

Handout 1 (pink)

Weather

Elements of Weather

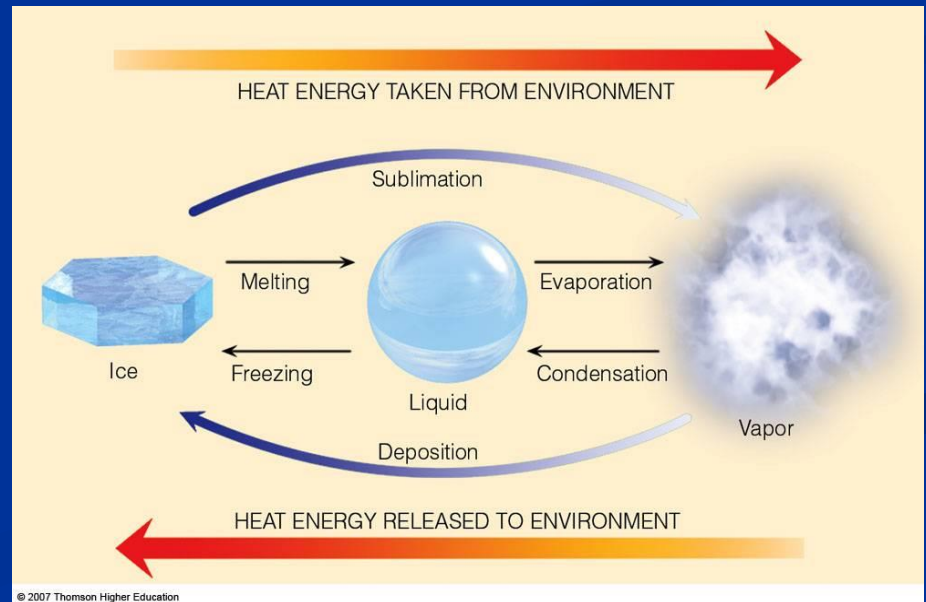
# 1

- When liquid water absorbs energy, it changes to:
  - A gas



# 2

- When liquid water evaporates, the water:
  - absorbs energy from the environment



# 3

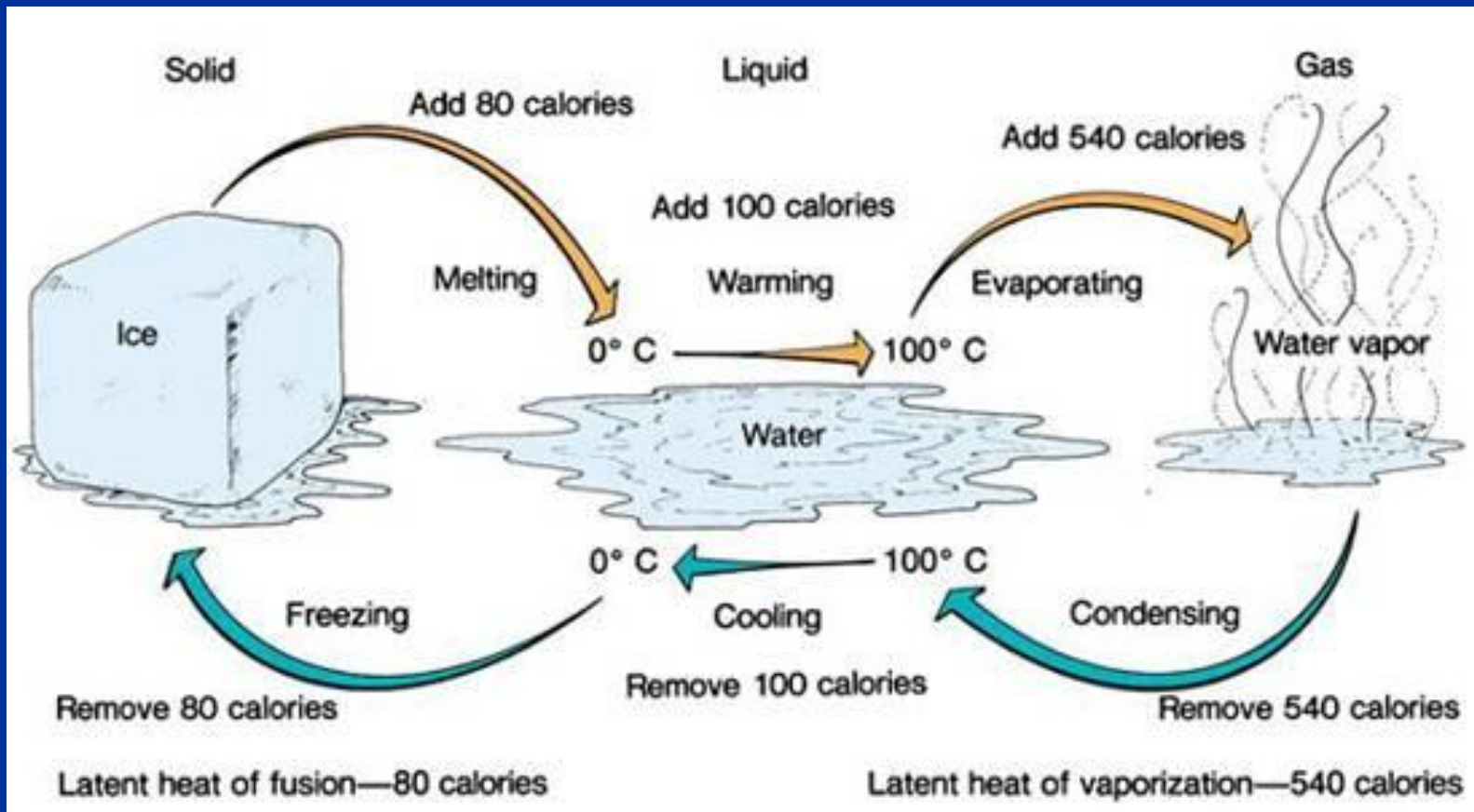
■ The name for the process in which water vapor changes back into a liquid is:

■ condensation



# 4

- What happens to latent heat when ice thaws?
  - Latent heat is absorbed when ice thaws.



