

LESSON

What is precipitation?

24

Can you imagine our planet without rain? All the water would evaporate. All the oceans, rivers, lakes, and streams would dry up. There would be no water for plants or animals. Nothing could live.

Luckily, this does not happen. Water does evaporate. But, it always comes back to earth!

Water comes back to the earth from clouds. Water that falls to earth from clouds is called **precipitation** [prih-sip-uh-TAY-shun]. Precipitation may be liquid or solid. There are five kinds of precipitation: rain, drizzle, snow, hail, and sleet.

Rain and drizzle are liquid precipitation. They form when the temperature is above freezing. At sea level, the freezing point is 0° C or 32° F. Snow, hail, and sleet are solid precipitation. They form when the temperature is freezing or below.

Why do clouds give up their water? Why does rain fall back to earth? Here is an explanation.

A cloud is made up of billions of tiny droplets of water. Droplets are very light. Rising air keeps them bouncing around.

As they bounce around, the droplets collide. They join up and become larger droplets.

This happens over and over again. The droplets become larger and larger. Finally, they become the size of drops. Drops are much larger and heavier than droplets. Rising air no longer can hold them up. So they fall to earth. Rain is made up of drops. Drizzle is a fine spray of droplets.

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THE STORY OF "DROPS"

Figures A, B, and C show how droplets grow and become drops. Complete the word story below and on the next page by filling in the blank spaces. Choose from the following terms:

over and over again
cannot
fall
light in weight

water
collide
drops

precipitation
heavier
air currents

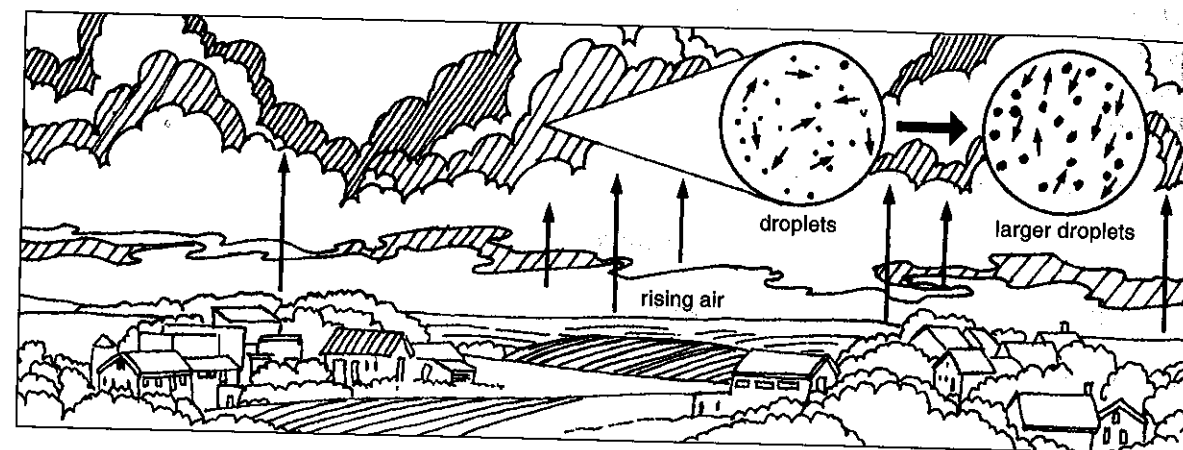


Figure A

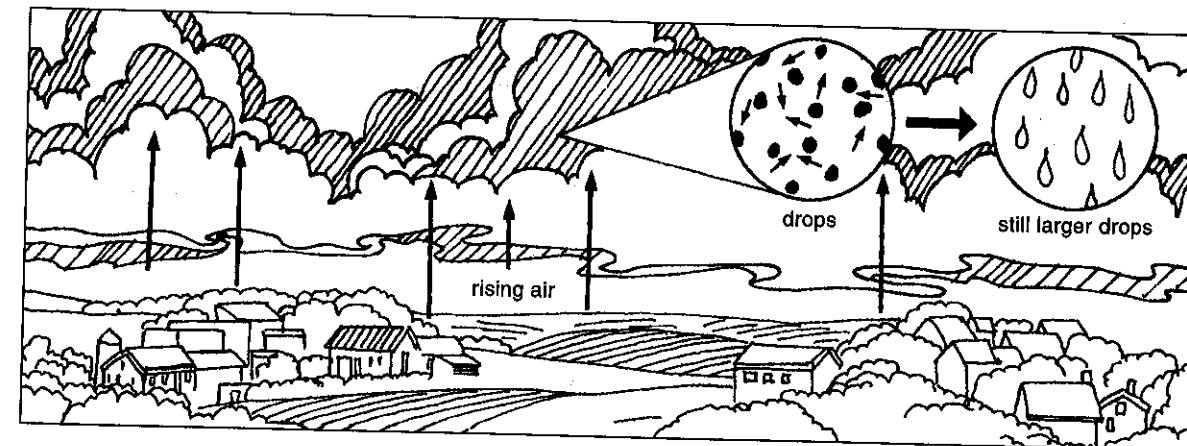


Figure B

1. A cloud is made up of billions of droplets of _____.
2. Droplets are very _____.
3. _____ keep them from falling to earth.
4. Moving droplets _____. They join and become larger droplets.
5. The droplets collide _____.
6. The droplets become larger and heavier. They become the size of _____.

