



## Weather Webquest Name:

### Task 1 – What is Weather?

Use any link below to read the What is Weather article on the UCAR website. Then answer the questions below. Full URL: <https://scied.ucar.edu/learning-zone/how-weather-works/weather>

Tiny URL: <https://tinyurl.com/y5y63ny9>

1. In which layer of the atmosphere does weather occur? troposphere
2. What factor are weather events controlled by? Temp, humidity, pressure
3. What is air pressure caused by? The force exerted
4. Compare the weather conditions in high air pressure and low air pressure situations

High air pressure = clear sky

Low = precipitation, clodus

5. What is the difference between weather and climate? Short term changes

### Task 2 – Introduction to Air Masses Weather Fronts Video Tutorial

Use any link below to watch the Air Masses and Fronts video by Pamela Lesley (14:54) . Answer the questions below as you watch. Full URL: <https://www.youtube.com/watch?v=OBz3fwXX64A&t=3s> Tiny URL:

<https://tinyurl.com/zkosdvh>

6. What share similar characteristics, such as density and moisture, throughout?

Fill in the table as you watch.

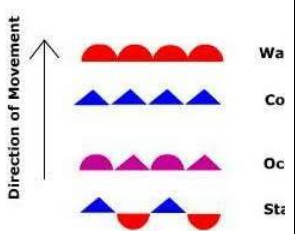
Name of Air Mass	Abbreviation	Where it is Formed	Characteristics (Temperature & Humidity)
7. Maritime Polar	MP	Over water	Carries moisture


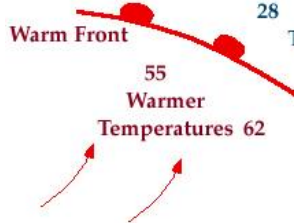
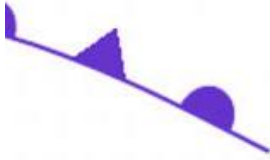
8. Artic	Arctic	Arctic Circle	Really cold
9. Continental Polar	CP	Great lakes	~10 degrees
10. Maritime Tropical	MT	Caribbean Sea	65 degrees
11. Continental Tropical	CT	Tropical Land	100+ degrees

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12. What is it called when air masses meet? A front
13. How can you remember what a front is? What is a front like? "Barrier"
14. What letter in the word "COLD" reminds you that cold air sinks down? D
15. What is a cold front's signature wrestling move? "Low blow" "drop down"
16. The letter R in the word "WARM" reminds you that warm air does what? Warm air rises
17. What is a warm front's signature wrestling movie? "The Wrestler"
18. What does stationary mean? Fixed in a station
19. What air mass wins during a stationary front? Neither mass nor "wins"
20. What is the symbol for a cold front? "Solid blue line"
21. What is the symbol for a warm front? "Solid red line"

Fill in the table as you watch. \*Google Slides Version: Drag and drop the symbols.

Name of Front	Who Wins?	Weather Associated with Front	Draw the Symbol	What types of clouds occur?
22. Stationary Front	Neither	Often cloudy, with possible light rain or snow		Stratus, Nimbostratus

23. Cold Front	Cold air mass	Heavy rain, thunderstorms, and a drop in temperature		Cumulonimbus, Cumulus
24. Warm Front	Warm air mass	Light rain or snow, followed by warmer temperatures		Cirrus, Altostratus, Nimbostratus
25. Occluded Front	Cold (or warm) air lifting warmer air	Often complex weather, including precipitation and temperature changes		Combination of clouds from warm and cold fronts, including Cumulonimbus, Nimbostratus, Stratus

### Task 3 – Air Pressure Article

Use the following link to read the Highs and Lows of Air Pressure article on the UCAR website. Answer the following questions as you read. TinyURL: <https://tinyurl.com/qlohvym>

Full URL: <https://scied.ucar.edu/learning-zone/how-weather-works/highs-and-lows-air-pressure>

26. What is the weight of all the air above us called? Air pressure

27. Where does air pressure decrease? Air pressure decreases as you go higher in the atmosphere.

28. What can occur when air rises in a low pressure system? Clouds and precipitation (rain, snow, etc.)

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29. What direction do the winds of a low pressure system move in the northern hemisphere? Counterclockwise and inward

30. What direction do the winds of a low pressure system move in the southern hemisphere?

Clockwise and inward

31. On a weather map, what is the symbol for a low pressure system? L

32. What direction do the winds of a high pressure system move in the northern hemisphere?

Clockwise and outward

33. What direction do the winds of a high pressure system move in the southern hemisphere?

Counterclockwise and outward

34. On a weather map, what is the symbol for a high pressure system?

H

35. What two factors does air pressure depend on? Temperature, and density

36.

