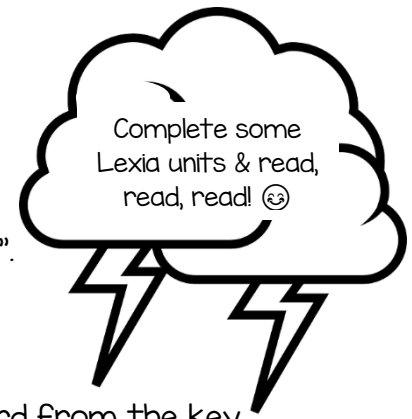


Week Three Literacy - Grade Four



Choice One

1. Read the Key Vocabulary (L.4.4)
2. Read the passage When Lightning Strikes (RF.4.4)

Key Vocabulary		
simultaneously	adverb	<i>simultaneously</i> means happening at the same time
occur	verb	to <i>occur</i> means to happen
comparatively	adverb	<i>comparatively</i> means relative to something else
outages	noun	an <i>outage</i> is a length of time where a service is unavailable
paralyzed	verb	to <i>paralyze</i> means unable to move
conduct	verb	To <i>conduct</i> is to transfer (for example: heat or electricity)
various	adjective	<i>various</i> means different kinds

Choice Two Word Work (L.4.4):

1. This word means "unable to move".
 - a. occur
 - b. conduct
 - c. paralyze
 - d. various
2. Complete this sentence using a word from the key vocabulary list:
Legos come in _____ sizes and colors.
3. What definition of **conduct** makes the most sense in the following sentence:
"Stay away from structures, especially metal ones, that conduct electricity."
 - a. Definition One: to lead or guide
 - b. Definition Two: to organize and to carry out
 - c. Definition Three: to transfer
4. Create your own sentence using the word **simultaneously**.

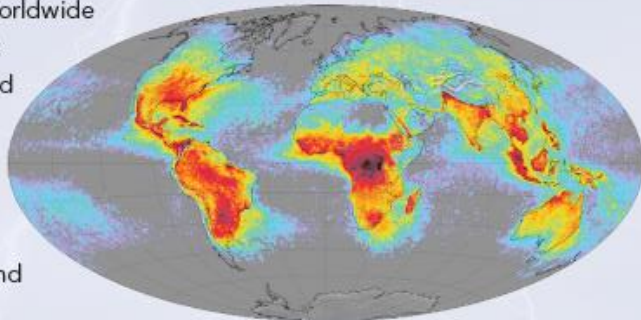
Choice Three Answer one of the following writing prompts:

Explain why we see lightning before we hear thunder. Use text evidence. (RI 4.4, RI 4.2, W 4.1)	In first person, narrate what you see and hear from your bedroom window during a summer storm involving lightning and thunder. (RI 4.7, W 4.1)	If the cause is lightning, what are the negative effects on people and houses when lightning strikes? (RI 4.4, W 4.2)
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WHEN LIGHTNING STRIKES

Imagine two huge lightning bolts **simultaneously** strike the tips of two skyscrapers. Impossible? Well, just such a thing happened in Chicago in 2010, and one photographer was lucky enough to capture the spectacular moment. But then, lightning flashes often have a way of being highly dramatic.

Most of us don't see many lightning flashes in a year, but don't be fooled. According to recent satellite data, over three million lightning flashes occur worldwide every day. Most travel from cloud to cloud, but about 860,000 of them strike either the ground or some water surface on Earth.



Places where the most lightning strikes occur are shown in deep red.

Lightning travels at the speed of light, which is 186,282 miles per second (299,792,458 meters per second). The reason the thunder we hear trails far behind the lightning we see is that the speed of sound is **comparatively** slow. It takes five seconds just to travel a mile in warm summer air. This difference in speeds provides a quick way of estimating how close an electrical storm is. As soon as you see a lightning flash, start counting seconds (*one thousand and one, one thousand and two*). Stop when you hear the thunder, and divide by five to get the number of miles.

