

Chapter

20.3

Severe Storms

Objective: Be able to...

- *Identify what is needed for a thunderstorms.*
- *List the three stages of a thunderstorm*
- *Define lightning and thunder*



20.3 What is a Thunderstorm?

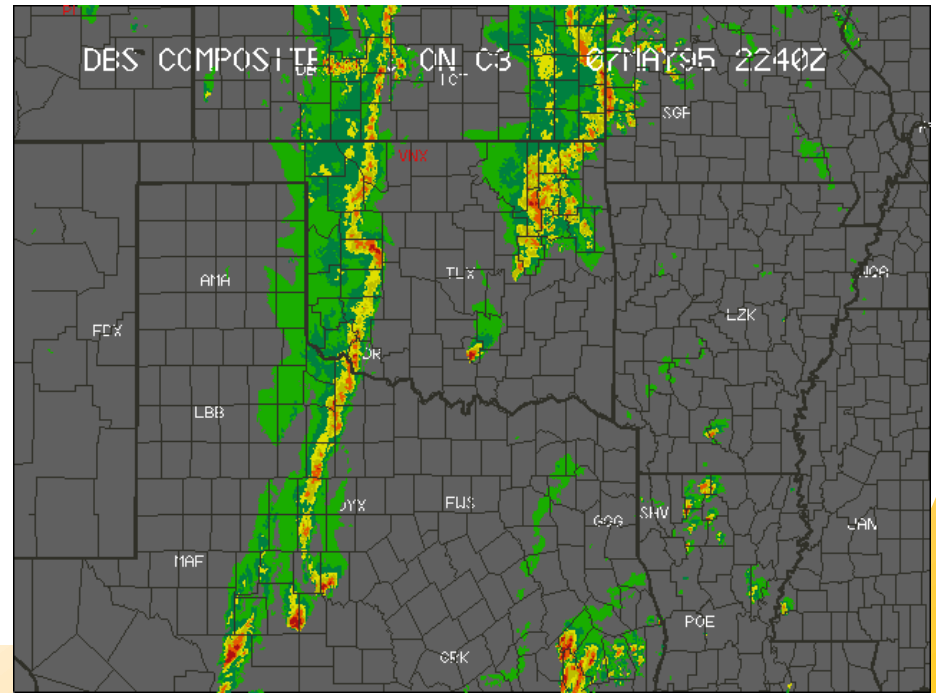
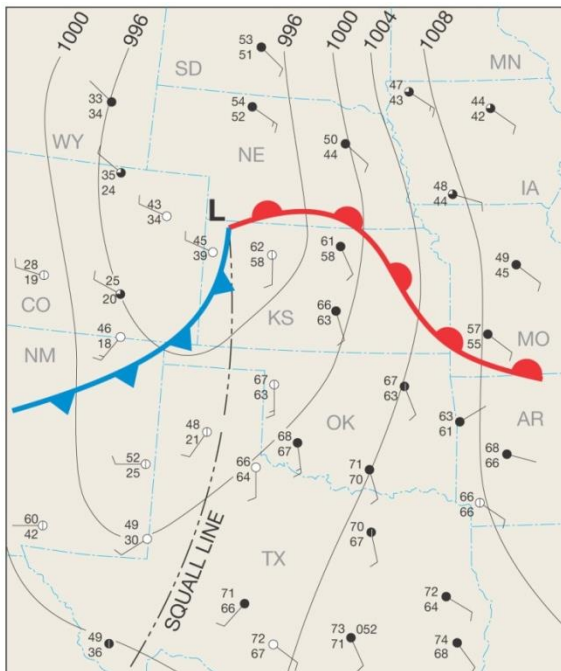
- ◆ A **thunderstorm** is a storm that generates lightning and thunder. Thunderstorms frequently produce gusty winds, heavy rain, and hail. 📣



20.3 Conditions Needed for a T-Storm

◆ Development of Thunderstorms

- Thunderstorms form when you have:
 1. Warm temperatures
 2. Moisture or Humid air
 3. Lift - Air rises in an unstable environment.



