

## Meteorology

Meteorology is the science that studies the changes that happen in the atmosphere. Meteorology is extremely important as it allows people to be able to predict and forecast the weather. Meteorologists are scientists that study meteorology. They depend on thousands of weather stations, which are placed all over the world on land and at sea. Measurements are taken at all the stations, and then are sent to weather centers so that the information can be studied and analyzed. Once this information has been studied, then it is sent to newspapers, television, online, and radio so that people can know what weather to expect, and this is known as the weather forecast.

There is also weather information collected from satellites. Satellites tell meteorologists about cloud formations, or if there are any big weather events that are going to take place, such as hurricanes. Satellites allow meteorologists to see weather all around the globe, in oceans, continents, poles, even to the extent of countries and cities. In addition, there are radars that also provide meteorologists with information. The difference between satellites and radars is that satellites read information provided from refracted light or energy and give us an image of the information; whereas radars measure sound waves. For example, radars would be used to get an idea about how much precipitation there is, so that meteorologists could track how a storm is advancing.

Around 350BC, the philosopher Aristotle wrote a book called *Meteorology*, in which he talked about the four elements (earth, air, fire, and water). He observed many things about the weather, some were proven right and some were proven wrong. However, since he was the first to try and explain the weather and the changes that took place, he is considered the founder of meteorology.

Meteorology is extremely important and useful to many people. It helps people to forecast and predict weather and it has many applications. The ability to predict weather is useful for farmers, so that they know when they should plant their crops. It is also important for sailors and fishermen. It is also very useful for energy-saving applications and military ones.

The main components that determine weather are: the Sun, the atmosphere, water vapor, and the wind. These components work together to make heat, form clouds, rain, and snow and all it happens in the troposphere. The troposphere is one of the layers of the atmosphere, or one can also describe it as one of the layers of air around the Earth.

The weather is explained or determined in terms of five elements, which are: temperature, wind, humidity, pressure, and rainfall. The measurements taken at the weather stations usually include these five elements and are taken through the use of meteorological instruments set up at the weather station. Examples of instruments used are: the thermometer to measure temperature; the barometer to measure pressure; the anemometer to measure wind; the hygrometer to measure humidity; and the rain gauge to measure rainfall.

Name \_\_\_\_\_

Date \_\_\_\_\_

## Meteorology Questions

### Multiple Choice:

1. Meteorology is the science that studies:
  - a. The changes that happen in meteors
  - b. The changes that happen in outer space
  - c. The changes that happen in the oceans
  - d. The changes that happen in the atmosphere
  
2. The founder of meteorology is considered to be:
  - a. Plato
  - b. Aristotle
  - c. Ibn Farnas
  - d. Galileo

### Matching:

- |                   |                       |
|-------------------|-----------------------|
| ___ 3. Hygrometer | a) Measures pressure  |
| ___ 4. Barometer  | b) Measures rain fall |
| ___ 5. Anemometer | c) Measures humidity  |
| ___ 6. Rain gauge | d) Measures wind      |

### List the four main components that determine weather:

7. \_\_\_\_\_
8. \_\_\_\_\_
9. \_\_\_\_\_
10. \_\_\_\_\_

### Fill In:

11. The difference between satellites and radars is that satellites read information provided from refracted light; whereas radars measure \_\_\_\_\_.
  
12. Measurements are taken at all the stations, and then are sent to \_\_\_\_\_ so that the information can be studied and analyzed.
  
13. The ability to predict weather is useful for \_\_\_\_\_, so that they know when they should plant their crops.
  
14. The main weather components work together to make heat, form clouds, rain, and snow and all it happens in the \_\_\_\_\_.

## Meteorology Answers

### Multiple Choice:

1. Meteorology is the science that studies:
  - a. The changes that happen in meteors
  - b. The changes that happen in outer space
  - c. The changes that happen in the oceans
  - d. **The changes that happen in the atmosphere**
  
2. The founder of meteorology is considered to be:
  - a. Plato
  - b. **Aristotle**
  - c. Ibn Farnas
  - d. Galileo

### Matching:

- |                            |                       |
|----------------------------|-----------------------|
| <u>  c  </u> 3. Hygrometer | a) Measures pressure  |
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| <u>  d  </u> 5. Anemometer | c) Measures humidity  |
| <u>  b  </u> 6. Rain gauge | d) Measures wind      |

### List the four main components that determine weather:

7.   **Sun**  \_\_\_\_\_
8.   **Atmosphere**  \_\_\_\_\_
9.   **Water vapor**  \_\_\_\_\_
10.   **Wind**  \_\_\_\_\_

### Fill In:

11. The difference between satellites and radars is that satellites read information provided from refracted light; whereas radars measure   **sound waves**  \_\_\_\_\_.
  
12. Measurements are taken at all the stations, and then are sent to   **weather centers**  \_\_\_\_\_ so that the information can be studied and analyzed.
  
13. The ability to predict weather is useful for   **farmers**  \_\_\_\_\_, so that they know when they should plant their crops.
  
14. The main weather components work together to make heat, form clouds, rain, and snow and all it happens in the   **troposphere**  \_\_\_\_\_.