# 5

- Through what process does most water enter the atmosphere?
  - evaporation

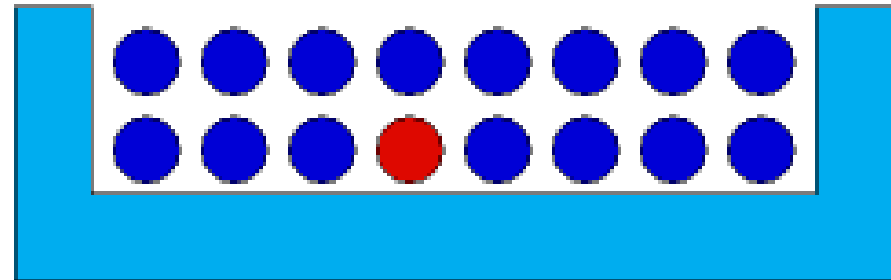
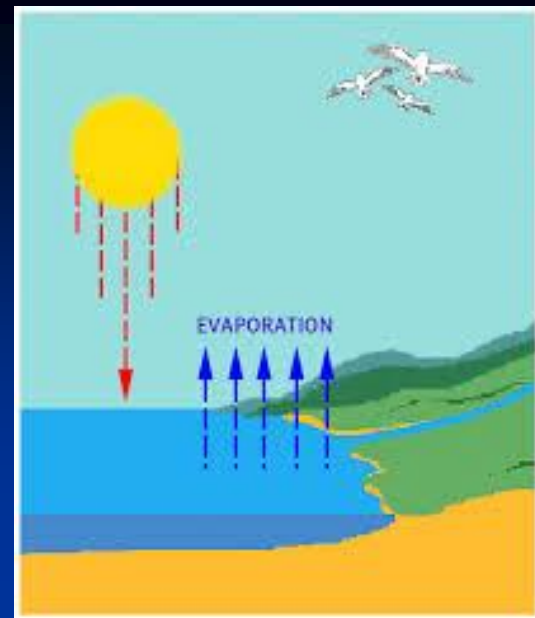


# 6

- Where on Earth does most evaporation take place?
  - In the oceans of the equatorial regions



- What determines the rate of evaporation?
  - Air temperature





# 8

- What happens to the relative humidity if the temperature increases as the moisture in the air remains constant?
  - The relative humidity will decrease

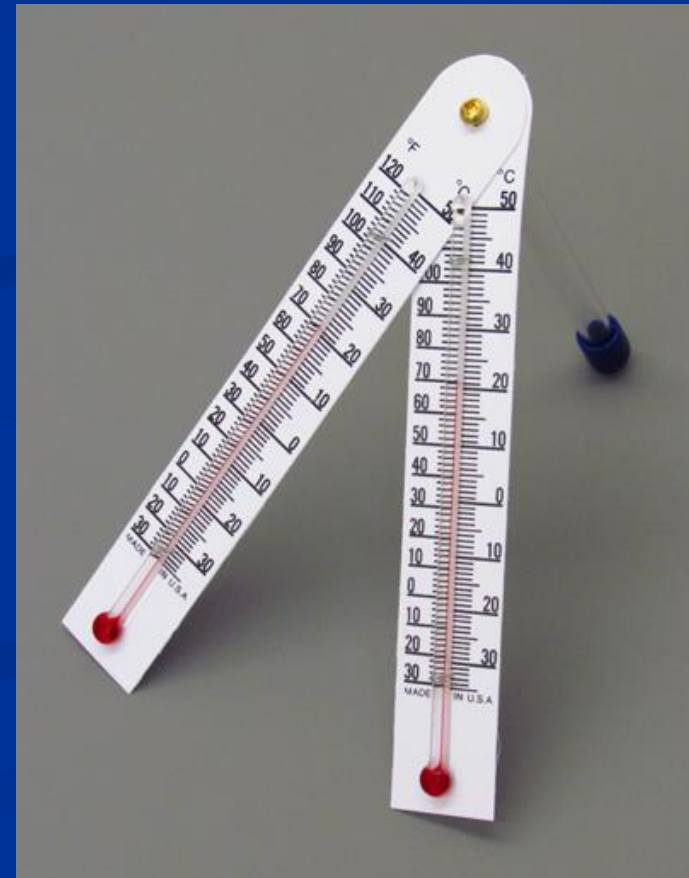


# 9

- What causes dew to form?
  - Objects near the ground lose heat during the night, often dropping to the dew point of the surrounding air. Air comes in contact with the surfaces and water vapor condenses out of it.