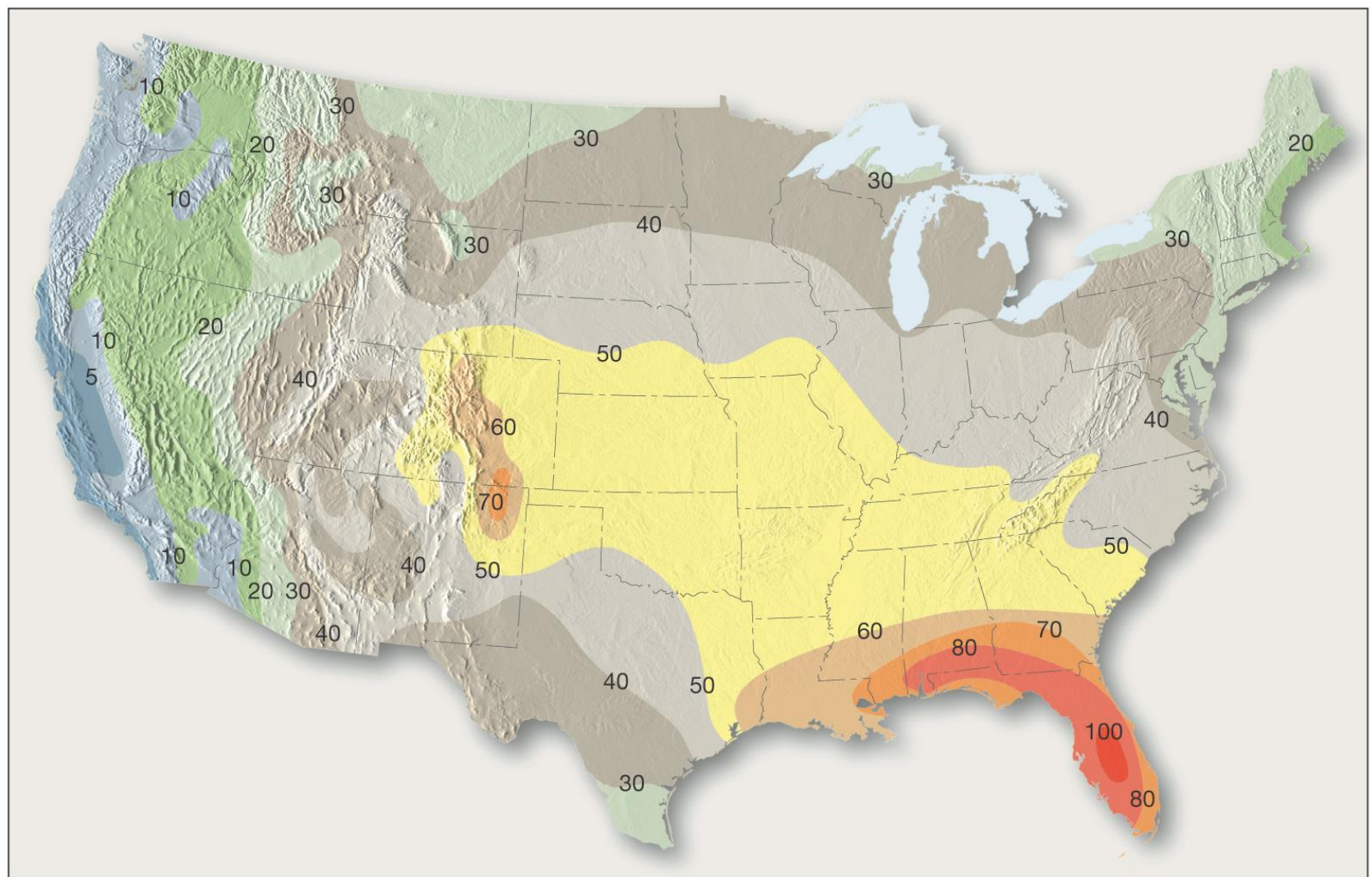
20.3 Where do t-storms occur the most?

