

LESSON

25

How do snow, sleet, and hail form?

Did you ever pack a snowball or make a snowman?

You cannot shape rain because rain is a liquid. Snow is different. Snow is a solid. It has a shape of its own. And we can change the shape of snow after it reaches the ground.

Snow is one kind of solid precipitation. There are two other kinds, sleet and hail. Each one forms in a different way. Let us study each one.

SNOW Water vapor condenses to form clouds. If the temperature around the clouds is above freezing, the vapor changes to liquid droplets.

If, however, the temperature around the clouds is freezing, the vapor changes to tiny snow crystals.

The tiny snow crystals grow and grow. When they become heavy enough, they fall to earth. It snows.

SLEET Sleet is made of frozen raindrops.

Sometimes it is colder near the ground than it is up in the clouds. Rain falls from the clouds and goes through a layer of very cold air before hitting the ground. This makes the raindrops freeze. The frozen raindrops fall to the earth as sleet.

HAIL Hail forms during some thunderstorms.

Strong air currents keep the raindrops moving in the air for a long time. As they move, they pass through many cold and warm layers of air.

In the cold air, the raindrops freeze. They change to icy beads. In the warm air, more water builds up around the beads. Then the water freezes when they pass through another cold layer.

This happens over and over again. Each time the icy beads become bigger. Eventually, they become hailstones and fall to earth.

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SLEET, SNOW, AND HAIL

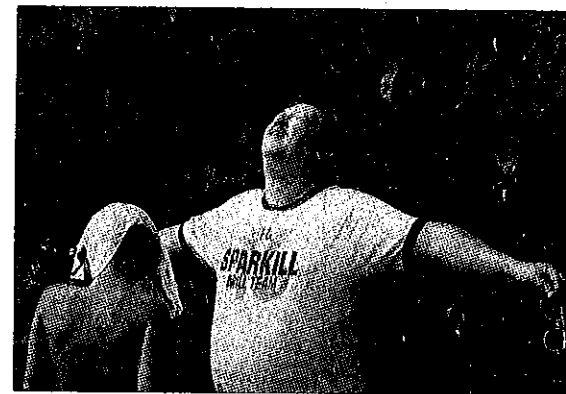


Figure A Rain



Figure B Sleet



Figure C Snow

Figure A shows rain falling.

1. The temperature around the clouds is _____ freezing.
above, below
2. The temperature near the ground is _____ freezing.
above, below

Figure B shows sleet hitting the ground.

3. Sleet starts out as _____ ice, rain
4. The temperature around the clouds is _____ freezing.
above, below
5. The temperature near the ground is _____ freezing.
above, below

Figure C shows freshly fallen snow.

6. The temperature around the clouds is _____ freezing.
above, below
7. Tiny snow _____ grow until they fall to earth.
drops, crystals

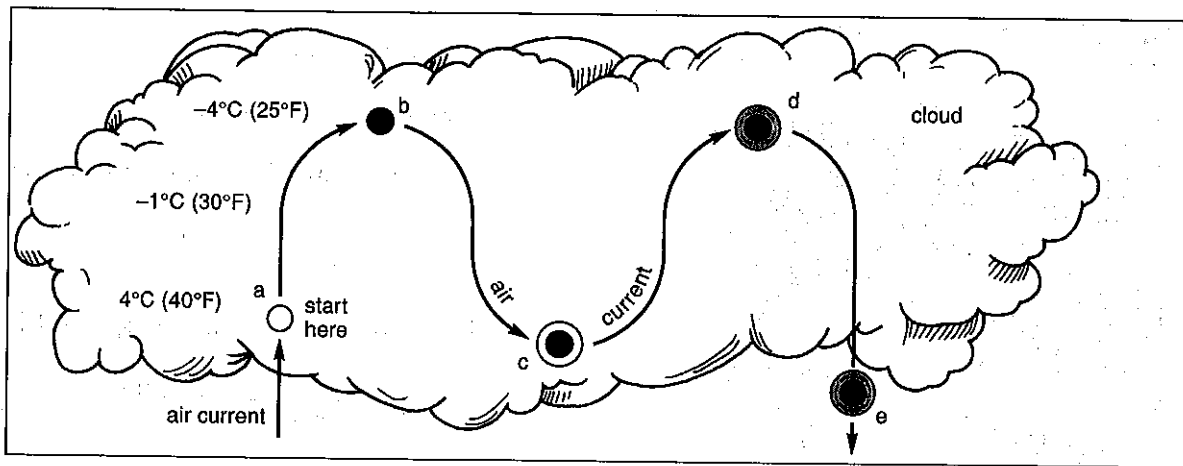


Figure D

Figure D shows how hail grows. Trace it step by step.

8. At A, the precipitation is _____
a liquid, a solid
9. Air currents push it up to B. At B, it _____
changes to ice, is still a liquid
10. The ice drops to C. At C _____
more ice forms, water builds around the ice
11. Rising air pushes the ice up to D. At D the _____
added water freezes, ice melts
12. The ice becomes _____
smaller, bigger
13. At E, the "bead" of ice is falling to earth. What has it become? _____

FILL IN THE BLANK

Complete each statement using a term or terms from the list below. Write your answers in the spaces provided.

solid
freezing

above
liquid

precipitation

1. Any form of water that falls from clouds is called _____.
2. Rain and drizzle are precipitation in the _____ state.
3. Snow, sleet, and hail are precipitation in the _____ state.
4. Rain and drizzle form in temperatures that are _____ freezing.
5. Snow, sleet, and hail form in _____ temperatures.

