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| --- |
| **YEAR 11 GEOGRAPHY HOMESCHOOL WORKPLAN\_8 WEEKS (TERMI-9-13)(TERMII-1-3)**  **CENTRAL SECONDARY SCHOOL.**  [Pick the date]  Emma Jedrick |

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**Year 11 GEOGRAPHY HOMESCHOOL WORKPLaN\_8 Weeks (Termi-9-13)(termii-1-3)YEAR 11 GEOGRAPHY HOMESCHOOL WORKPLAN\_8 WEEKS (TERMI-9-13)(TERMII-1-3)**

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| --- | --- | --- | --- |
| **WEEK** | **STRAND** | **SLO** | **ACTIVITY.** |
|  |  |  |  |
| **8,9 &10,11** | ***Sub-Strand 1.4: Atmospheric Processes and its Effects.*** | -Define weather.  -Define Climate.  -Describe the various elements of weather.  -Describe common weather instruments that are used to measure changes in each element of weather.  -Illustrate how weather elements can be measured using specific weather instruments.  -Read the weather by using appropriate weather instruments.  -Describe the best site for a weather station.  -Identify the symbols used to record weather elements.  -Describe a weather map.  -Draw weather maps from different weather stations. | **Activity 1.4.1**  **Pg.8,9**  **Activity 1.4.2**  **Pg,14**  **Activity 1.4.3**  **Pg. 16,17**  **Activity 1.4.4**  **Pg.19**  **Activity 1.4.5**  **Pg.20** |
| **12&13** | ***Sub-Strand 1.5: Natural Resources, Energy & Water.*** | -Define “natural resources”.  -Distinguish between renewable and non-renewable resources.  -Identify the different types of energy resources.  -Identify the different types of energy resources.  -Classify the different forms of energy resources.  -Describe how energy is consumed in Vanuatu and the region.  -State the different uses of water as a natural resource.  -Discuss how water is obtained and used in the local community using examples**.** | **Activity 1.5**  **Pg.23** |
| **TWO WEEKS HOLIDAY** | | | |
| **TERM II** | | | |
| **STRAND 2: CULTURAL PROCESSES** | | | |
| **1 &2** | ***2.1 Population growth and movement*** | -Define population growth.  -List the factors that influence population growth.  -Explain how these factors influence population growth.  -Use population indicators to measure population growth.  -Draw population pyramids. | **Activity 2.2.1**  **Pg.26,27** |
| **3** | **REVIEW AND COMPLETION OF INCOMPLETE ACTIVITIES.** | | |
| **4** | **BACK TO SCHOOL** | | |
|  |  |  |  |
|  |  |  |  |

**STRAND 1: NATURAL PROCESSES**

**SUB STRAND 1.4.EARTH IN SPACE AND ROCK STRUCTURES**

**SLO: 1.1.1.1 -1.1.3.3**

**Weather**

Weather is the daily state of the atmosphere, or air, in any given place. [**Climate**](https://kids.britannica.com/kids/article/climate/352972) is the average of weather conditions in an area over a long period. The weather is important to people. It affects their comfort, their food supply, and even their safety.

**Elements of Air**

Many different elements combine to create weather.

1. **Temperature** is one of the basic elements of weather. Temperature is how warm or cold it is outside.

[Temperature](https://kids.britannica.com/students/article/temperature/313807) changes may also be associated with wind direction. In the Northern Hemisphere winds from the south usually bring rising temperatures, while northerly winds are normally accompanied by falling temperatures. The opposite is true in the Southern Hemisphere. Under cloudless skies temperatures may vary greatly between night and day, while clouds keep temperatures more uniform.

