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>
<th>dermis</th>
<th>ligaments</th>
<th>muscles</th>
<th>organs</th>
<th>skin</th>
<th>tendons</th>
</tr>
</thead>
</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: esophagus
- holds onto food until it’s needed: acid
- breaks down food into small pieces for blood to carry through body: villi
- move food from small intestine to blood: small intestine
- takes water out of food: stomach
- clean waste products from blood: kidneys
- kills bacteria on food that’s been eaten: ulcer
- type of muscle found in digestive system: smooth
- leftovers of food used in the body: waste products
- a hole burned in the stomach: ulcer
What Did You Learn?

Fill in the blank with the word that best fits.

esophagus  large  liver  lungs  pancreas
skeletal  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   intestine   esophagus
rectum   pancreas   gallbladder
stomach
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:**

_________________________________________________________________________
_________________________________________________________________________
_________________________________________________________________________
_________________________________________________________________________
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.

<table>
<thead>
<tr>
<th>arteries</th>
<th>capillaries</th>
<th>cardiac</th>
<th>plasma</th>
<th>red blood cells</th>
<th>veins</th>
<th>white blood cells</th>
</tr>
</thead>
</table>

- 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 ______________
Review the Terms

Unscramble the words and write their definitions.

RAEETISR


PAAILCIRELSS


DACRCIA


RDCEDELOLBOLS (3 WORDS)


NEVIS


TWLSLIEEOBHLHODCL (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.
Word Search

Find the words in the word search.

arteries  atrium  blood
capillaries  circulation  heart
oxygen  plasma  veins
ventricle
Muscle Coloring Pages

Color the muscles using the directions on the site.

Anterior View (Front View)

- Pectorals
- Biceps Brachii
- Rectus Abdominis
- Obliques
- Rectus Femoris (Quadriceps)
Posterior View (Back View)

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

- alveoli
- exhale
- oxygen
- bronchiole
- inhale
- respiratory
- diaphragm
- lungs
- trachea
Find the words in the word search.

bathroom  bladder  fluid
kidneys    nephrons  ureter
urethra    urinary tract  urine
Word Assembly

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>
<th>nerves</th>
<th>occipital lobe</th>
<th>parietal lobe</th>
<th>reflexes</th>
<th>right hemisphere</th>
<th>temporal lobe</th>
</tr>
</thead>
</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
Fill in the blank with the word that best fits.

<table>
<thead>
<tr>
<th>cochlea</th>
<th>eyelashes</th>
<th>eyelids</th>
<th>iris</th>
<th>nerve endings</th>
<th>pupil</th>
<th>skin</th>
<th>sound waves</th>
<th>tears</th>
</tr>
</thead>
</table>

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
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.

<table>
<thead>
<tr>
<th>brain</th>
<th>external senses</th>
<th>mucus</th>
<th>saliva</th>
</tr>
</thead>
<tbody>
<tr>
<td>sense organ</td>
<td>smelling</td>
<td>taste buds</td>
<td></td>
</tr>
</tbody>
</table>

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  _____________

options: canals, echo, echolocation, electric sense, infrared vision, internal senses, phototropism
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>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<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

the office which contains the boss

these decode the message

new messages read by organelles

the message sent into the cytoplasm
Animal Cell

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.
Unscramble

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

LOBGDYOIG (2 wds.)

YHLHORLOCPL

ZMEEYNS

ALELCLWL (2 wds.)

THRLCOPLOAS

OLMSOSYE
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
Fill in the blank with the word that best fits.

<table>
<thead>
<tr>
<th>cell wall</th>
<th>chlorophyll</th>
<th>chloroplast</th>
<th>Golgi body</th>
<th>lysosome</th>
<th>photosynthesis</th>
<th>vacuole</th>
</tr>
</thead>
</table>

rids the cell of waste

organelle only found in plant cells

wraps proteins into a bundle

using sunlight, nutrients, and water to make food

chemical that soaks up sunlight to use for energy

stores extra water and nutrients

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>yes</td>
<td></td>
</tr>
<tr>
<td>chlorophyll</td>
<td>yes</td>
<td></td>
<td>some</td>
</tr>
<tr>
<td>chloroplast</td>
<td>no</td>
<td>no</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></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>
</tbody>
</table>
Fill in the blank with the word that best fits.

- **cytoplasm**
- **DNA**
- **Golgi body**
- **lysosome**
- **mitochondria**
- **nucleus**
- **ribosomes**
- **vacuole**

- rids the cell of waste
- the instructions
- packing station of the cell
- the largest organelle in a cell
- turns nutrients into energy
- the warehouse of the cell
- gel-like substance that fills a cell
- the decoders
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
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>
<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.

| cell wall | chlorophyll | ER | eukaryotic | flagella |
| Golgi body | lysosome | mitochondria | nucleus |
| prokaryotic | vacuole |