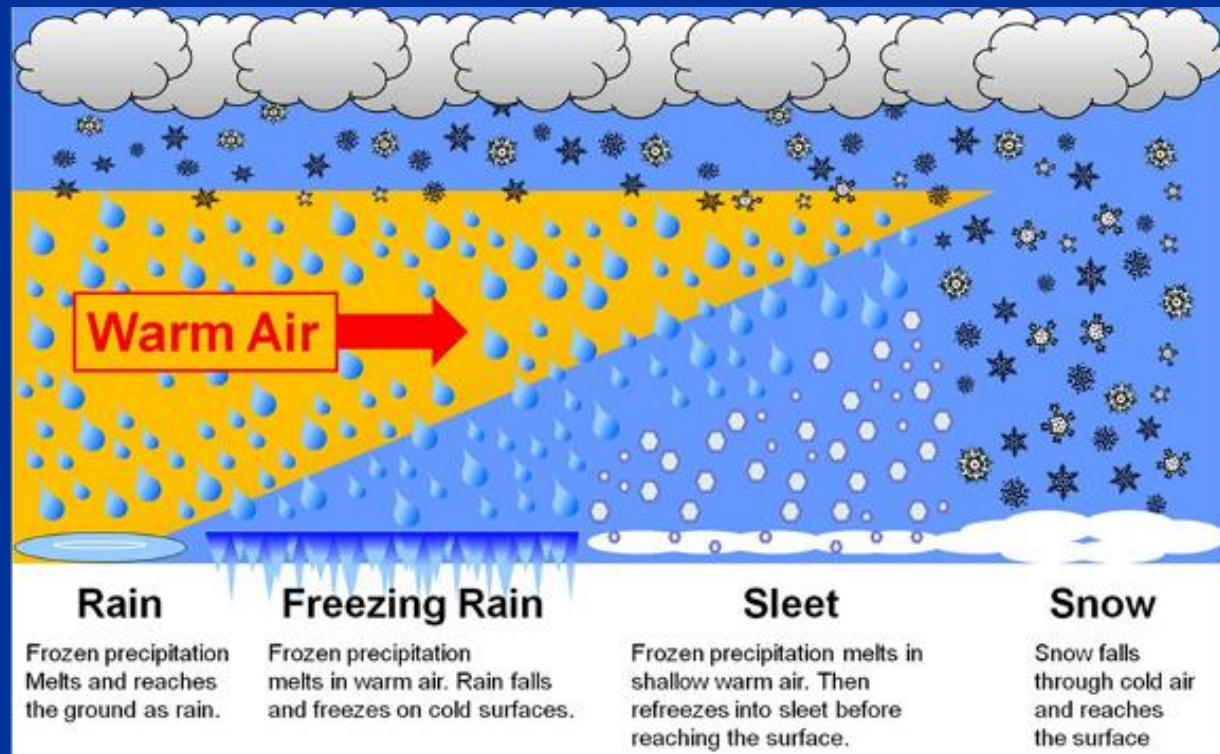
# 10

- Why do meteorologists measure humidity?
  - So that they can better predict weather conditions.



# 11

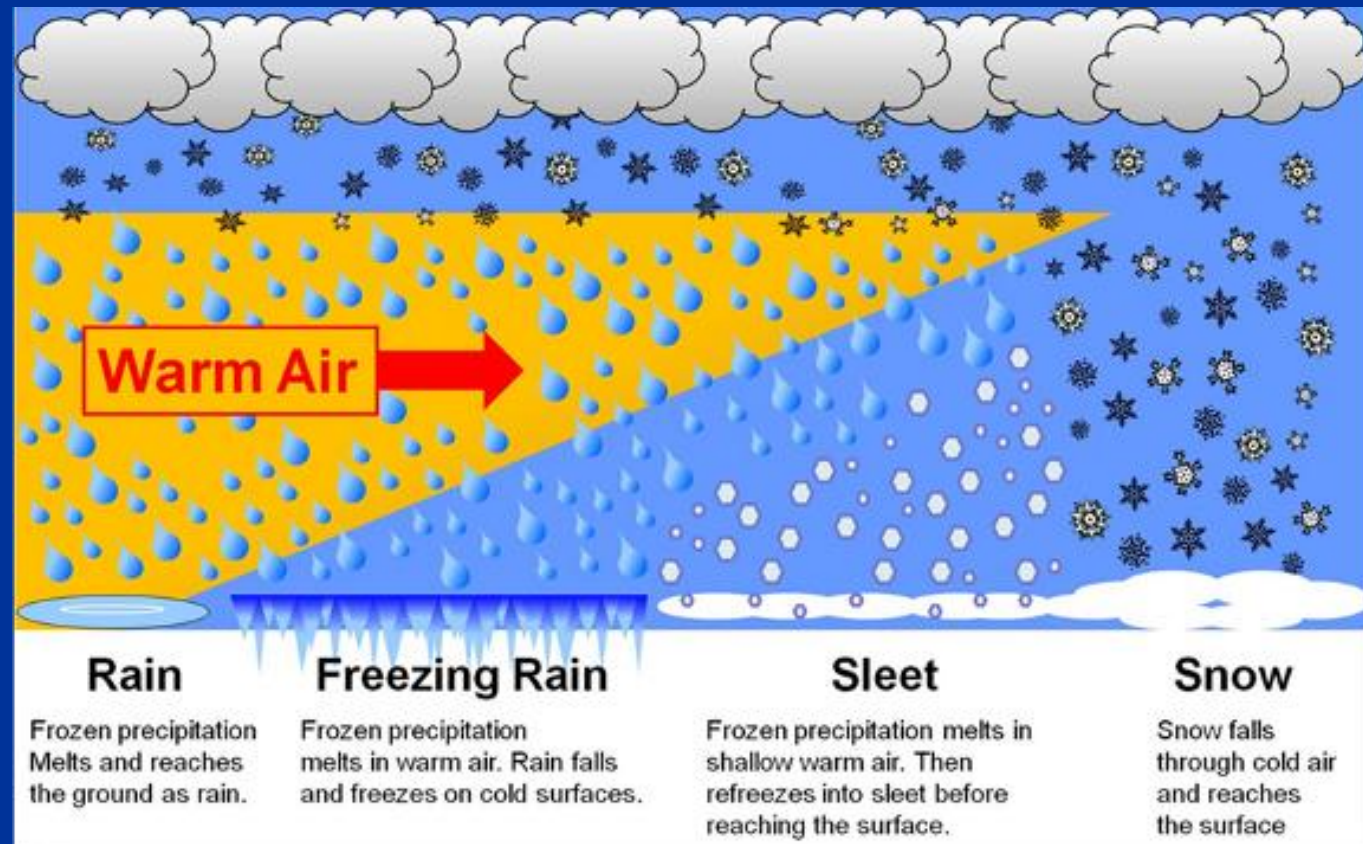
- Any form of water that falls to Earth's surface from the clouds is called:
  - precipitation