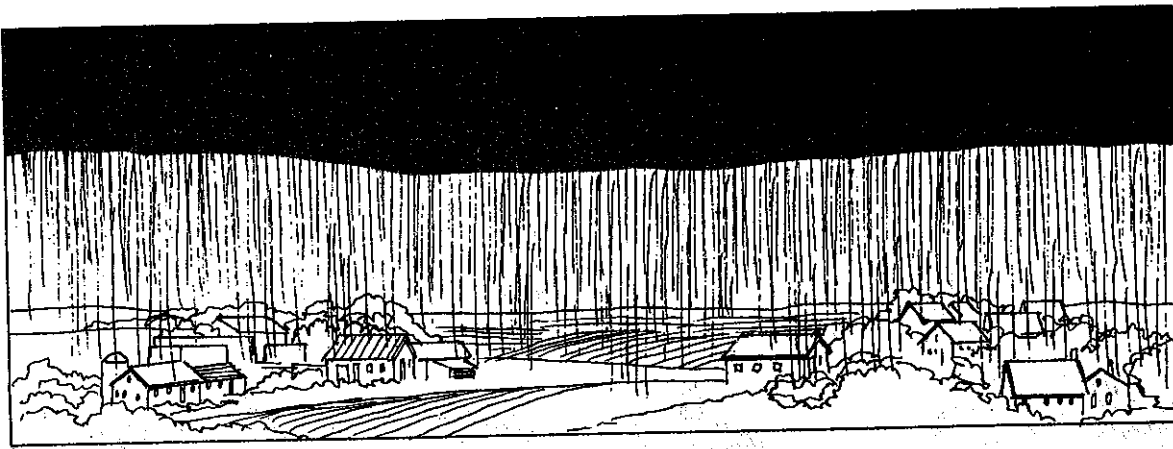


Figure C

7. Drops are much larger and _____ than droplets.
8. Rising air _____ hold them up.
9. The drops _____ to the earth.
10. Water (in liquid or solid form) that falls to earth from clouds is called _____.

HOW BIG IS A DROP?

It takes about one million droplets to make just one drop.

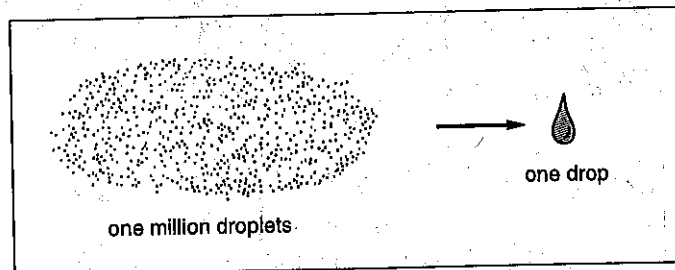


Figure D

A rain gauge [GAY] is an instrument that tells us how much it has rained. Rain gauges collect water in one spot.

Rainfall is measured in centimeters or inches.