As enjoyable as lightning is to watch, it can do tremendous damage. Lightning strikes are the major cause of forest fires and frequently cause power **outages**. A lightning strike in northern New York caused a blackout that **paralyzed** New York City in 1977. More importantly, about 24,000 people are killed by lightning every year. Ten times that number are seriously injured. So if you see a flash of lightning, start counting. The latest guidelines say to head for shelter as soon as that number is under 30.

If you're in a car, make sure the windows and doors are closed. If you're outdoors and can't reach a building, avoid anything tall in your area. Lightning tends to take the most direct route to Earth, striking the closest (tallest) object that happens to be in its path.



Lightning occurs in electrical storms.

Stay away from single trees, high fences, and other such structures, especially metal ones that **conduct** electricity. Avoid open areas. If you can't get out of the open, crouch close to the ground. If you are swimming in water, get out.

If you make it indoors, you still have to be careful. These days, buildings include various forms of lightning protection, but lightning is tricky. It can travel through phone lines, so only use cellphones for calls. It can come through faucets, so don't take a shower or wash anything during a storm. Don't stand close to windows.

Electrical storms are amazingly beautiful, but don't forget that they are also amazingly dangerous!

1. Joe ordered 72 plants for his patio garden. Each pot holds 4 plants. How many pots are needed to hold all of the plants?

pots	plants per pot	total plants

Number model with unknown:

Answer: _____

Summary number model:



2. Solve each open sentence.

a. $(6 + 9) + (3 * A) = 30$ $A =$ _____

b. $24 \div 8 = 21 \div B$ $B =$ _____

c. $72 = (2 * C) * 9$ $C =$ _____

d. $6.2 + 0.79 = D$ $D =$ _____

e. $8.91 - E = 2.72$ $E =$ _____



3. Use a paper-and-pencil algorithm to add or subtract.

a.
$$\begin{array}{r} 0.37 \\ + 0.26 \\ \hline \end{array}$$

b.
$$\begin{array}{r} 2.9 \\ + 5.01 \\ \hline \end{array}$$

c.
$$\begin{array}{r} 6.79 \\ - 6.55 \\ \hline \end{array}$$

d.
$$\begin{array}{r} 7.80 \\ - 3.65 \\ \hline \end{array}$$



4. How many centimeters are in 12 meters?
Circle the best answer.

A. 0.12

B. 1.2

C. 120

D. 1,200

5. Circle the fractions equivalent to $\frac{1}{2}$.

$\frac{8}{16}$ $\frac{5}{6}$ $\frac{6}{12}$

$\frac{2}{3}$ $\frac{12}{24}$ $\frac{8}{15}$

STUDY LINK
6•10

Division



1. It takes 14 oranges to make a small pitcher of juice. Annette has 112 oranges. How many pitchers of juice can she make?



Number model: _____

Answer: _____ pitchers of juice

How many oranges are left over? _____ oranges

2. Each bouquet needs 17 flowers. The florist has 382 flowers in his store. How many bouquets can the florist make?

Number model: _____

Answer: _____ bouquets

How many flowers are left over? _____ flowers

3. $726 \div 16 =$ _____

4. $4 \overline{)276}$ _____

Practice

5. $45 * 4 =$ _____

6. _____ $= 319 * 7$

7. _____ $= 29 * 63$

8. $89 * 183 =$ _____

STUDY LINK
9•9

Dividing Decimals



For each problem below, the division has been done correctly, but the decimal point is missing in the answer. Correctly place the decimal point in the answer.

1. $88.8 / 6 = 148$

2. $1.35 / 5 = 2700$

3. $99.84 / 4 = 2496$

4. $2.58 / 3 = 860$

5. $163.8 / 7 = 234$

6. $233.28 / 4 = 5832$

7. Explain how you decided where to place the decimal point in Problem 3.

Try This

Divide. Show your work.