1. [**Wind**](https://kids.britannica.com/kids/article/wind/399645), or the movement of air across Earth’s surface, is a second element of weather. Winds may be gentle or powerful. [Wind](https://kids.britannica.com/students/article/wind/277759) is the movement of air parallel to Earth’s surface. Were it not for Earth’s rotation, winds would generally blow from areas of high pressure toward areas of low pressure, down what is called the pressure gradient—a sort of “slope” from high pressure to low. The Coriolis effect, however, causes winds to blow at almost right angles to the prevailing pressure gradient, especially in the upper atmosphere. Low-level winds experience more friction with the surface. This changes the balance of forces and allows a flow at an angle to the pressure gradient. Such winds are called geostrophic winds. In the Northern Hemisphere lower pressure is to their left and higher pressure is to their right. The opposite is true in the Southern Hemisphere. At around 30,000 feet (9,000 meters) in altitude these westerly winds may exceed 200 miles (320 kilometers) per hour along narrow zones known as jet streams.
2. **Humidity** or the amount of moisture in the air. Warm air can hold more moisture than cold air can.

Humidity is the amount of moisture in the air. Water exists in the air in gaseous form, called water vapor. Warm air can contain more vapor than cold air can. The maximum amount of vapor possible at a specific temperature is known as its saturation value. Relative humidity is the proportion of water vapor actually in the air at a given temperature as compared with the maximum amount possible at that temperature. It may vary from almost none over deserts to as much as 100 percent in thick fog or rain. Another very useful humidity measurement is dew point—the temperature at which the relative humidity would reach 100 percent, given the current amount of water vapor present. Higher dew points correspond to greater amounts of moisture.

1. **Precipitation** is a fourth element of weather. Precipitation may come in many forms, including [**rain**](https://kids.britannica.com/kids/article/rain/400161), hail, sleet, and [**snow**](https://kids.britannica.com/kids/article/snow/400182). The form precipitation takes depends on other weather conditions, such as temperature.
2. **Atmospheric pressure**. This is the weight of air above a given area. Changes in pressure help people to predict approaching storms. A [**storm**](https://kids.britannica.com/kids/article/storm/353817) is a disturbance in the atmosphere—for example, a [**thunderstorm**](https://kids.britannica.com/kids/article/thunderstorm/399624) or a [**hurricane**](https://kids.britannica.com/kids/article/tropical-cyclone/390127).
3. [Atmospheric pressure](https://kids.britannica.com/students/article/atmospheric-pressure/604037) by itself has limited significance in weather forecasting. However, changes in pressure do matter, if a correction is made for normal changes, such as a fall in pressure that usually occurs during the midday hours. Falling pressure generally indicates that a storm is approaching. Rising pressure indicates the approach or continuation of fair weather.

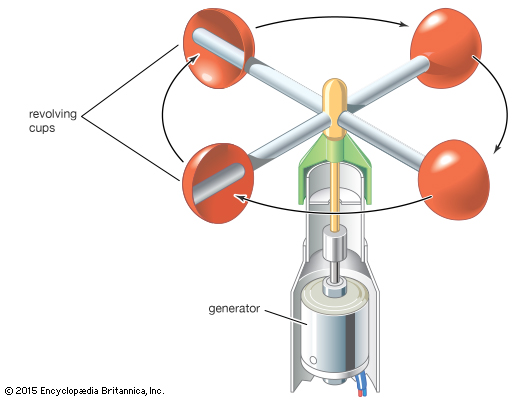
### [Clouds](https://kids.britannica.com/students/article/cloud/273708)  [Clouds](https://kids.britannica.com/students/article/cloud/273708) often signal an imminent weather change. Rising cloud levels indicate clearing weather. Thickening and lowering clouds signify precipitation. Clouds form when water vapor is cooled below its dew point and condenses into tiny but visible droplets or ice crystals. The cloud base indicates the level at which rising air reaches its dew point. The main cloud types are the high, wispy cirrus, the layered stratus, and the massive, billowy cumulus. The terms alto, meaning “high,” and nimbus, meaning “rain,” further describe clouds.