◆ Occurrence of Thunderstorms

- Estimated 2000 thunderstorms in progress on Earth at any time.
- The greatest number occur in the tropics near the equator.



of Thunderstorms per year

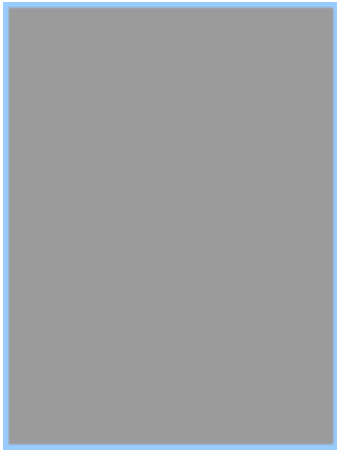
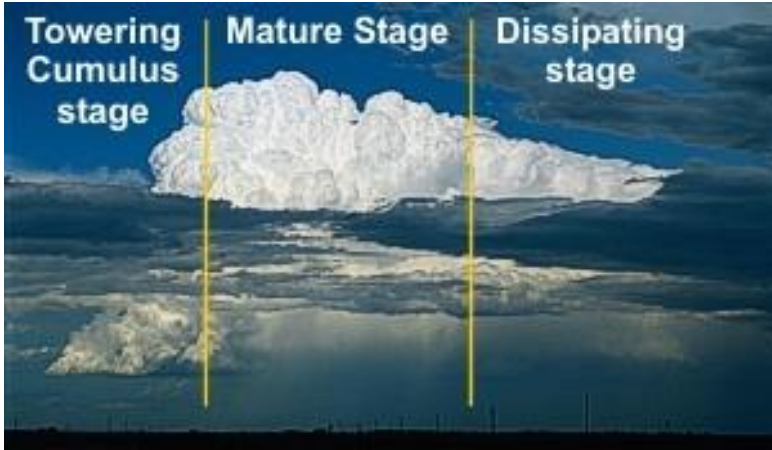
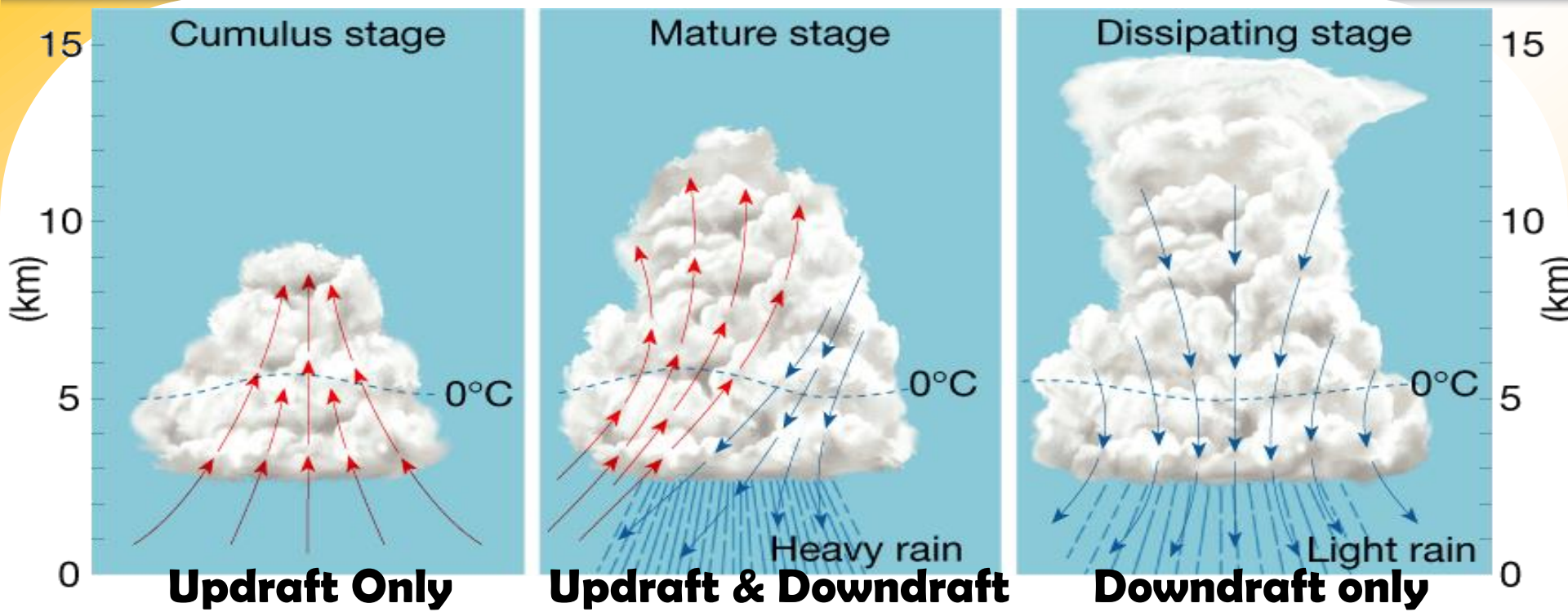


