Name _____

What Is Weather? (p. 454 – 461)

I. Weather Factors

1. **Define the term weather.**

Weather – State of the atmospheric conditions at a specific time + place

2. **What are four factors that influence weather?**

1. Air Pressure 2. Wind 3. Temperature 4. Humidity

3. **Define the term humidity.**

Humidity – Amount of water vapor held in the air (warm air = Holds more water vapor)

4. **Define the term relative humidity.**

Relative Humidity – Measure of the amount of moisture in the air, compared with the amount it can hold at a given temperature (0% to 100%)

CUP DEMO

5. **Circle the letter of each sentence that is true about relative humidity.**

(Reported by weather station)

(a.) It is a percentage.
b. It is all the water vapor that the air can hold.
(c.) It depends on air temperature.
d. It measures how hot it feels.

6. **Relative humidity can be measured with a(n)** psychrometer **.** (Not in book.)

7. **Circle the letter of each sentence that is true about how a psychrometer works.** (Not in the book.)

a. The ~~dry~~ wet-bulb thermometer is cooled by evaporation when the wind blows.
b. The higher the humidity, the ~~faster~~ slower water evaporates from the bulb.
c. The wet-bulb thermometer reading is always ~~higher~~ lower than the dry-bulb reading.
(d.) When relative humidity is high, there is little difference between thermometer readings.

II. Dew Point

1. **Define the term dew point.**

Dew Point – Temperature at which air is saturated and condensation forms

2. **Circle the letter of each sentence that is true about condensation of water vapor.**

a. It occurs when air gets ~~warmer~~ cooler.
(b.) It can occur on cold surfaces. (slows down molecules)
(c.) It explains why clouds form.
(d.) It can form on dust particles.

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3. Match the terms with the correct definitions.

1. D - Condensation	A.	Ice that has been deposited on a surface with a temperature below freezing. (Deposition phase change)
2. C - Dew Point	B.	Water that condenses from the air onto a cooler surface.
3. B - Dew	C.	Temperature at which condensation begins.
4. A - Frost	D.	Process by which molecules of water vapor become liquid water.

III. Forming Clouds

1. Complete the flowchart of how clouds form.

Clouds:
Form on:
salt crystals
dust
smoke

Clouds form as Warm air is forced upward, expands, and cools.

↓

As the air cools, relative humidity increases.

↓

Relative humidity reaches 100 %.

↓

Water vapor begins to condense and form tiny droplets, which form clouds.

IV. Classifying Clouds

1. Match the type of cloud with the correct characteristics.

Strato:
Low elevation
Alto:
middle elevation
Cirro: high elevation

1. B - Cumulus	A.	Wispy, feathery ice crystals clouds; High altitudes (Approaching storm)
2. C - Stratus	B.	White, fluffy clouds; Low to high altitude (Fair weather)
3. A - Cirrus	C.	Gray, flat layers; Low altitudes (Rain, drizzle, snow)
4. D - Cumulonimbus	D.	Towering clouds (up to 18 km); Indicate thunderstorms

V. Precipitation

1. Define the term precipitation.

Precipitation – Water falling from clouds whose form is determined by air temperature

2. Match the type of precipitation with the correct characteristics.

1. C - Rain	A.	Raindrops that pass through a layer of freezing air near Earth.
2. D - Hail	B.	Air temperature so cold that water vapor becomes solid.
3. A - Sleet	C.	Drops of water falling at temperatures above freezing.
4. B - Snow	D.	Lumps of ice that grow when tossed by cumulonimbus winds.