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
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>Sun</th>
<th>Cloud</th>
<th>Lightning</th>
<th>Heart</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sun</td>
<td>Cloud</td>
<td>Lightning</td>
<td>Heart</td>
</tr>
<tr>
<td>Sun</td>
<td>Cloud</td>
<td>Lightning</td>
<td>Heart</td>
</tr>
<tr>
<td>Sun</td>
<td>Cloud</td>
<td>Lightning</td>
<td>Heart</td>
</tr>
<tr>
<td>Sun</td>
<td>Cloud</td>
<td>Lightning</td>
<td>Heart</td>
</tr>
<tr>
<td>Sun</td>
<td>Cloud</td>
<td>Lightning</td>
<td>Heart</td>
</tr>
<tr>
<td>Sun</td>
<td>Cloud</td>
<td>Lightning</td>
<td>Heart</td>
</tr>
</tbody>
</table>
Dog Traits

Head Shape

Body Shape

Ears

Legs
Dog Traits

Hair

Tail

Eyes

Coat

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

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

<table>
<thead>
<tr>
<th>stomach</th>
<th>brain</th>
<th>large intestine</th>
<th>trachea</th>
</tr>
</thead>
<tbody>
<tr>
<td>liver</td>
<td>diaphragm</td>
<td>eye</td>
<td>ear</td>
</tr>
<tr>
<td>pancreas</td>
<td>nerve</td>
<td>tongue</td>
<td>muscle</td>
</tr>
<tr>
<td>lungs</td>
<td>heart</td>
<td>nose</td>
<td>bone</td>
</tr>
<tr>
<td>small intestine</td>
<td>kidney</td>
<td>gallbladder</td>
<td>esophagus</td>
</tr>
</tbody>
</table>
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>
</tbody>
</table>
Fill in the blanks.

Gas produced by factories, vehicles, and humans exhaling

______________________________

Tree produces this to use as its food

______________________________

Energy source; comes from the sun

______________________________

Tree produces this gas humans need to survive

______________________________

Soaked up through the roots; carries nutrients

______________________________
Experiment Worksheet

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>
<th>Touching</th>
<th>Smelling</th>
<th>Any other observations?</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>
<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>
<td>Has the tree changed since the previous season?</td>
</tr>
</tbody>
</table>

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

Make a rubbing of the bark. 

Make a rubbing or trace a leaf. 

What season is it now? 

What kind of tree are you observing?
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</td>
<td>Do you hear animals playing or singing in the tree? Do you hear wind</td>
</tr>
<tr>
<td>your tree?</td>
<td>moving leaves or branches?</td>
</tr>
</tbody>
</table>

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

| Touching                                     | Smelling                                                                  |
|----------------------------------------------|                                                                          |
| Is the bark smooth or rough? Are the leaves  | What does the bark smell like? The leaves? Are there flowers on the tree?|
| soft or prickly?                             |                                                                          |

Make a rubbing of the bark.

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</td>
</tr>
<tr>
<td>season?</td>
</tr>
</tbody>
</table>
Scavenger Hunt

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
- What animal did you hear?
- 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>
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</thead>
<tbody>
<tr>
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</tr>
</tbody>
</table>
Soil Substitute Observations

Use the boxes to record your observations.

1. 
2. 
3. 
4. 
5. 
6. 
7. 
8. 
9. 

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

Use the boxes to record your observations.

1.  2.  3.  4.  
5.  6.  7.  8.  
9. 10. 11. 12.  
13. 14. 15. 16.  
17. 18. 19. 20.  
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.
Glue this sheet to the inside of pages 2/5.

Valley fold
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: ________________________________

_________________________________________________
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.

<table>
<thead>
<tr>
<th>Topic:</th>
<th>________________________________</th>
</tr>
</thead>
<tbody>
<tr>
<td>What I Know</td>
<td></td>
</tr>
<tr>
<td>What I Want to Know</td>
<td></td>
</tr>
<tr>
<td>What I Learned</td>
<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>
<th></th>
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</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>

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

<table>
<thead>
<tr>
<th>What I Learned</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Word Search

Find the plant words in the word search.

autotrophic  conifer  photosynthesis
moss  nonflowering
rhizomes  vascular
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

Options:
- autotrophic
- conifer
- fern
- moss
- nonvascular
- rhizomes
Use these paper flowers to complete the experiment.
What Did You Learn?

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 on days 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. Make observations
2. Identify the problem
3. Study the data
4. State your hypothesis
5. Collect and record data
6. Make conclusions
7. Test your hypothesis
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.

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: 

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: _________________________________

____________________________________________________________________________________

____________________________________________________________________________________

____________________________________________________________________________________

____________________________________________________________________________________

____________________________________________________________________________________
Biology
Levels 1-4

Steps in My Experiment

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________
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?
Research Notes

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
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

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
**Tree Observation**

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

<table>
<thead>
<tr>
<th></th>
<th>Looking</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>What living things do you see in and near your tree?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Listening</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Do you hear animals playing or singing in the tree? Do you hear wind moving leaves or branches?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Touching</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Is the bark smooth or rough? Are the leaves soft or prickly?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Smelling</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>What does the bark smell like? The leaves? Are there flowers on the tree?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Any other observations?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Has the tree changed since the previous season?</td>
</tr>
</tbody>
</table>

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

Make a rubbing of the bark.

Make a rubbing or trace a leaf.

What season is it now?

What kind of tree are you observing?