When will a t-storm most likely occur?

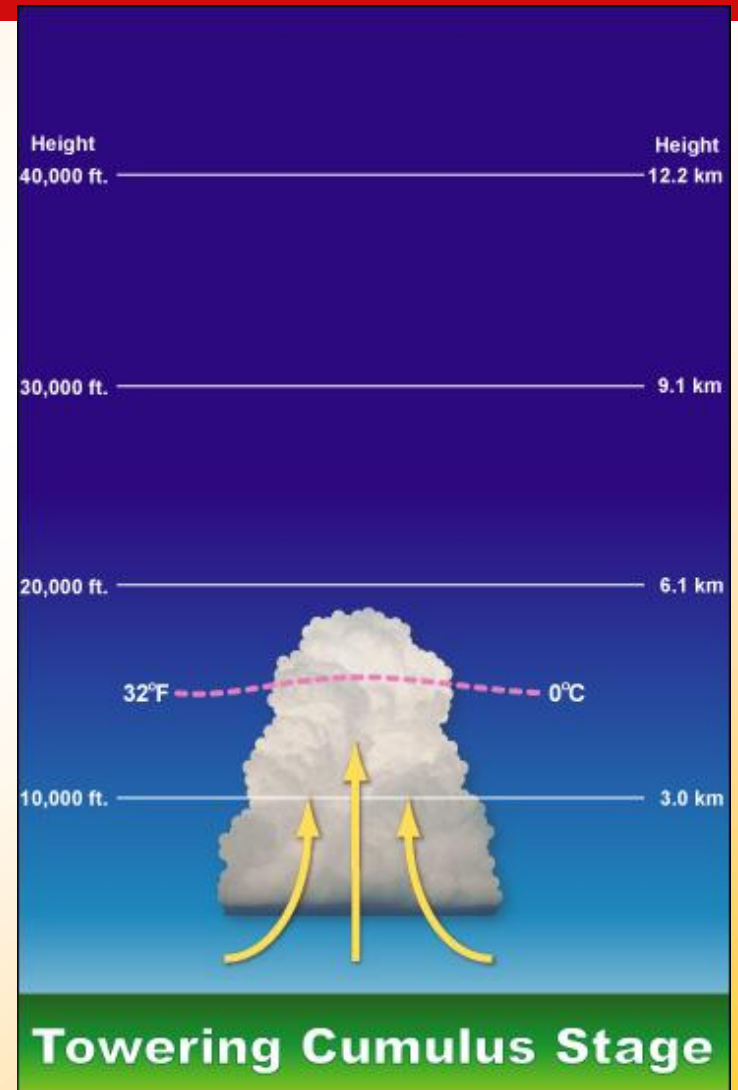
- Thunderstorms are most likely to occur in:
 - Spring and summer months
 - Afternoon and evening hours
- Did you know...
- *Only take about 45min. for a cloud to grow into a thunderstorm.*