# 12

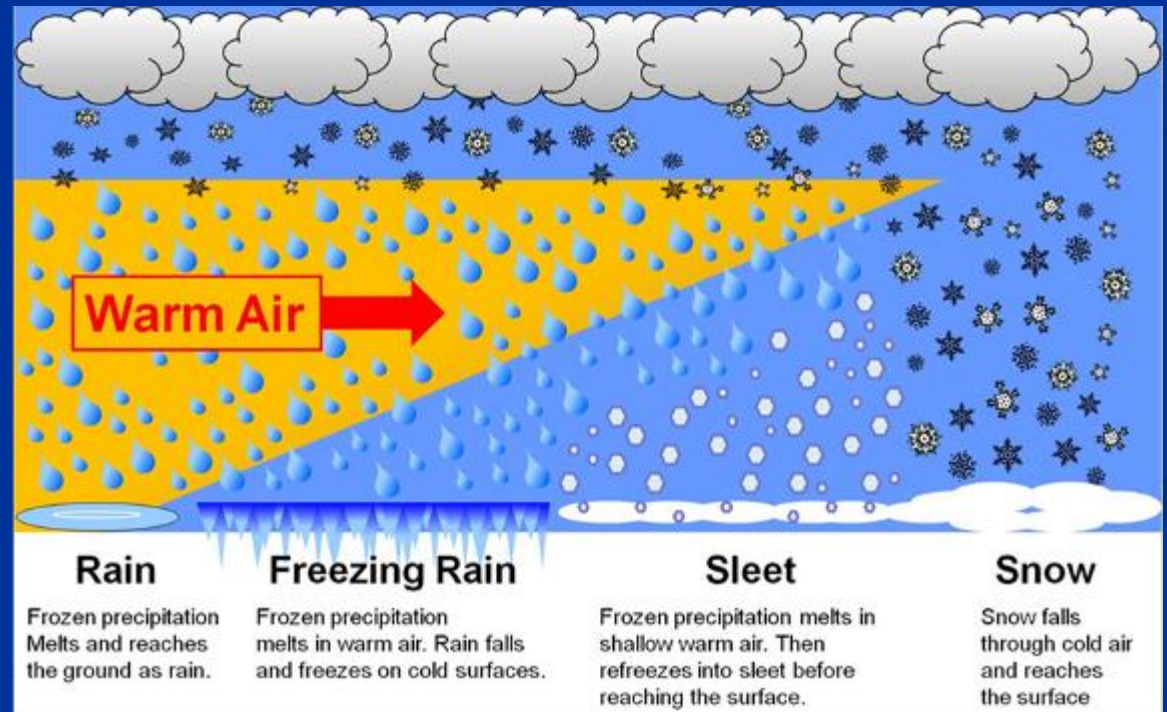
- Name four major types of moisture that falls from the air to Earth.

- Rain
- Snow
- Sleet
- Hail



# 13

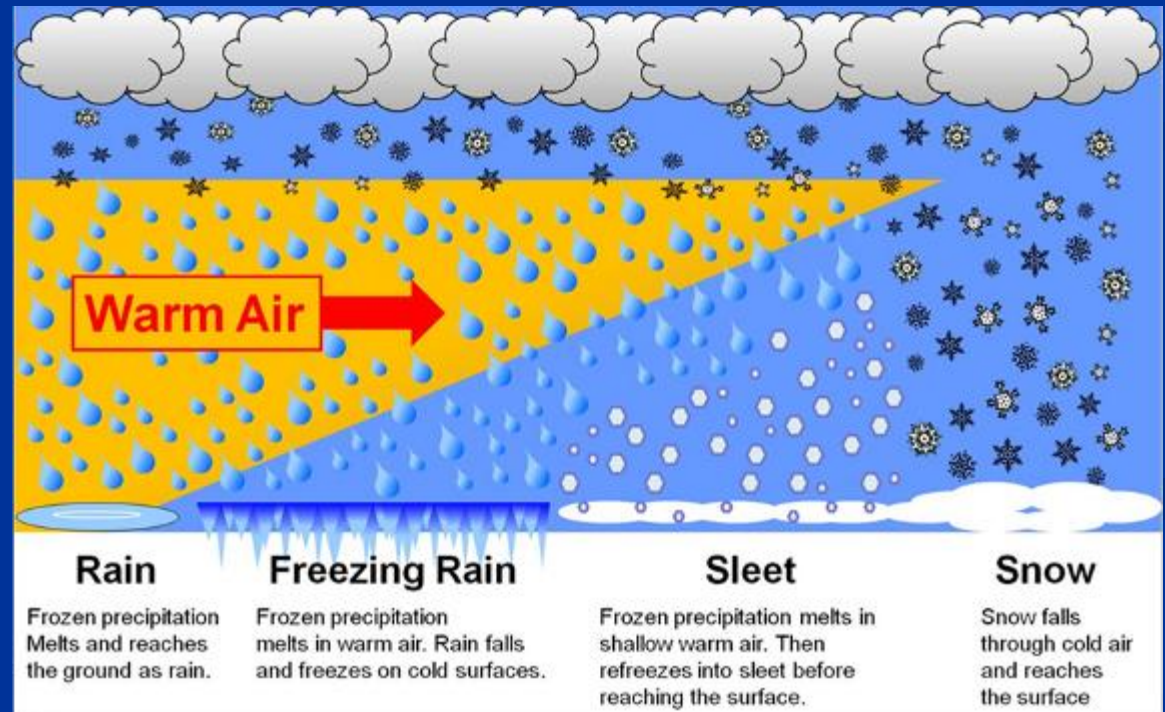
- Rain:
  - Liquid precipitation



# 14

## ■ Drizzle:

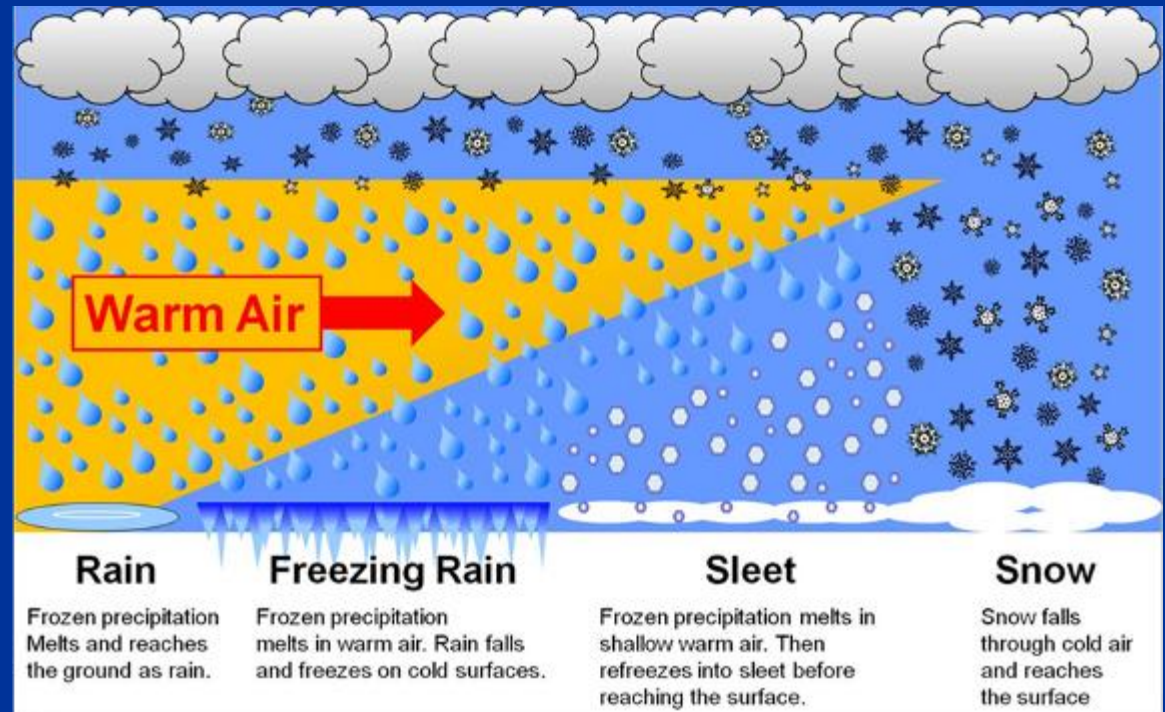
- Rain consisting of drops smaller than 0.5 mm in diameter