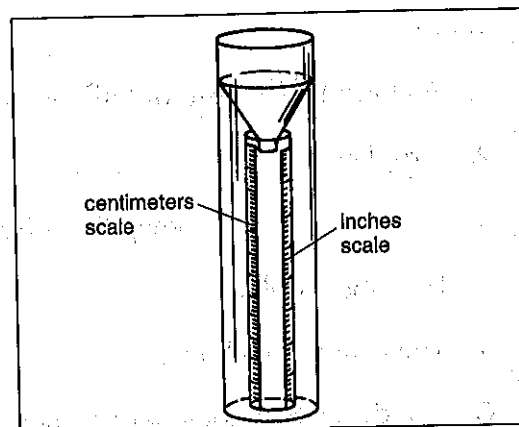


Figure E Rain gauge

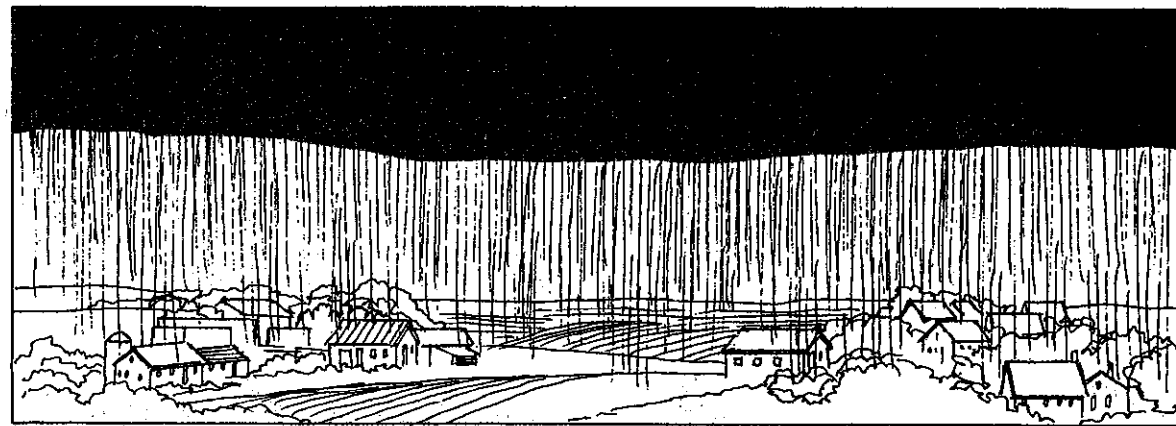


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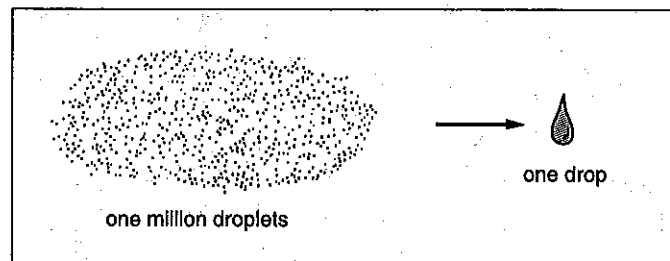


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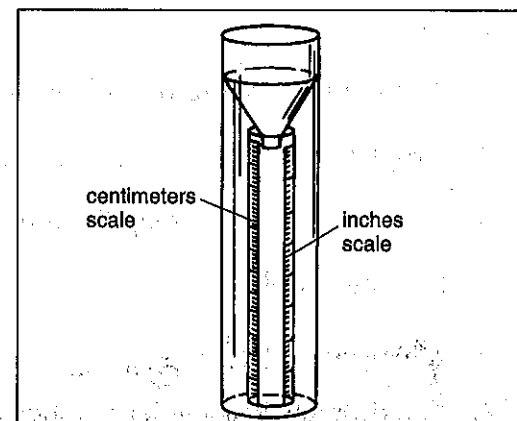


Figure E Rain gauge

HOW MUCH DOES IT RAIN?

The graph below shows about how many centimeters of rain fall on some American cities in one year. Study the graph. Then complete the chart below the graph.

