



Topic/Objective CHAPTER: 13 Pt 1

NAME:

Pd: 1 2 4 5 other

# Thunder Storm

DATE

Essential Question

What are T<sub>S</sub>

Cue: Review:

Thoughts: Met  
Video Youtube

NOTE Taking AREA:

- Mr. Parr: Thunderstorms

Static

- at any given moment, there are nearly 2000 thunderstorms (T<sub>S</sub>) in progress around the world.

Conditions needed for a T<sub>S</sub>

- 3 conditions Must exist:

1.)

2.)

3.)

- This happens when moisture begins to condense and release its

Latent Heat

- stored energy in water vapor that is not released to warm the atmosphere until \_\_\_\_\_, occurs

Limit of T<sub>S</sub>

- T<sub>S</sub> are limited to duration and Size.

↳ Limit is ~18,000m ⇒ \_\_\_\_\_  
⇒ \_\_\_\_\_ miles.



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Cue: Review:  
Thoughts: Main Idea

NOTE Taking AREA:

Factors that determine Classification

- 3 Factors that determine the classification of a T<sub>3</sub> stage

1)

2)

3)

2 main types of T<sub>3</sub>

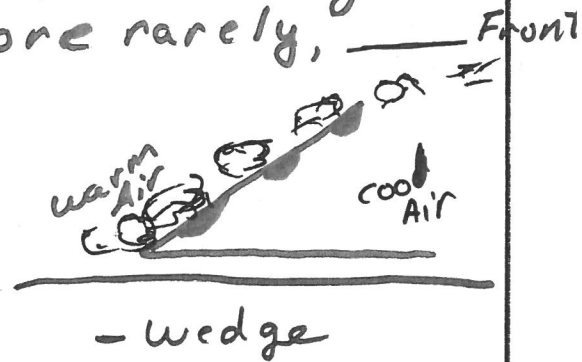
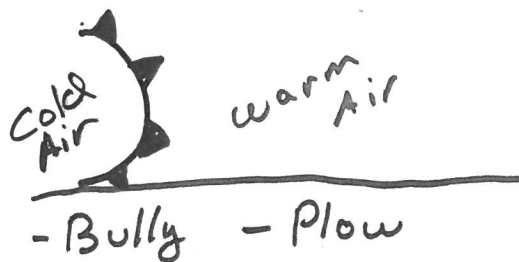
T<sub>3</sub> #1 : \_\_\_\_\_

T<sub>3</sub> #2: \_\_\_\_\_

Frontal T<sub>3</sub>

- Frontal

- are produced by an advancing Front and, more rarely,



SUMMARY:



T<sub>3</sub> pt 2

Essential Question

# Types of Thunderstorms

Cue: Review:  
Thoughts: Main Idea

NOTE Taking AREA:

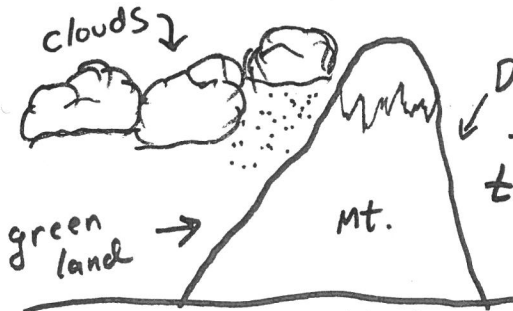
Air Mass T<sub>3</sub>

- When Air rises due to \_\_\_\_\_ of EARTH'S surface a storm can occur beneath the Air mass.

2 types of Air Mass T<sub>3</sub>

- 1) \_\_\_\_\_ T<sub>3</sub>
- 2) Breeze T<sub>3</sub>

(1) Orographic T<sub>3</sub>



- cloud is too heavy to go over the Mt. So it precipitates.

Orographic lifting

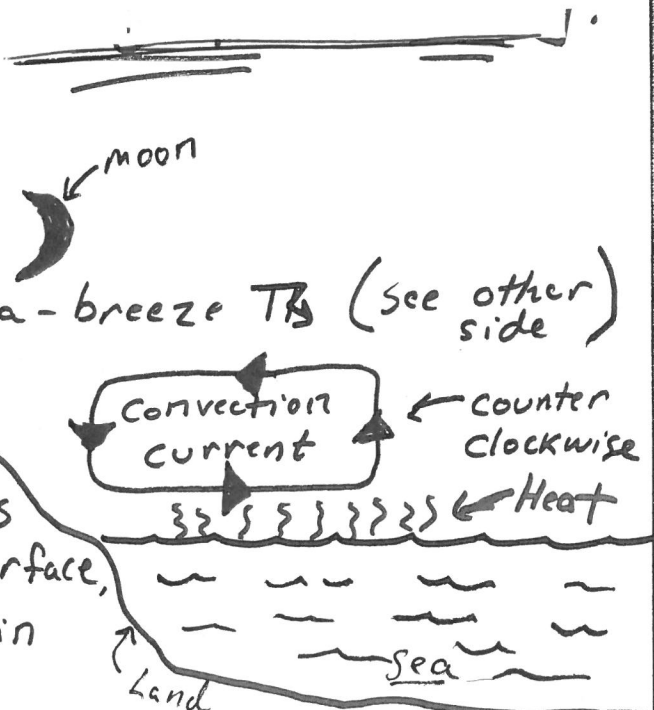
- this is called:

(2) Breeze T<sub>3</sub>

- the opposite of Sea-breeze T<sub>3</sub> (see other side)

Convection Current

- Warm air rises, expands, cools, sinks back toward the surface, where it reheat again





Topic/Objective CHAPTER:

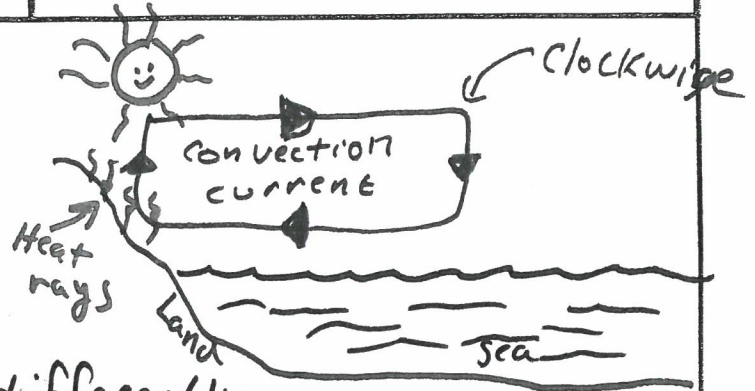
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Cue: Review:  
Thoughts: Main Idea

NOTE Taking AREA:

(2) Sea-Breeze  
T<sub>3</sub>



- Occurs b/c Land & water store & release thermal energy differently

- during the day, the temperature of Land rises faster than the temp. of H<sub>2</sub>O

- @ night it is reversed (see other side for Land Breeze)

- forms because of Temperature differences b/t the air over \_\_\_\_\_ and the Air over \_\_\_\_\_.

who issues the warning

→ National Weather Service (NWS)  
→ Provide weather, water, and climate data, along with forecasting and warnings

Difference

watch → favorable  
warning → seek shelter now

SUMMARY:

Should have a Disaster Kit - ready to go which includes  
↳ bottle water, first aid kit, battery/Radio; what else?

Voice of the National Weather → NOAA Weather Radio  
NOAA





Essential Question

Development of a Thunderstorm

Cue: Review: Thoughts: Main Idea

NOTE Taking AREA:

Development of a Thunderstorm

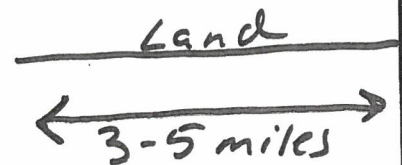
3 Stages

1) Stage

- Developing stage

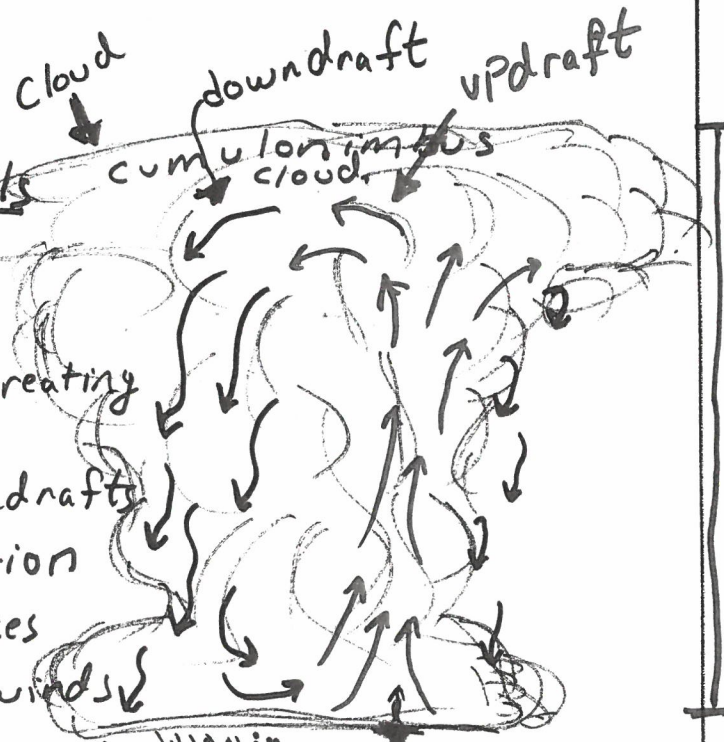


- \_\_\_\_\_ of Earth's surface or an **ADVANCING** front, which causes air to rise



2) Stage  
Event that signals the start of this stage

- Precipitation falls - it cools the air around it.  
- cool air sinks, creating downdraft.



greatest vertical distance

- \_\_\_\_\_ & downdrafts form a convection cell that produces gusty surface winds



NOTES CONTINUE ON OTHER SIDE

hailstones

Possible Tornado



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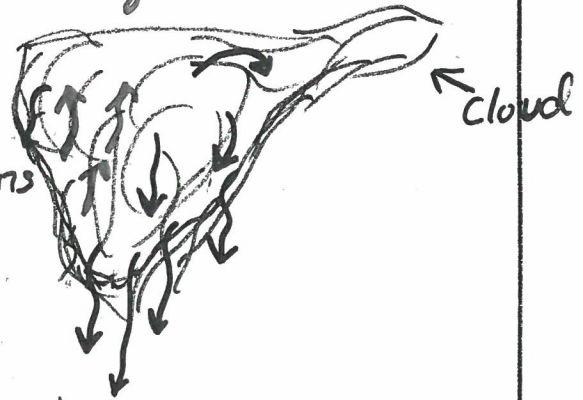
DATE

Cue: Review:  
Thoughts: Main Idea

NOTE Taking AREA:

- ball of ice caught in the convection cell (convection current) until gravity pulls the ice chunk to the ground.

- Cool downdrafts spread in ALL directions when they reach Earth's surface.



- Cools the areas from which the storm draws its energy, updrafts cease, and clouds NO longer form.

5-7 miles

what happens to the updrafts in this stage? - NO longer form b/c downdrafts cut off the supply of warm air.

SUMMARY: - thus the updrafts slows and eventually stop.

- because the downdrafts cooled the surface, cutting off the supply of warm, moist air.