# 15

## ■ Snow:

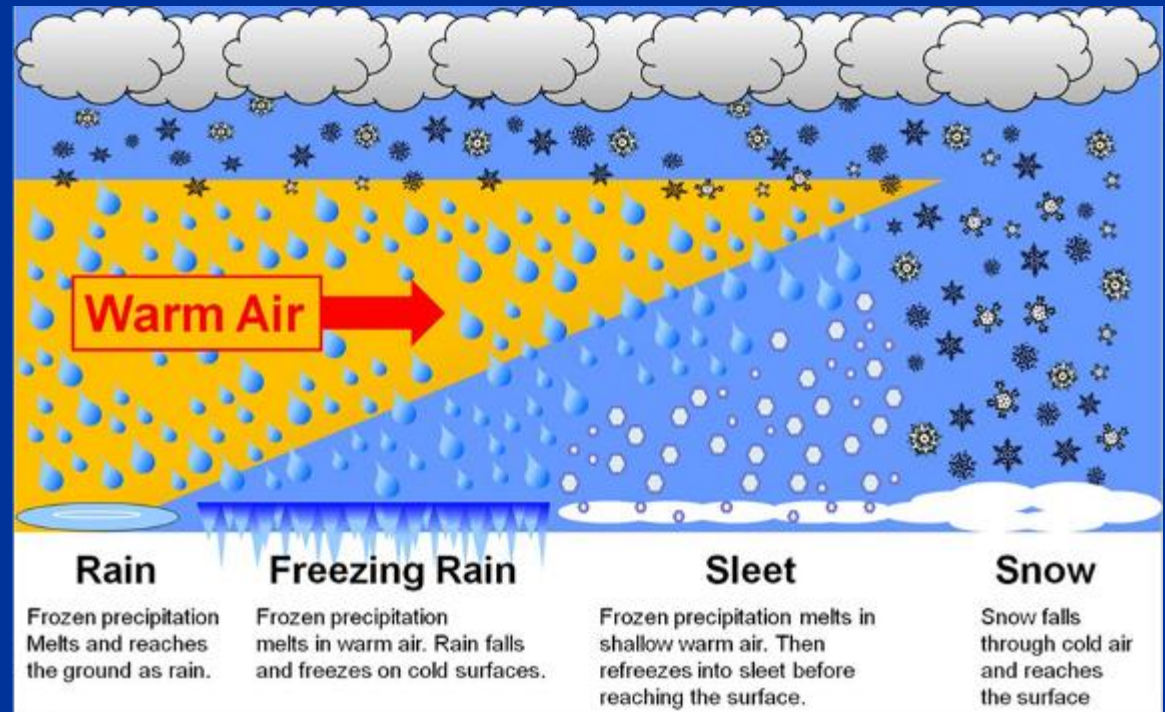
- Precipitation consisting of ice particles





# 16

- Sleet:
  - Clear ice pellets formed when rain falls through a layer of freezing air