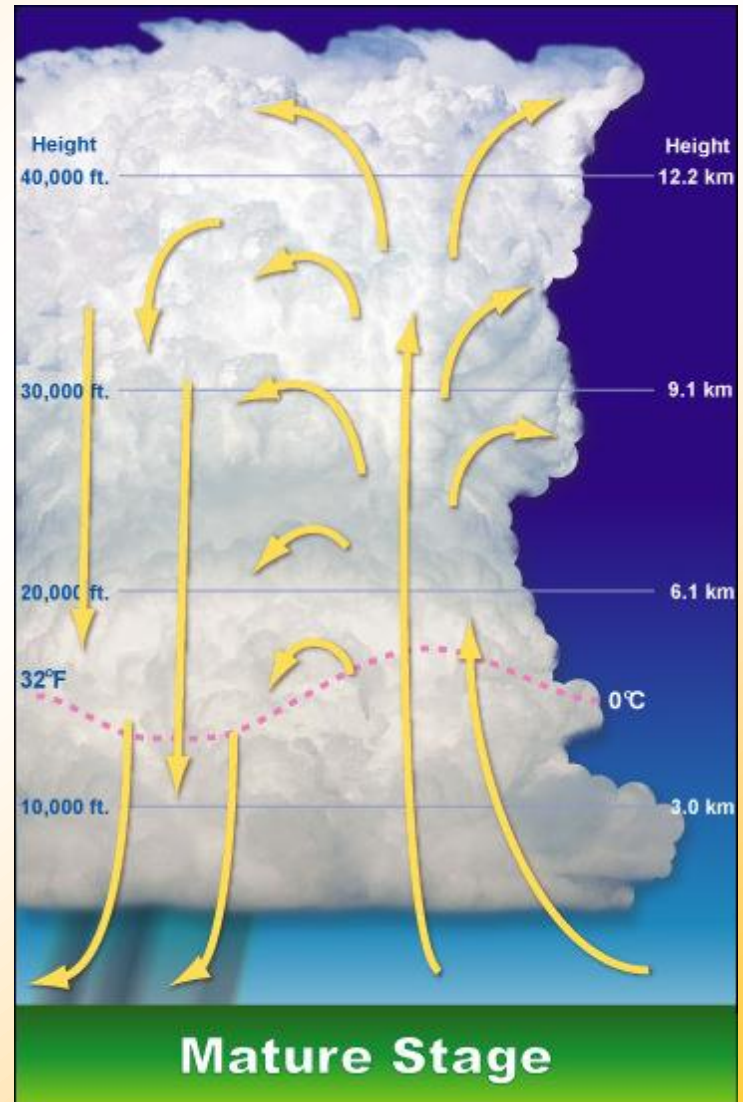
Stages in the Development of a Thunderstorm