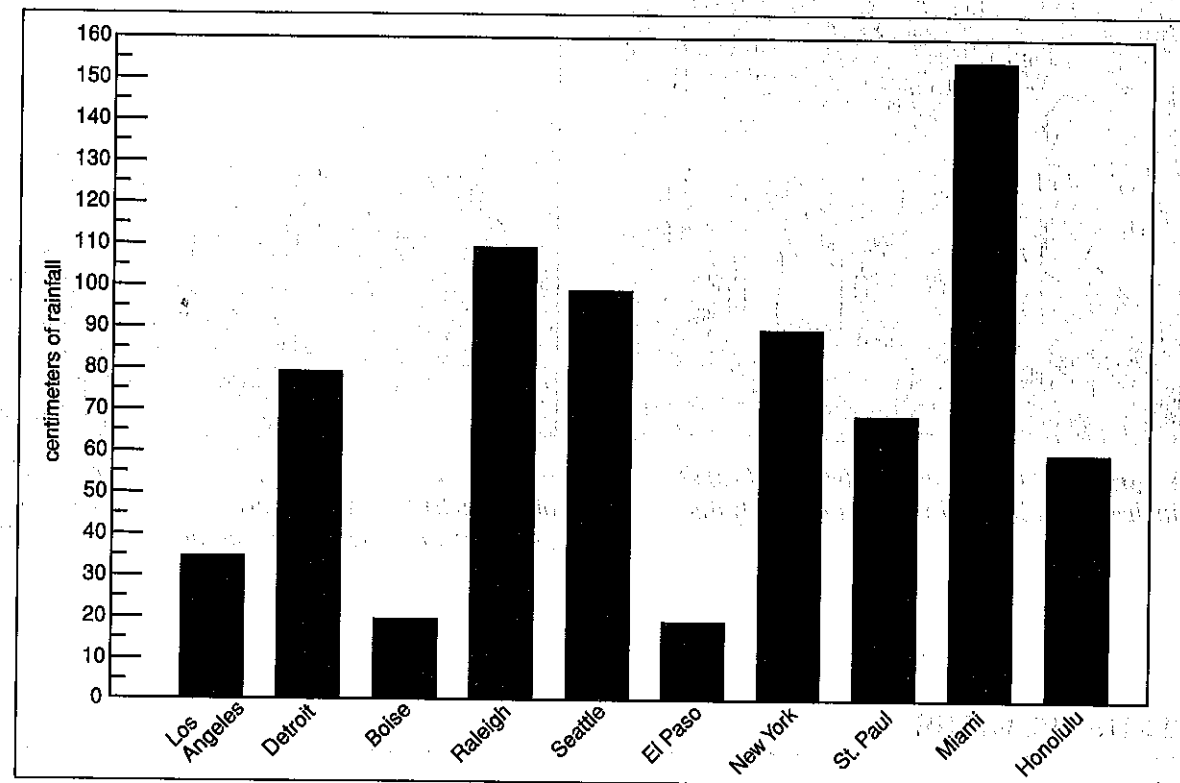


Figure F

	City	Average Yearly Precipitation (Approximate Centimeters)
1.	Boise (Idaho)	
2.	Detroit (Mich.)	
3.	El Paso (Texas)	
4.	Honolulu (Hawaii)	
5.	Los Angeles (Calif.)	
6.	Miami (Florida)	
7.	New York (N.Y.)	
8.	Raleigh (N.C.)	
9.	Seattle (Wash.)	
10.	St. Paul (Minn.)	

RECORD RAINFALLS

THE MOST



Figure G In one year, 2,647 cm (1,042 inches) of rain fell in Cherrapunji, India.

THE LEAST



Figure H In Arica, Chile, just .08 cm (.03 of an inch) fell over a period of 59 years. For 14 years in a row there was no rainfall at all!

TRUE OR FALSE

In the space provided, write "true" if the sentence is true. Write "false" if the sentence is false.

- _____ 1. Precipitation comes from clouds.
- _____ 2. About a million droplets make up a drop.
- _____ 3. Rain is the only kind of precipitation.
- _____ 4. Drizzle drops are bigger than raindrops.
- _____ 5. Sleet is liquid precipitation.
- _____ 6. Sleet and hail need freezing temperature.
- _____ 7. A barometer measures rainfall.
- _____ 8. Rainfall is measured in centimeters and inches.
- _____ 9. All places get the same amount of precipitation.
- _____ 10. We can live without precipitation.

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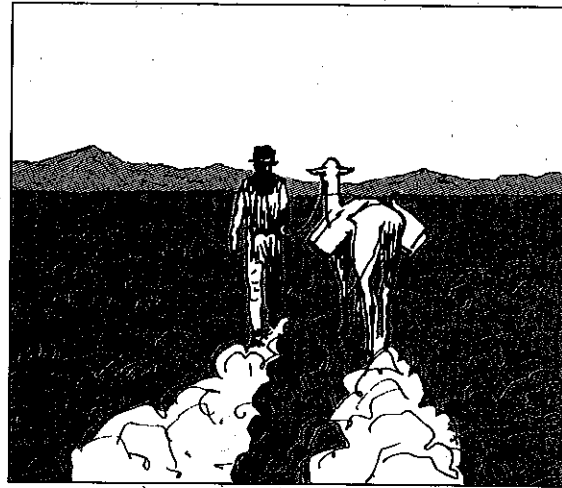


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FILL IN THE BLANK

Complete each statement using a term or terms from the list below. Write your answers in the spaces provided. Some words may be used more than once.

heavier	hail	below freezing
drizzle	cloud	rising air
drop	above freezing	snow
fall to the ground	rain	larger
sleet	precipitation	

1. A _____ is made up of billions of droplets of water.
2. Droplets are held in the air by _____.
3. When droplets collide, they become _____ in size.
4. About one million droplets make up a _____.
5. Drops are much _____ and _____ than droplets.
6. Drops _____.
7. Water in any form that falls to the earth is called _____.
8. There are five kinds of precipitation. They are _____, _____, _____, _____, and _____.
9. It rains or drizzles when the temperature is _____.
10. It hails, sleet, or snows when the temperature is _____.

MATCHING

Match each term in Column A with its description in Column B. Write the correct letter in the space provided.

- | Column A | Column B |
|------------------------|------------------------------|
| _____ 1. precipitation | a) like a fine spray |
| _____ 2. rain gauge | b) measures rainfall |
| _____ 3. water vapor | c) change from gas to liquid |
| _____ 4. condensation | d) any water from the sky |
| _____ 5. drizzle | e) gas |

REACHING OUT

1. We cannot live without precipitation. Yet, precipitation can cause death and suffering. Explain. _____

2. How would you measure snowfall? _____