37. How does air naturally want to flow? High -> low

#### **Task 4 – Weather and Air Pressure Video Tutorial**

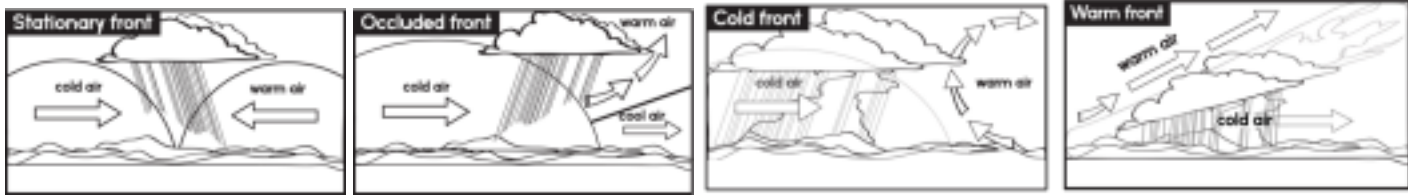
38. Which type of pressure suppresses weather development? Sinking air, stable conditions

#### **High and Low Pressure Systems**

39. Which type of pressure often leads to calm, clear or sunny condition? High pressure

40. Which type of pressure brings storms and precipitation? Low pressure

41. How does atmospheric pressure affect weather? “Influence” air movement, cloud formation.



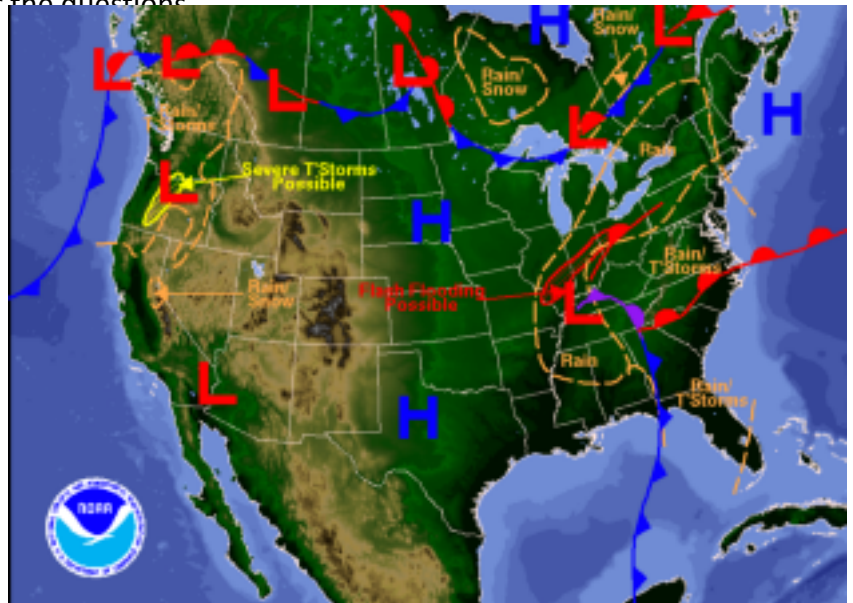
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### Task 5 – Reading Weather Maps

Use any link below to learn how to read a weather map on the SciJinks website. Read the article to help you to answer the questions. Full URL: <https://scijinks.gov/weather-map/> Tiny URL: <https://tinyurl.com/y9nxbzme> \*  
Use the map to the right to help you answer the questions.

42. What type of weather front will Florida experience soon? high
43. What type of weather should Florida Expect? low
44. Are the skies cloudy or clear in Texas today? How do you know? Clear, because there is no wind or clouds coming towards



45. What direction is the cold front on the west coast moving? How do you know? Down, because you can see on the map

### Task 6 – Analyzing Weather Maps

Use any link below to look at the current surface weather map of the U.S. Then answer the questions.  
Long URL: <https://www.weather.gov/zid/surface> Tiny URL: <https://tinyurl.com/4dpuzz4y>

46. Circle the following fronts if you observe them: Occluded Front, Warm Front, Stationary Front, Cold Front
47. How many high pressure systems do you see? 5
48. How many low pressure systems do you see? 9
49. How many places do you see precipitation? 6

50. Choose any state with a pressure system and write that state's name and type of pressure system.

Virginia, warm front 51. What type of weather is associated with this pressure system with this state?

Rain/thunderstorms

52. What type of front(s) are closest it? Cold/occluded

53. What type of weather is associated with this type of front? Dry air

54. What's your favorite type of weather? Cold front

55. What type of front and/or pressure system is associated with your favorite type of weather? Rain, and high wind speeds.