8. $6 \overline{)25.2}$

9. $4 \overline{)154.8}$

10. $9 \overline{)5.85}$

Answer: _____

Answer: _____

Answer: _____

Practice

11. _____ $= \frac{5}{8} + \frac{2}{8}$

12. $\frac{5}{9} - \frac{1}{3} =$ _____

13. _____ $= \frac{7}{10} + \frac{2}{10}$

14. $\frac{9}{10} - \frac{1}{2} =$ _____

STUDY LINK
6•3

Division



1. Bernardo divided a bag of 83 marbles evenly among five friends and himself. How many marbles did each get?

Number model: _____

Answer: _____ marbles

How many marbles are left over?

_____ marbles

2. The carnival committee has 360 small prizes to share equally with 5 carnival booths. How many prizes will each booth get?

Number model: _____

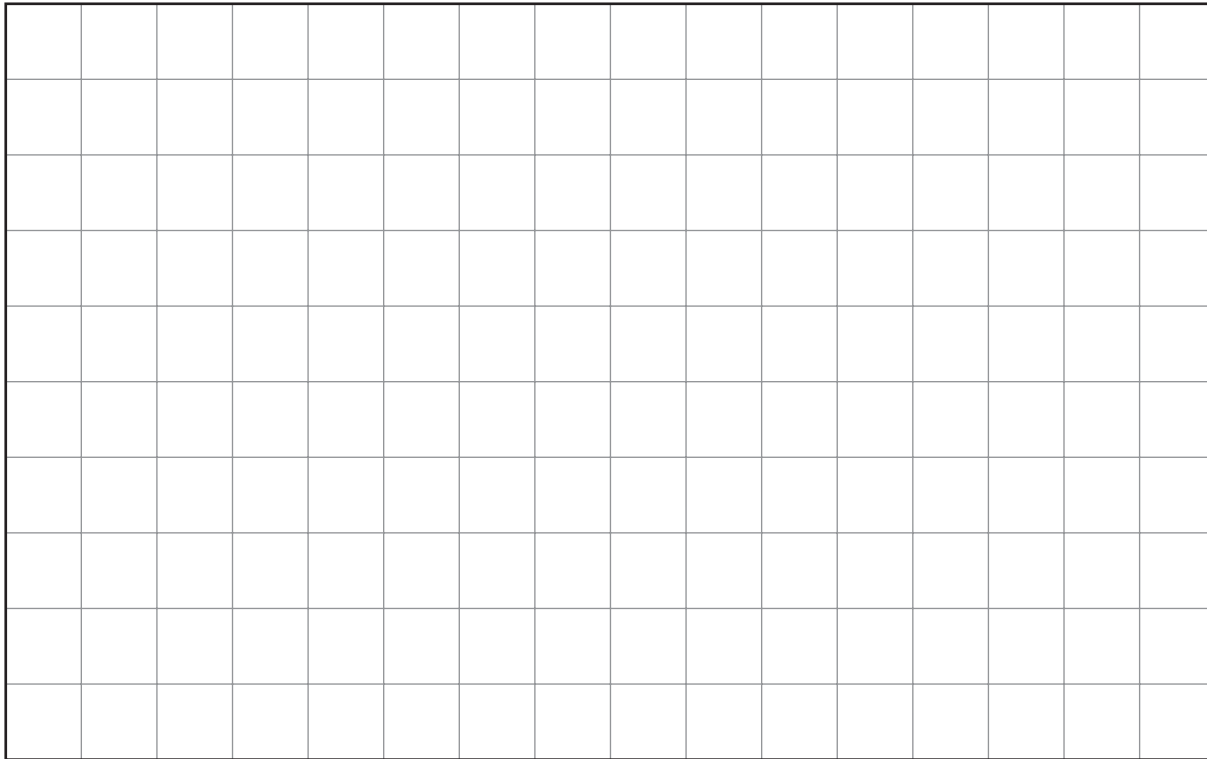
Answer: _____ prizes

How many prizes are left over?