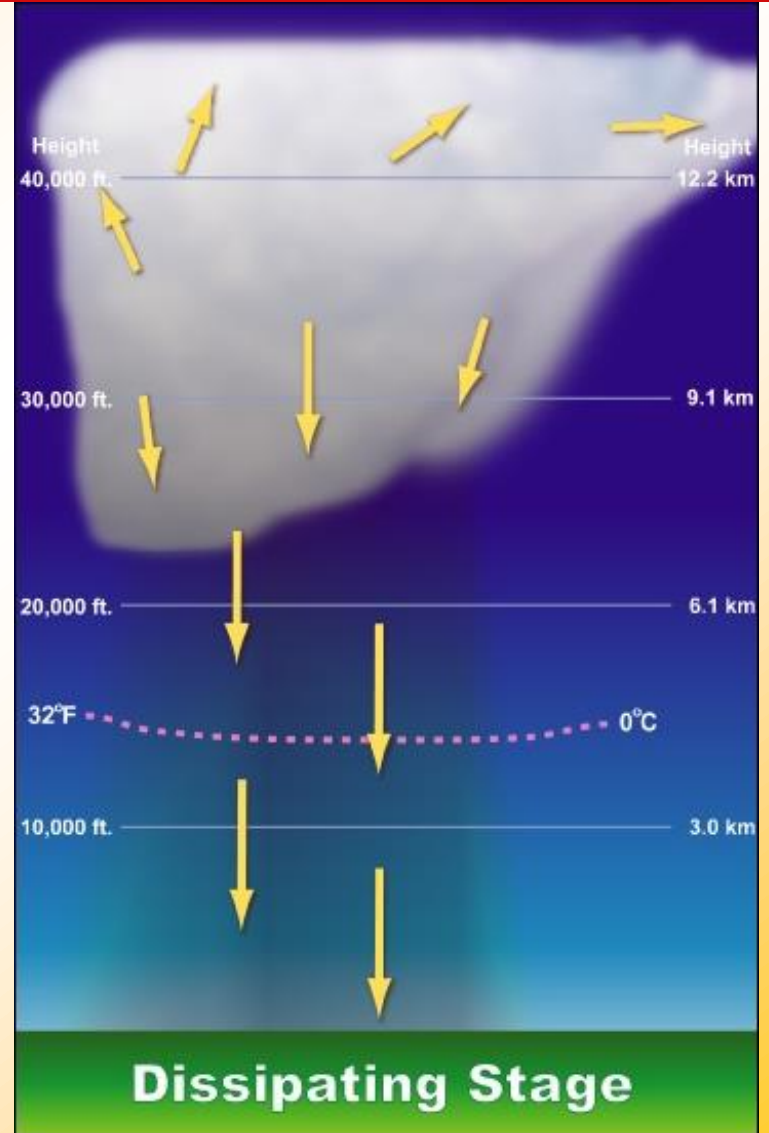
Cumulus Stage



Mature Stage



Dissipating Stage



T-Storm Watches & Warnings

A SEVERE THUNDERSTORM WATCH

- means conditions are favorable for thunderstorms to become severe.

A SEVERE THUNDERSTORM WARNING

- means a severe thunderstorms are occurring in the area.



What is needed for Severe T-Storms



The National Weather Service considers a thunderstorm severe only if it produces

Damaging Wind

Gusts: 58 miles per hour (50 knots) or higher

or

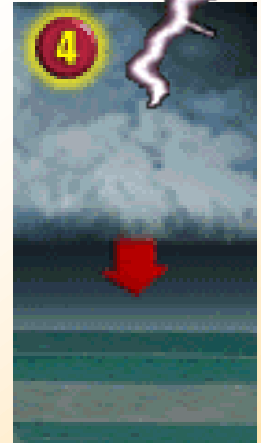
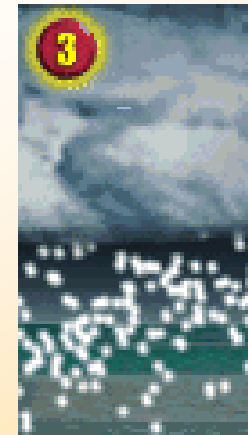
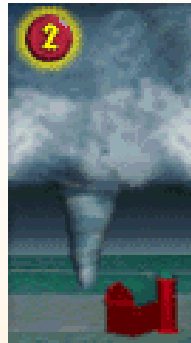
Large Hail

OLD - 3/4 inch in diameter (penny size)

New - 1 inch or bigger (quarter size)

