and glue to your page where instructed. Under each flap, write a description of that variable.
The Scientific Method

Put the steps of the scientific method in order.

1. ________________________________
2. ________________________________
3. ________________________________
4. ________________________________
5. ________________________________
6. ________________________________
7. ________________________________
Formulate your question and fill it in here. You can cut out the pieces if you’d like to make a lapbook.

**Who?**

**What?**

**Where?**

**When?**

**Why?**

**Which?**

**How?**

**My Question**

________________________

________________________

________________________

________________________

________________________

________________________
Use these pages to make notes on your topic.

<table>
<thead>
<tr>
<th>Topic:</th>
<th>Resource 1:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Info:</td>
<td>Info:</td>
</tr>
<tr>
<td>Info:</td>
<td>Info:</td>
</tr>
<tr>
<td>Info:</td>
<td>Info:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Resource 2:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Info:</td>
</tr>
<tr>
<td>Info:</td>
</tr>
<tr>
<td>Info:</td>
</tr>
<tr>
<td>Info:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Resource 3:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Info:</td>
</tr>
<tr>
<td>Info:</td>
</tr>
<tr>
<td>Info:</td>
</tr>
<tr>
<td>Info:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Resource 4:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Info:</td>
</tr>
<tr>
<td>Info:</td>
</tr>
<tr>
<td>Info:</td>
</tr>
<tr>
<td>Info:</td>
</tr>
</tbody>
</table>
Resource 5: ____________________________
Info: ____________________________
Info: ____________________________
Info: ____________________________

Resource 6: ____________________________
Info: ____________________________
Info: ____________________________
Info: ____________________________

Resource 7: ____________________________
Info: ____________________________
Info: ____________________________
Info: ____________________________

Resource 8: ____________________________
Info: ____________________________
Info: ____________________________
Info: ____________________________

Resource 9: ____________________________
Info: ____________________________
Info: ____________________________
Info: ____________________________
Hypothesis and Variables

Use this page to record your hypothesis and variables. You can cut the pieces out if you’re making a lapbook.

My Hypothesis: _______________________

My independent variable(s):

My controlled variable(s):

Variables
Independent:
What I will change

Dependent:
What I will be measuring and observing

Controlled:
What I will keep the same
My Experiment

Use these pages to record your materials and the steps in your experiment. It’s okay if you don’t fill up all of the space.

My Materials: ________________________________

______________________________

______________________________

______________________________

______________________________
Steps in My Experiment

[Blank lines for writing steps]
Formulate your question and fill it in here. You can cut out the pieces if you’d like to make a lapbook.

**My Question**

Who?

What?

Where?

When?

Why?

Which?

How?
Use these pages to make notes on your topic.

Topic: ____________________________

Resource 1: ____________________________
Info: ________________  Info: ________________
Info: ________________  Info: ________________
Info: ________________  Info: ________________

Resource 2: ____________________________
Info: ________________  Info: ________________
Info: ________________  Info: ________________
Info: ________________  Info: ________________

Resource 3: ____________________________
Info: ________________  Info: ________________
Info: ________________  Info: ________________
Info: ________________  Info: ________________

Resource 4: ____________________________
Info: ________________  Info: ________________
Info: ________________  Info: ________________
Info: ________________  Info: ________________
Resource 5:__________________________

Info:__________________________  Info:__________________________

Info:__________________________  Info:__________________________

Info:__________________________  Info:__________________________

Resource 6:__________________________

Info:__________________________  Info:__________________________

Info:__________________________  Info:__________________________

Info:__________________________  Info:__________________________

Resource 7:__________________________

Info:__________________________  Info:__________________________

Info:__________________________  Info:__________________________

Info:__________________________  Info:__________________________

Resource 8:__________________________

Info:__________________________  Info:__________________________

Info:__________________________  Info:__________________________

Info:__________________________  Info:__________________________

Resource 9:__________________________

Info:__________________________  Info:__________________________

Info:__________________________  Info:__________________________

Info:__________________________  Info:__________________________
Hypothesis and Variables

Use this page to record your hypothesis and variables. You can cut the pieces out if you’re making a lapbook.

My Hypothesis: __________________________

My independent variable(s):

My controlled variable(s):

Variables

Independent: What I will change

Dependent: What I will be measuring and observing

Controlled: What I will keep the same
Use these pages to record your materials and the steps in your experiment. It’s okay if you don’t fill up all of the space.

My Materials: ____________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________
Steps in My Experiment

____________________________________________________________________

____________________________________________________________________

____________________________________________________________________

____________________________________________________________________

____________________________________________________________________

____________________________________________________________________

____________________________________________________________________

____________________________________________________________________

____________________________________________________________________

____________________________________________________________________

____________________________________________________________________

____________________________________________________________________

____________________________________________________________________
Sit quietly near your tree. Take notes on your observations.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Draw the tree. Use a tape measure to record</td>
<td>Looking: What living things do you see in and near your tree?</td>
</tr>
<tr>
<td>the measurement around the tree.</td>
<td>Listening: Do you hear animals playing or singing in the tree? Do you</td>
</tr>
<tr>
<td></td>
<td>hear wind moving leaves or branches?</td>
</tr>
<tr>
<td>Make a rubbing of the bark.</td>
<td>Touching: Is the bark smooth or rough? Are the leaves soft or prickly?</td>
</tr>
<tr>
<td>Make a rubbing or trace a leaf.</td>
<td>Smelling: What does the bark smell like? The leaves? Are there flowers on</td>
</tr>
<tr>
<td></td>
<td>the tree?</td>
</tr>
<tr>
<td>What season is it now?</td>
<td>Any other observations? Has the tree changed since the previous season?</td>
</tr>
<tr>
<td>What kind of tree are you observing?</td>
<td></td>
</tr>
</tbody>
</table>