# 17

- Glaze ice:
  - A thick layer of ice on a surface



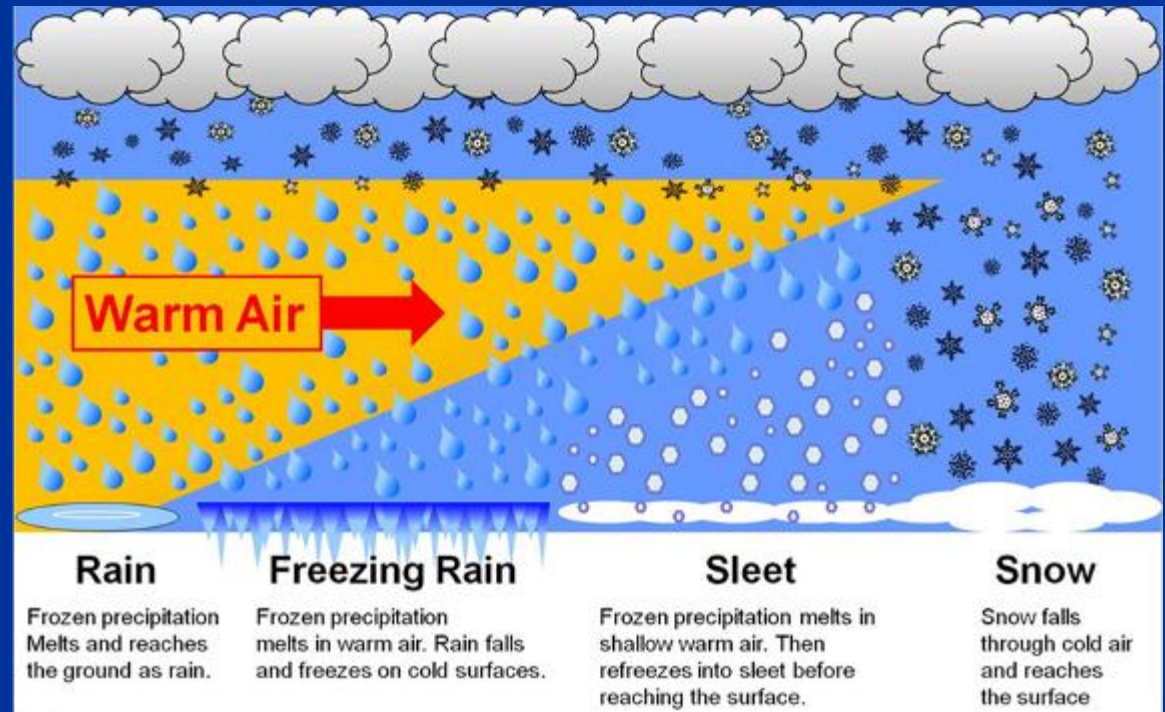
# 18

- Ice storm:
  - The condition which produces glaze ice



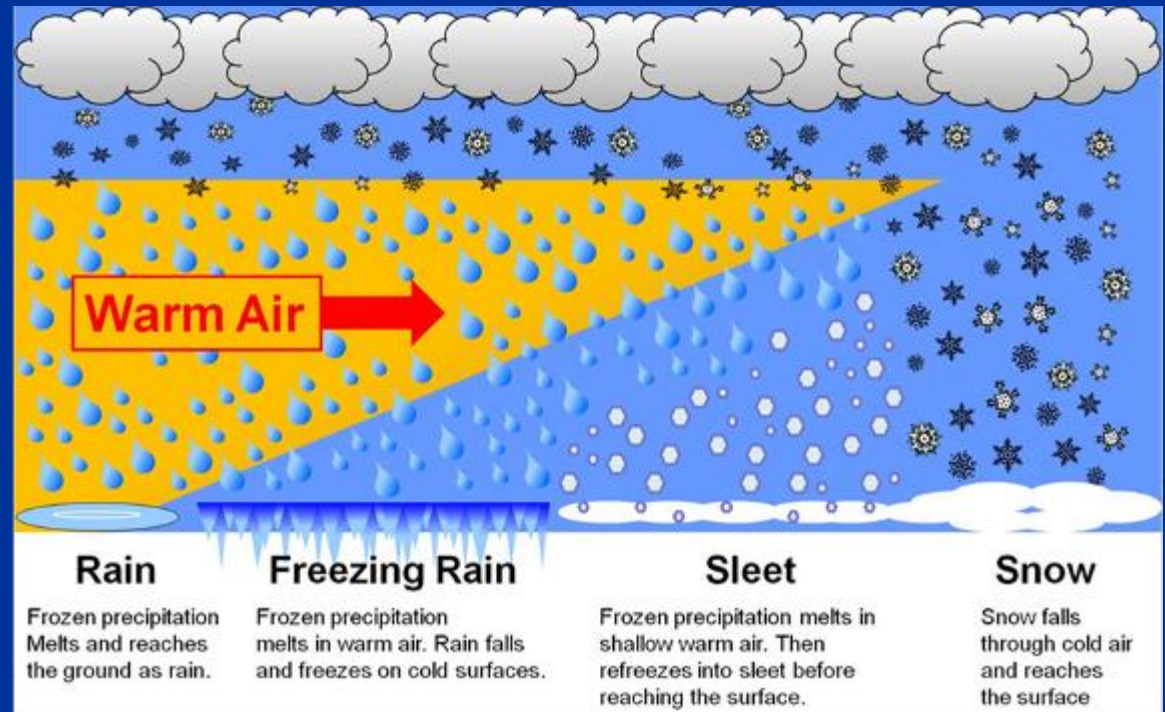
# 19

- Hail:
  - Solid precipitation in the form of lumps of ice



# 20

- What is the most common form of solid precipitation?
  - snow



# 21

- In what kind of clouds does hail usually form?
  - Cumulonimbus

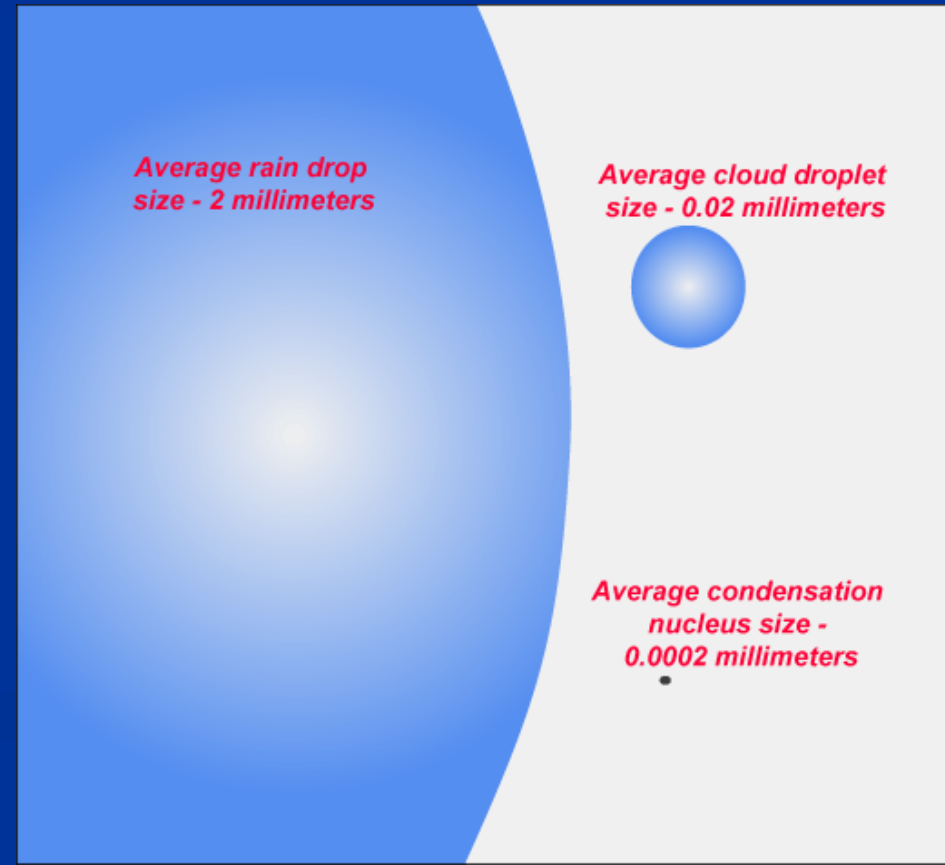


# 22

- What process causes hail to form and fall to the ground?
  - Convection currents within clouds carry rain drops to high levels, where they freeze. They are carried upward again, accumulating additional layers of ice. They fall when they are too heavy for convection currents to carry.