_____ prizes

3. $4 \overline{)91}$ Answer: _____

4. $427 \div 8$ Answer: _____



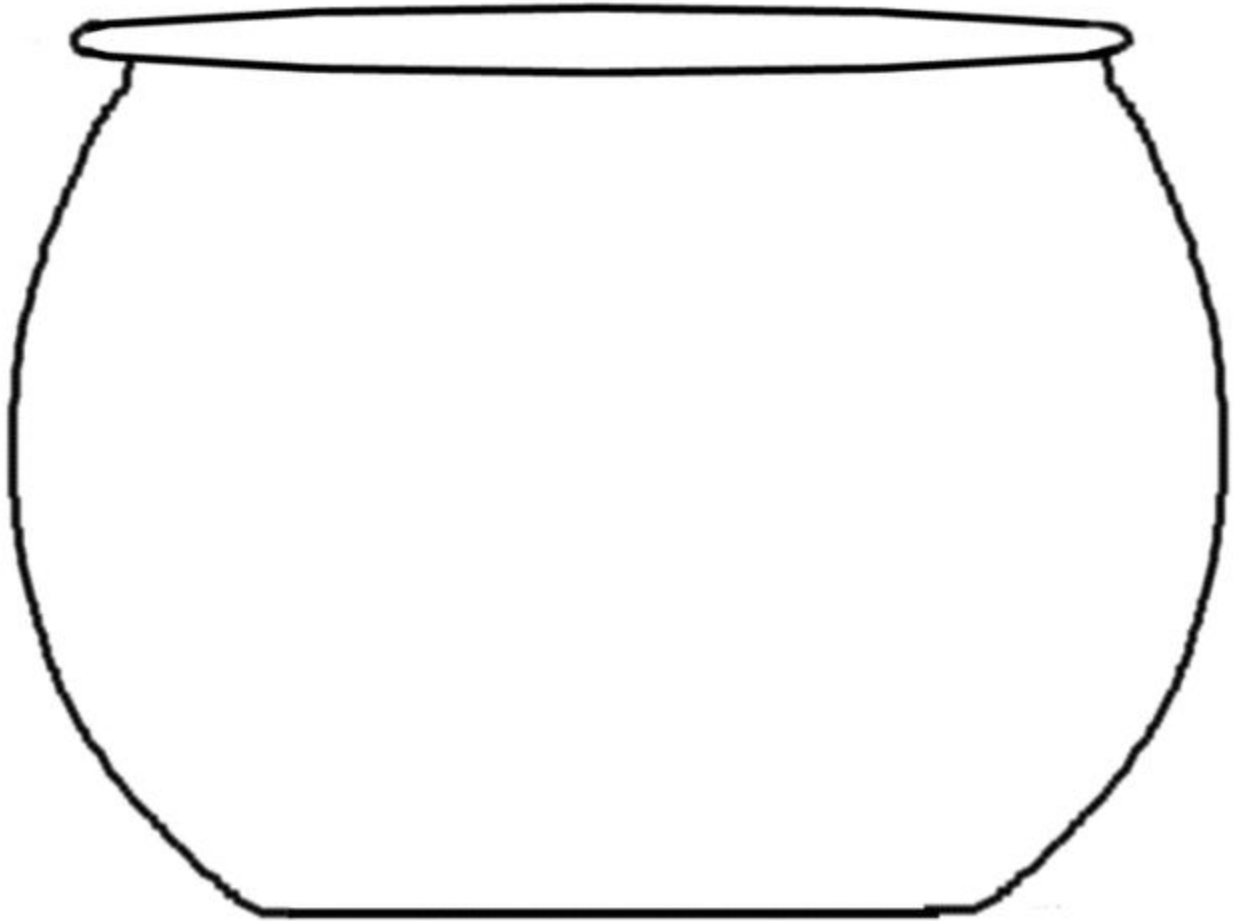
Practice

5. _____ = $34.96 + 1.58$

6. _____ = $300.2 + 2.378$

7. $43.27 - 12.67 =$ _____

8. $74.6 - 31.055 =$ _____



Living Factors	Nonliving Factors

Name: _____

Paper Cup Telephone

1. EXPLAIN HOW IT WORKS

How do you think the paper cup telephone works? Draw and describe what happens to the sound as it goes from cup to cup.