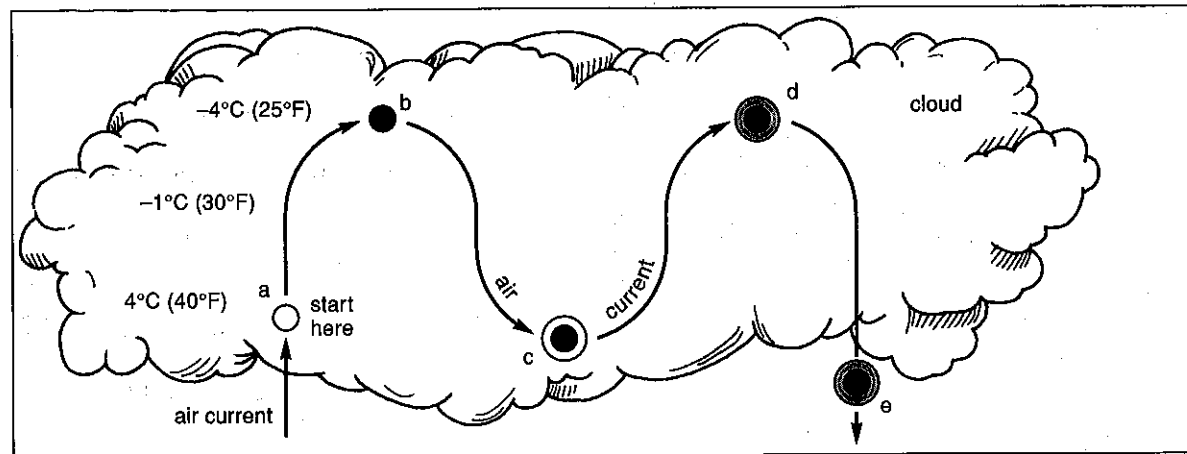


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- solid above
freezing liquid precipitation

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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. water vapor	a) built-up ice beads
_____ 2. condensation	b) frozen raindrops
_____ 3. snow	c) change from gas to liquid
_____ 4. sleet	d) falls as flakes
_____ 5. hail	e) water in the gas form

SOME INTERESTING FACTS ABOUT SNOW AND HAIL

In the continental United States, the most snow falls in some places in California.



Figure E 152 centimeters (60 inches) fell in just one day in a place called Giant Forest.

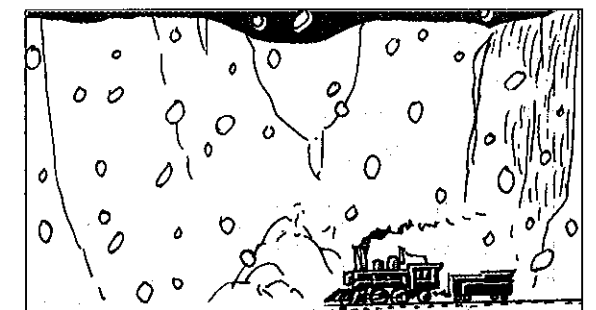


Figure F 2,245 centimeters (884 inches) fell in just one winter at Tamarack, California (1906-7). That's more than 22 meters (73 feet).

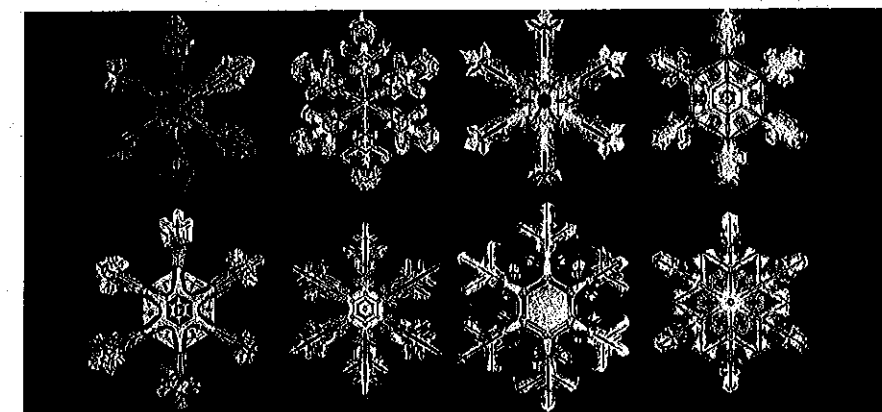


Figure G

Every snowflake has six sides or six points. BUT—no two snowflakes are exactly alike. Can you imagine how many snowflakes have fallen since the earth was formed? Each one was different.

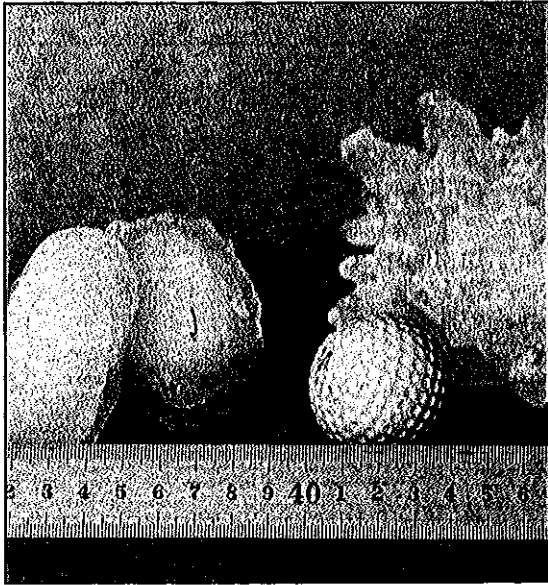


Figure H

Hailstones come in many sizes. They can be very big. Some are as large as marbles. Sometimes they are bigger than baseballs.

The largest hailstones fell in 1928 at Potter, Nebraska. They measured 43 centimeters (17 inches) around, and weighed .68 kilograms (1½ pounds).



Figure I *Hail does a lot of damage in some parts of our country. It destroys crops and kills cattle.*