[Fog](https://kids.britannica.com/students/article/fog/274361) is a cloud whose base is on the ground. Like clouds, it forms when moist air cools below its dew point. [Dew](https://kids.britannica.com/students/article/dew/604746) is formed when moist air is in contact with a surface such as grass that has been cooled below the air’s dew point by nighttime radiation. When the temperature is below freezing, [frost](https://kids.britannica.com/students/article/frost/274446) forms instead of dew.

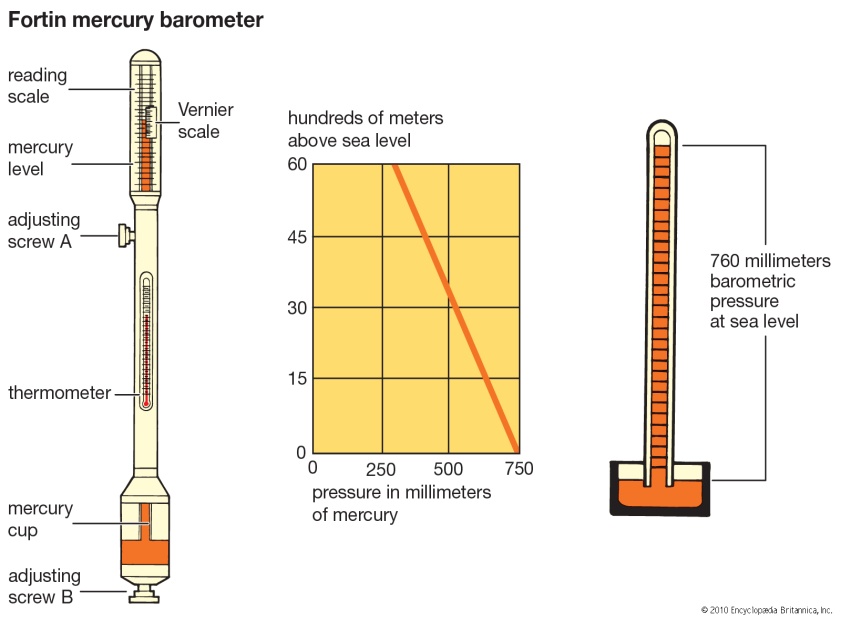
## WEATHER INSTRUMENTS

**Describe the common weather instruments that are used to measure changes in each element of weather**

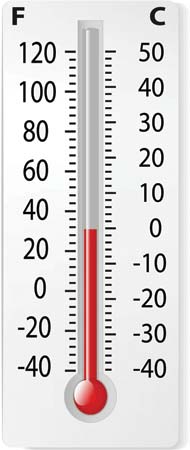
Weather conditions are measured by standard instruments. Surface wind speeds are usually measured by an anemometer. An anemometer consists of three or four wind-driven cups mounted on a vertical axis whose rate of rotation varies with wind speed. Wind direction is indicated by a vane, a pointer that swings with the wind. The vane is mounted on a vertical axis attached to a compass rose. Newer devices with no moving parts use pulses of sound to determine both wind speed and direction.



Atmospheric pressure is measured by an aneroid [barometer](https://kids.britannica.com/students/article/barometer/273110), a flexible metal vacuum box that expands or contracts with changes in pressure. Atmospheric pressure can also be measured by a mercury barometer. It consists of a glass tube in which the height of a column of mercury varies with pressure.



Temperature is measured by a [thermometer](https://kids.britannica.com/students/article/thermometer/277324). In the past, the most common type was a glass tube in which the height of a column of mercury or alcohol varies with changes in temperature. Various types of electronic thermometers (thermistors and thermocouples) are now often used instead. Even then, the liquid-in-glass type is valuable for calibration and backup.



Humidity data, including relative humidity, vapor pressure, and dew point, is secured with the use of various types of instruments. The instruments are generally known as [hygrometers](https://kids.britannica.com/students/article/hygrometer/275012). A commonly used type at government reporting sites is the dew-point hygrometer. In this instrument a polished metal surface is cooled until condensation begins to collect on its surface. Its temperature then indicates the dew point directly. Another accurate type is the psychrometer, consisting of two similar thermometers. The bulb of one thermometer is kept wet, and the other dry. The differences between the temperatures they record are related to the amount of moisture in the air.