The diagram shows a paper cup telephone setup. On the left, a cup is labeled "VOICE". On the right, a cup is labeled "EAR". A string connects the two cups. Below the string, three dashed arrows point upwards to three separate grey boxes. Each box contains the text "What happens here?" followed by three horizontal lines for writing.

Name: _____

2. DISCUSS:

HOW COULD YOU CHANGE YOUR PAPER CUP TELEPHONE TO MAKE IT BETTER?

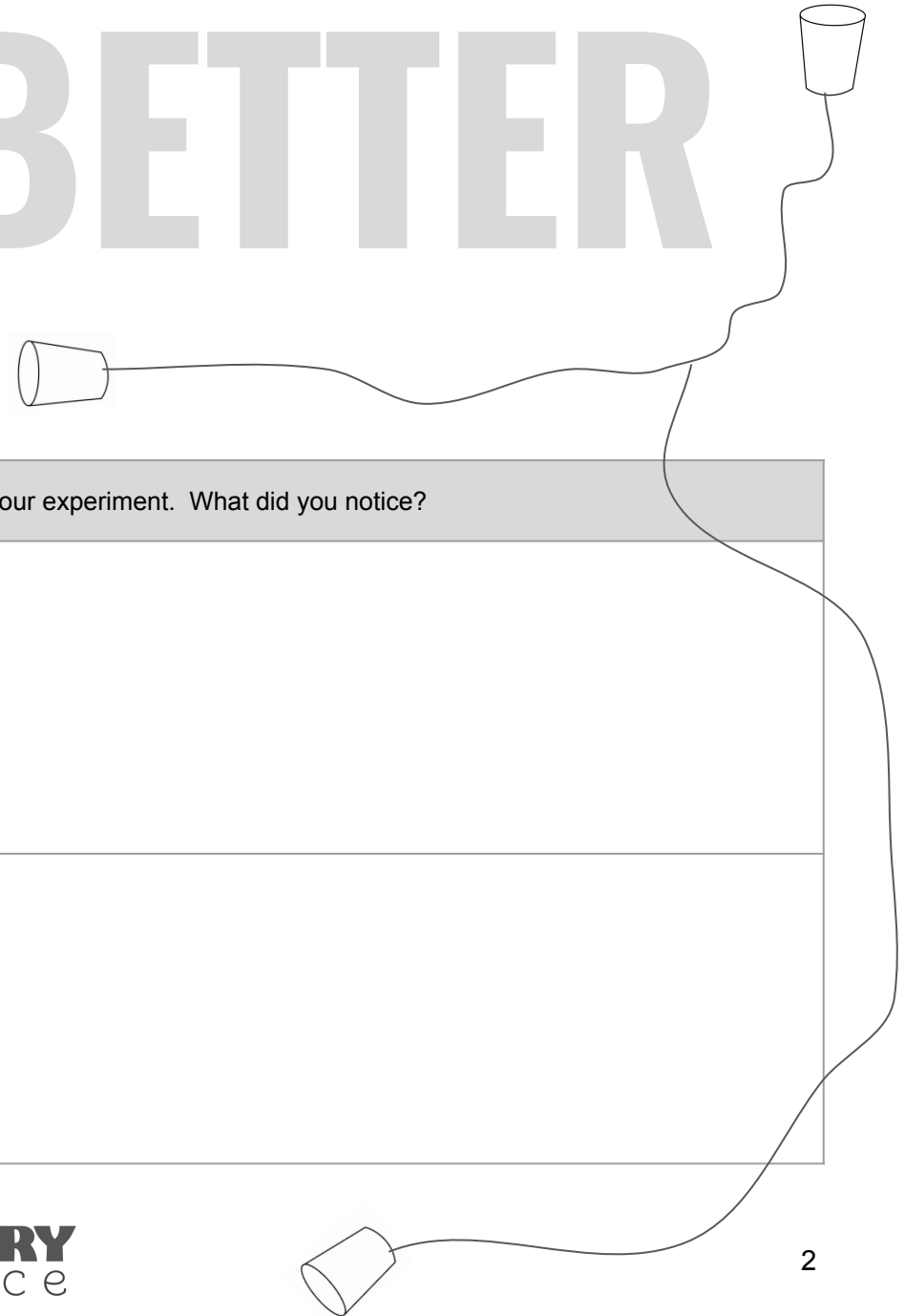
BETTER

Write 2 ideas to
test down here

3. EXPERIMENT!

The 2 experiments you decided on:	Try your experiment. What did you notice?
<p>Here's what we'll do: _____ _____</p> <p>Here's what we think will happen: _____ _____</p>	
<p>Here's what we'll do: _____ _____</p> <p>Here's what we think will happen: _____ _____</p>	

If you need more space, use the back of the page.