# 23

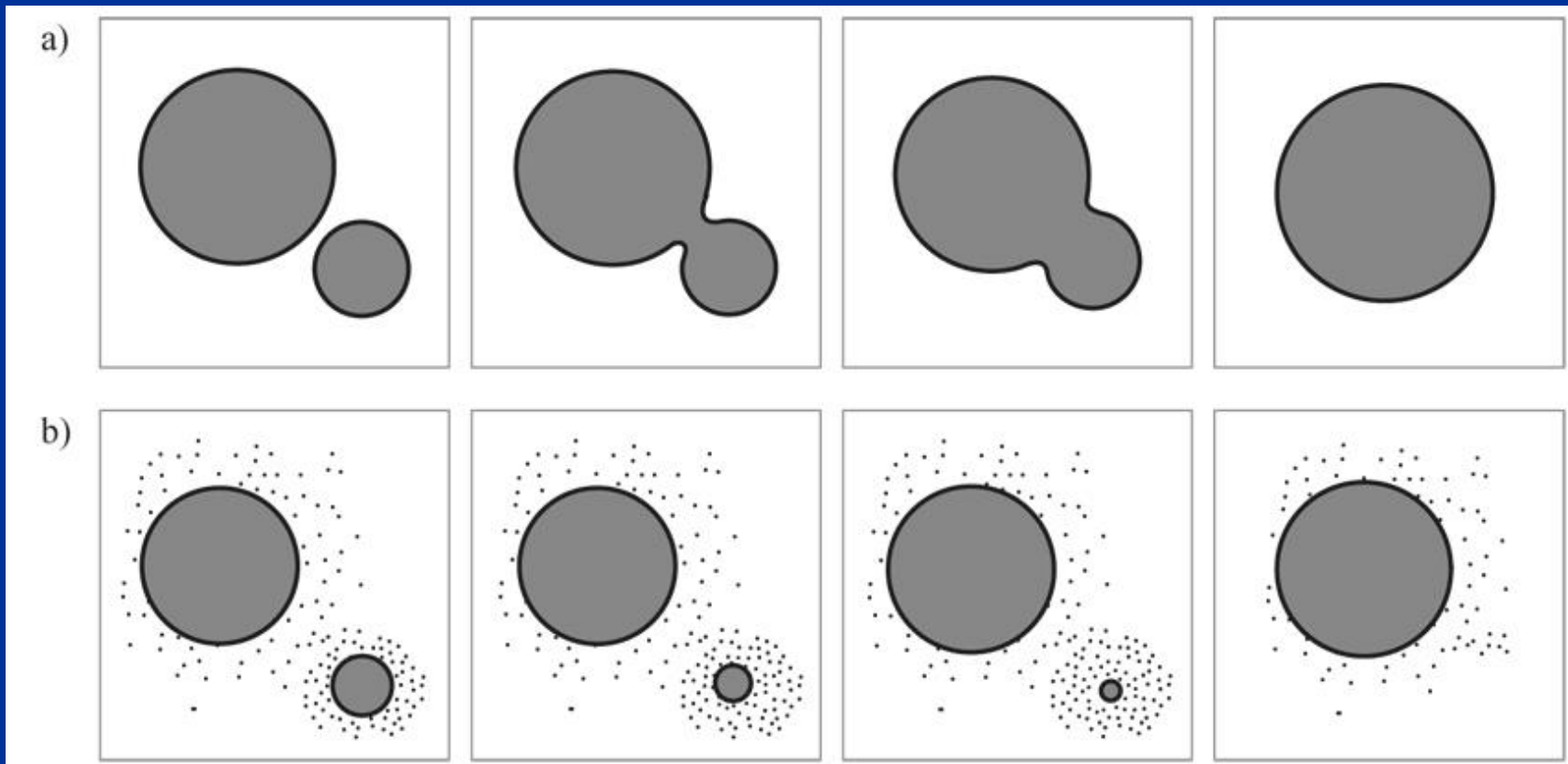
- What must happen in order for a cloud droplet to fall as precipitation?
  - It must increase in size





