



Name: _____

GRADE 5 SCIENCE - Weather Test Study Guide

Dear Parent,

We will have our Weather Unit Test on _____. For this test please use your child's weather booklet to review. Obviously, complete assignments and booklets that have all of our activities in them make better study guides. PLEASE keep these workbooks and send them back on the day of the test.

Thank you

*** Earn Class Money by returning this signed sheet on the morning of the test. No sooner please!**

We studied! _____ (Parent Signature)

1. Know the different tools used to measure weather.

- Weather Instruments:
 - **Thermometer:** Used to measure temperature in °C
 - **Anemometer:** Used to measure wind speed in kph.
 - **Barometer:** Used to measure air pressure in kPa.
 - **Rain Gauge:** Used to measure the amount of precipitation in mm.
 - **Wind Vane:** Used to measure the direction of the wind and recorded as N, E, S, W, or a combination.
 - **Hygrometer:** Used to measure the humidity in the air.

2. Be able to define the following:

- evaporation
- condensation
- precipitation
- humidity
- dew point
- convection current
- wind chill

3. Be able to identify and define the following types of clouds:

stratus – This cloud is layered, very low and contains mainly water droplets.

cirrus – This cloud is one that forms high in the sky, is made up of ice crystals and is feathery and wisp-like in appearance.

cumulus – This cloud looks like a pile of cotton puffs or a head of cauliflower. It is a fair weather cloud.

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nimbus – This word is added on to the names of clouds to show they are rain clouds.

cumulonimbus – This cloud produces severe thunderstorms and can have the form of a huge tower. It often has the shape of an anvil at the top and is so large that it can sometimes only be seen in its entirety from a distance.

Student must also **KNOW HOW CLOUDS ARE FORMED.** (*Be sure to understand what condensation is- many students forget which form water is in during this process- gas, liquid or solid*)

4. Understand and be able to label the Water Cycle.

- Water Cycle:
 - Sun heats up water particles and causes **evaporation** – water rising into the atmosphere. **Liquid turning into water vapour.**
 - Water particles come closer together, attach themselves to dust particles and show **condensation** when they make clouds. **Water vapour turning back into liquid.**
 - The clouds become heavy with water, and eventually gravity will grab hold and the clouds will let go of the water in the form of **precipitation.** (*Types of precipitation are: rain, snow, sleet and hail.*)
 - The precipitation lands on the ground, and collects in rivers, lakes, and oceans: **collection**
 - **The cycle starts again.**

6. Be able to choose the appropriate clothing for the weather. Be able to describe why your choices have been made:

- We chose our clothing in the morning based on the environment outside. If it is a warm, sunny day we might chose to wear a t-shirt and shorts. If it is a cold winter day we would wear pants, a sweater, a heavy coat, toque, mitts, scarf, boots, etc.
- Some fabrics are better than other at keeping us warm or dry. We often wear clothing that has a plastic outside to keep us dry from rain. Or clothes with a fuzzy inside to keep us warm from the cold. We look at the humidity to help us predict if we will need to prepare for precipitation.

7. Understand Dew and Humidity:

- Humidity is the water that is hanging in the air with the air particles. The more water that is able to stay in the air, the higher the humidity.
- Dew forms when the humidity in the air cools (usually in the morning). The water particles are cold, come closer together, get very heavy, and want to hang onto something – usually items outside: grass, cars, and

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playgrounds. This is why in the morning some things outside are wet to the touch.

- o The **dew point** is when the air temperature holds as *much* moisture as it can (fully saturated). It cannot hold any more moisture at that temperature, and if it became colder the air would have to release some moisture to the surrounding areas, which becomes dew.
- o Relative humidity is the difference in temperature between measuring with a wet and a dry thermometer.

8. Know the difference between Weather and Climate:

- o Weather is short term: right now it is snowing.
- o Climate is long term: we've had a hot summer. Not every day may have been hot, but climate is measuring a long time. How is the climate different between Vancouver and Fort Saskatchewan?

9. Understand the Sun's effect on weather.

- o The sun's rays hit the Earth at an angle because the Earth is a sphere. The farther away from the equator you move, the less concentrated the light will be.
- o The concentration of light from the sun heats up everything it touches. The greater the concentration the warmer that area is able to get. The more spread out the light, the longer it takes for that area to heat up.
- o The same thing happens as the sun travels across the sky during the day, when it first rises, the sun's rays are spread out, as it climbs in the sky, the light and heat become more focused and concentrated on the ground.

10. Changes to our Environment

- o The Earth has seen changes to our environment that can affect the climate negatively. These include: acid rain, deforestation, greenhouse effect,