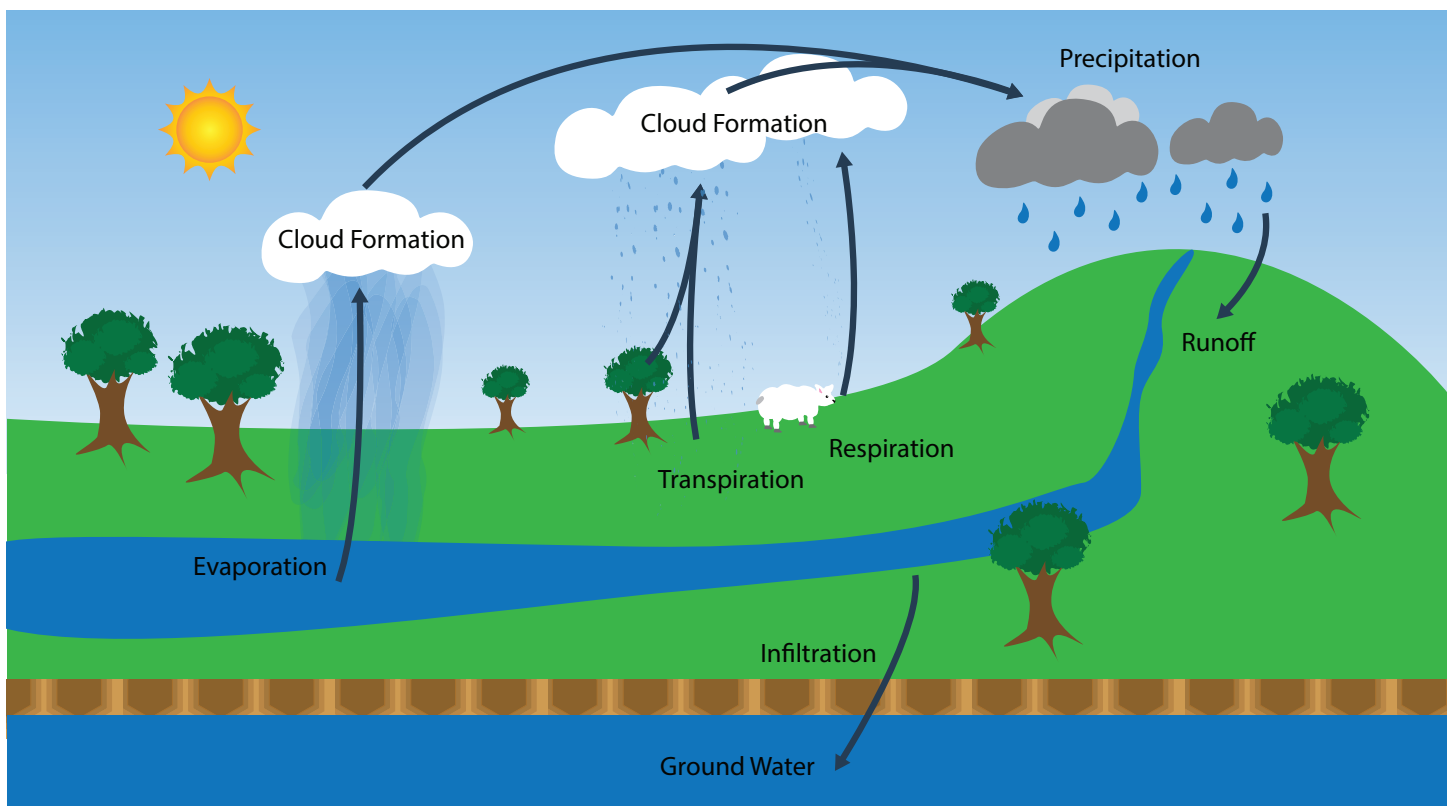


The Water Cycle

Vocabulary	
evaporation	transpiration
condensation	respiration
precipitation	runoff
ground water	molecule

Our bodies are made of 70% water. It is vital for all life on Earth. Almost 75% of the earth's surface is covered with water. Water is everywhere. The same water that existed on the earth millions of years ago is still present today. This is due to the water cycle. Earth's waters are constantly moving and changing from one state to another. The water cycle has been working for millions of years.

The major processes of the water cycle are evaporation, condensation, and precipitation. The sun drives the water cycle. The sun heats the waters of the oceans, causing them to change from a liquid to a gas or water vapor. The heat energy breaks apart the bonds connecting the liquid water molecules and they easily slip into the atmosphere. This process is called **evaporation**.



Condensation is the opposite of evaporation. It is the process where water vapor in the atmosphere is changed back into liquid water. As water vapor moves to the upper atmosphere, it begins to cool off. Clouds form when the rising air and water vapor cool off and clump together. It takes millions of water vapor molecules to form a droplet of water that weighs enough to fall to the ground. When enough of these drops form, they fall to the ground in the form of rain, sleet, or snow. This process is called **precipitation**.

Transpiration and **respiration** also contribute to the water cycle. Transpiration is the release of water from plants. Water is carried from the roots of the plant throughout the plant to the underside of the leaves where it evaporates off into the atmosphere. Animals also release water vapor to the atmosphere when they breathe out. This is called **respiration**.