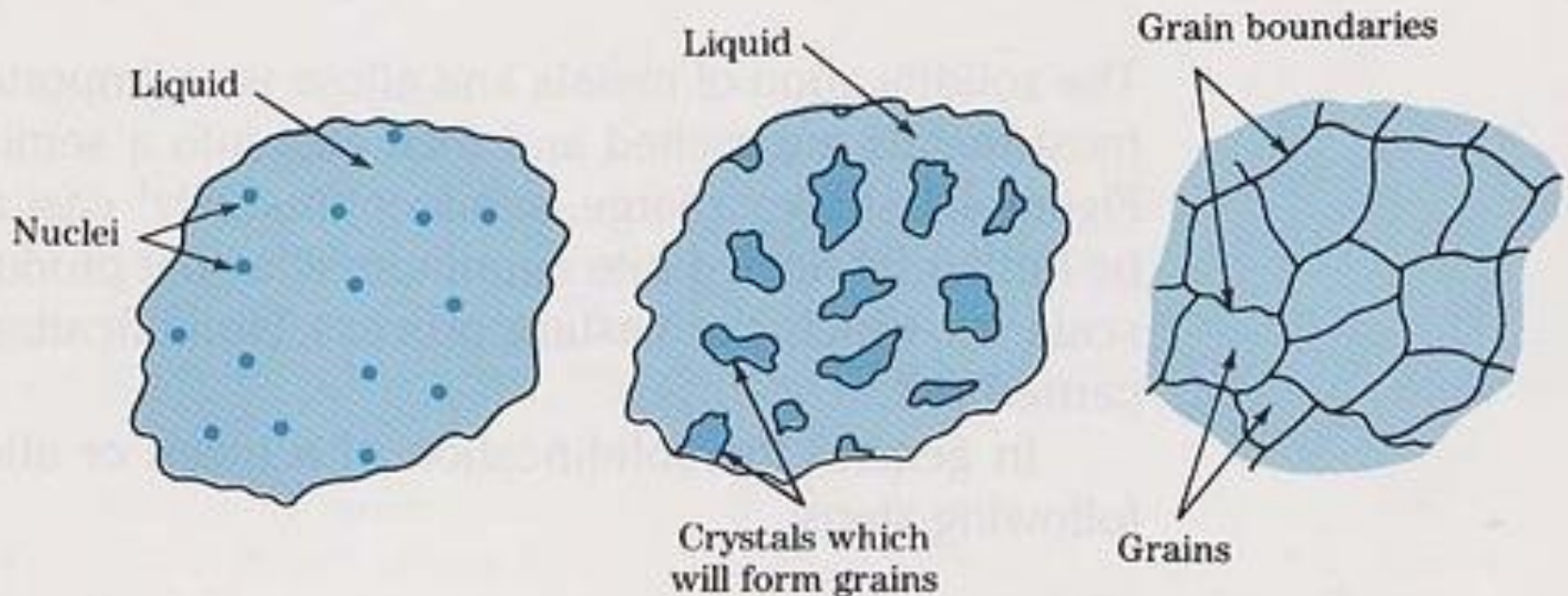
# 24

- What happens in the process of coalescence?
  - Small droplets combine to form larger droplets.



# 25

- What is NOT true of freezing nuclei?
  - They are a form of precipitation

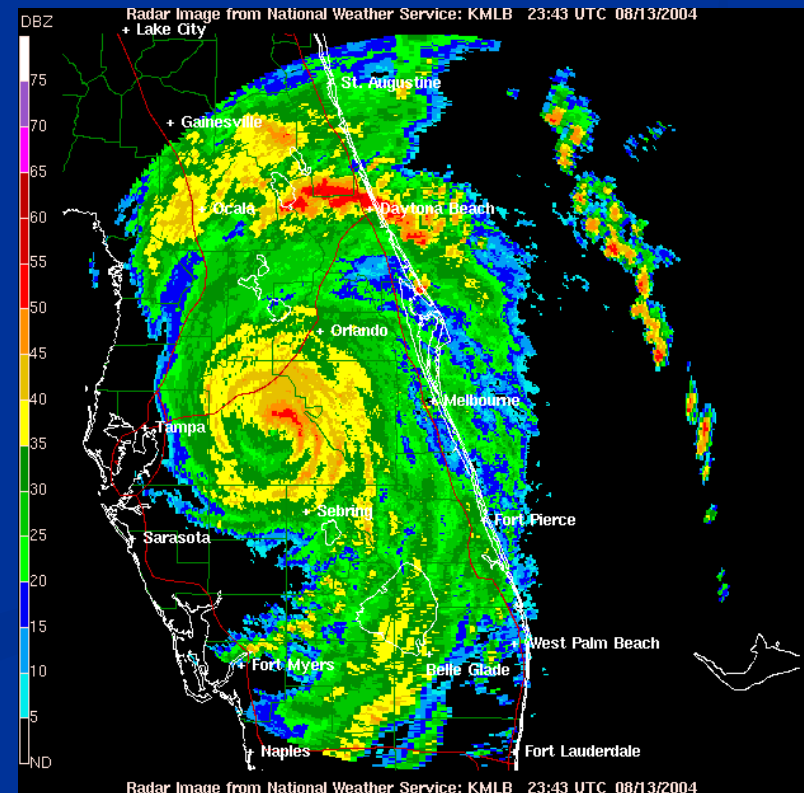


# 26

- What is the name of an instrument used to measure rainfall?
  - Rain gauge

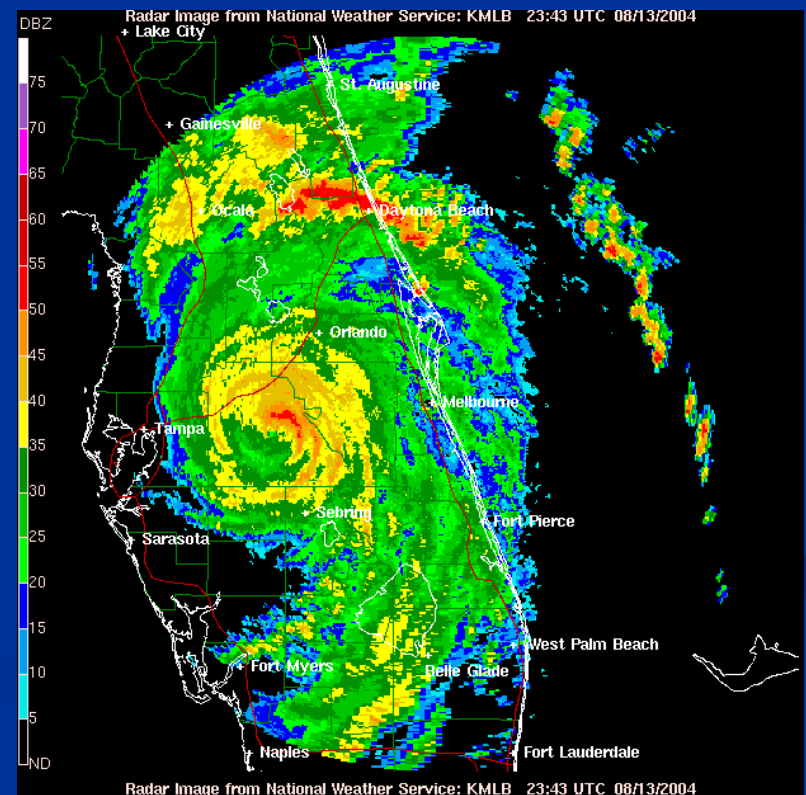
# 27

- What does Doppler radar measure?
  - It bounces radio waves off rain or snow and times how long the wave takes to return to measure the intensity of precipitation



# 28

- Name three things meteorologist can determine with Doppler radar.
  - Location
  - Direction of movement
  - Intensity of precipitation



# The End