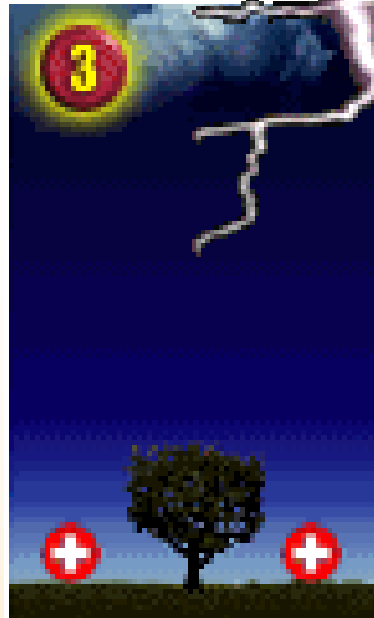
or

Tornadoes



Define Lightning

- ***Lightning***
 - is a sudden flash of light generated by the flow of electrons.



Define thunder.

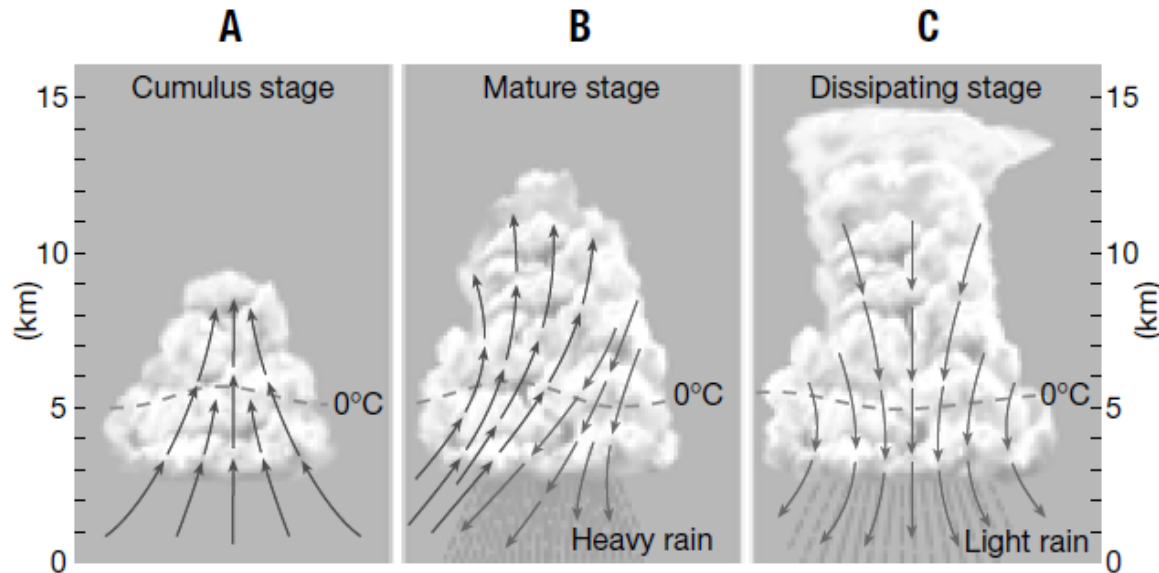
- Lightning superheats the air immediately around it.
 - *Lightning can reach around 50,000°F .*
- The air expands explosively called ***thunder***
- Thunder travels about a mile in 5 seconds



Thunderstorms

1. ⚙️ A thunderstorm generates _____ and thunder.
 2. ⚙️ How do thunderstorms form? _____
-

Using the figure, match each description to its thunderstorm stage.