The earth stores some of the water that falls to the ground. It infiltrates the ground and moves horizontally into streambeds or vertically until it meets the water table. This is called **ground water**. Precipitation can also run off the surface of the land as it flows down hills into ponds, lakes, and streams. This is called **runoff**.

Review

The Word Starts with This Letter	Hint	Answer
C	the process where water vapor in the atmosphere is changed back into liquid water	
W	a substance that is very important to living things and covers almost 75% of the Earth's surface	
R	water that flows downhill into streambeds	
WC	the Earth's waters are constantly changing from one state of matter to another	
P	water droplets that fall from the sky	
S	the energy source that drives the water cycle	
C	formed in the atmosphere when water vapor cools	
E	when energy from the sun causes liquid water to change into water vapor	
R	when animals release water vapor to the atmosphere	
GW	water that infiltrates the ground	

Questions

1. What does it mean when a glass “sweats”?

2. What is dew?

3. What happens to the dew during the day?

Let's make a cloud!

Cloud in a Bottle

Materials

- 1- or 2-liter bottle
- Warm water
- Match

Procedure

1. Fill the bottle $\frac{1}{3}$ full of warm water.
2. With a grownup, light the match and place the head of the match inside the bottle.
3. Let the bottle fill with smoke.
4. Put the cap on the bottle.
5. Squeeze the bottle hard a few times. When you release the bottle, you'll see a cloud form inside the bottle!