Description

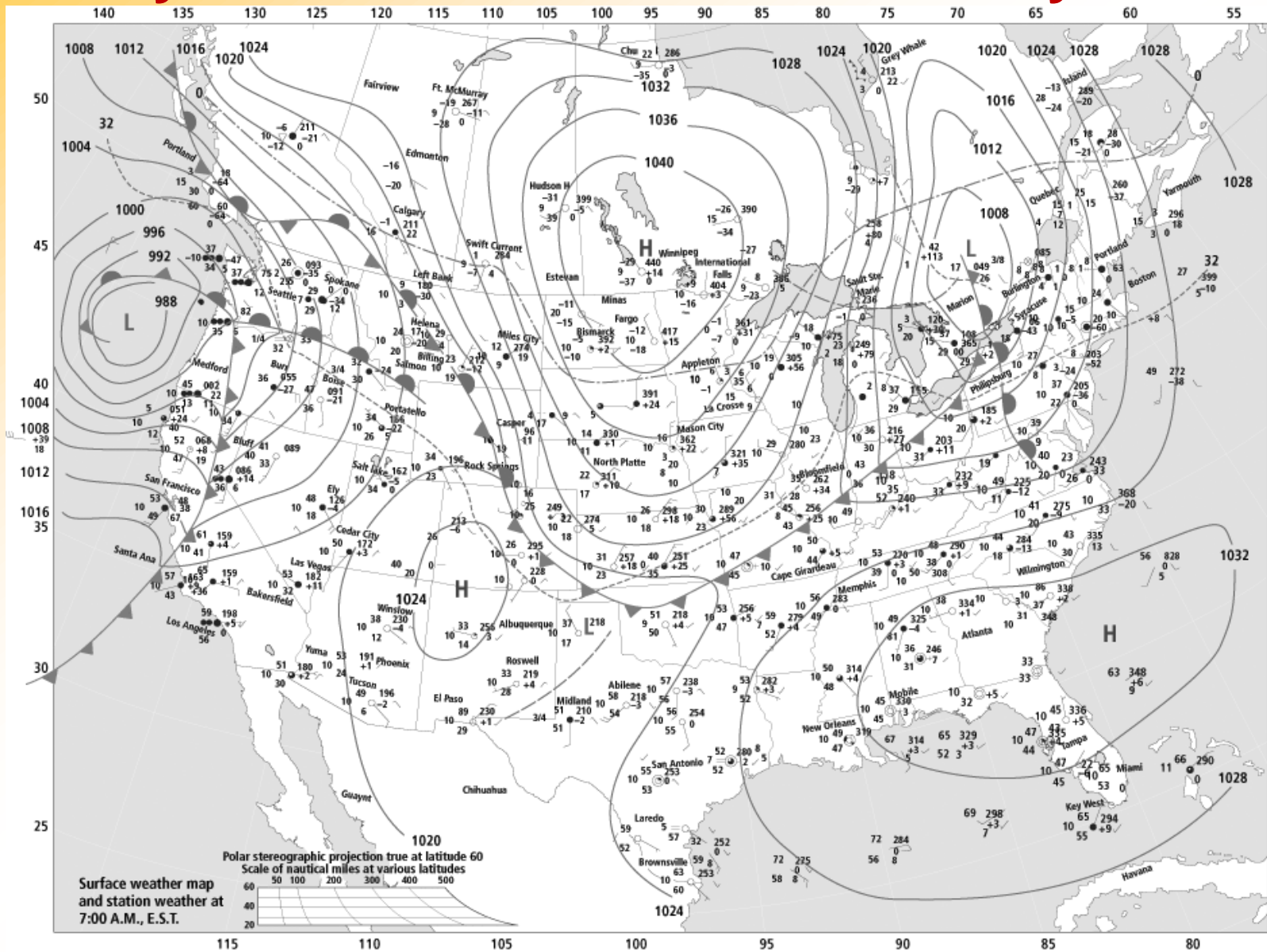
3. The storm cools and dies down.
4. Updrafts of warm air cause the cloud to grow upward.
5. Heavy precipitation falls.

Thunderstorm Stage

- a. cumulus stage
- b. mature stage
- c. dissipating stage

Color green where rain is likely

Identify where thunderstorms are likely



WEATHER PATTERN

SUPER
DOPPLER  HD

Today



COOL

THUNDER
STORMS