The ceiling, or base height of cloud layers, can be measured by an automatic ceilometer. It shines a beam of pulsed light (often a laser) up at the base of clouds, which reflects the light. The ceilometer has a photoelectric telescope to detect this reflection. The ceilometer can measure in the daytime or at night.



The amount of precipitation is usually measured by a rain gauge, an open-mouthed container that catches the rain. A commonly used variation of this is the tipping bucket rain gauge, which automatically empties itself as the rain is measured. [Radar](https://kids.britannica.com/students/article/radar/276634) is used to measure the intensity of rainfall or snowfall. This information is compiled over time to estimate the total amount in areas with no other data.



Activity1. Weather Instruments

# Based on your above reading write a short note on each of the weather instruments

**Thermometer**



70

60

50

40

30

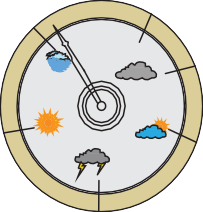
20

10

0

10

20



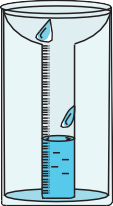
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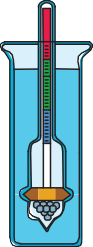
**Barometer**



**Anemometer**



**Rain Gauge. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Hygrometer**

Wind Vane



Describe the best site for a weather station.

A weather station is generally an entire facility that houses special tools and instruments which monitor weather conditions. However, the term weather station is also used to describe a personal installation that someone can use on their private property to monitor atmospheric conditions.

Personal weather stations are data gathering devices. They track and register information regarding weather patterns and the environment. They can be simple or use a wide array of sensors to record anything from pressure changes in the atmosphere to solar radiation emissions.

Weather stations can be based on either analog or digital technology. Depending on how advanced the system is, some can even be used to forecast weather conditions.

## Installing a Weather Station

There are plenty of home weather stations designed to fit perfectly on a fencepost or a flagpole. However, most times it is better to buy a specially designed tripod to hold the entire unit. Most of them can be grounded or mounted on a rooftop.

Personal weather stations have a transmission distance limitation. When installing one, it is essential to keep track of how far away from your receiver you install it. A miscalculation can result in the console being unable to receive information from the instruments.

### Weather Station Placement Tips

The [**location where you install your weather station**](https://weatherstationguide.com/location-to-install-a-weather-station/) is essential not only to its protection but also to the accuracy of the data collected. Here are some things to keep in mind if you’re in the market for personal weather stations.

### 1. Proximity to Other Objects

A weather station should be placed in an open space. Putting it between buildings or in an alley can affect the wind direction and speed readings. There should also be plenty of distance between the unit and other tall objects such as trees, poles, buildings.

### 2. Surface composition

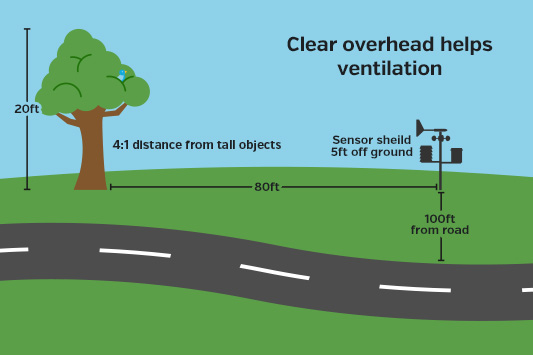
If your yard has more asphalt than gravel, you should reconsider whether or not the time is right to get a weather station. Black surfaces can seriously influence ground temperature readings as they tend to draw more sunlight.

It’s also important that a weather station is actually placed well above ground. A minimum of 5 feet distance between the station and the ground is recommended, and this includes grass.

### 3. Mind the trees

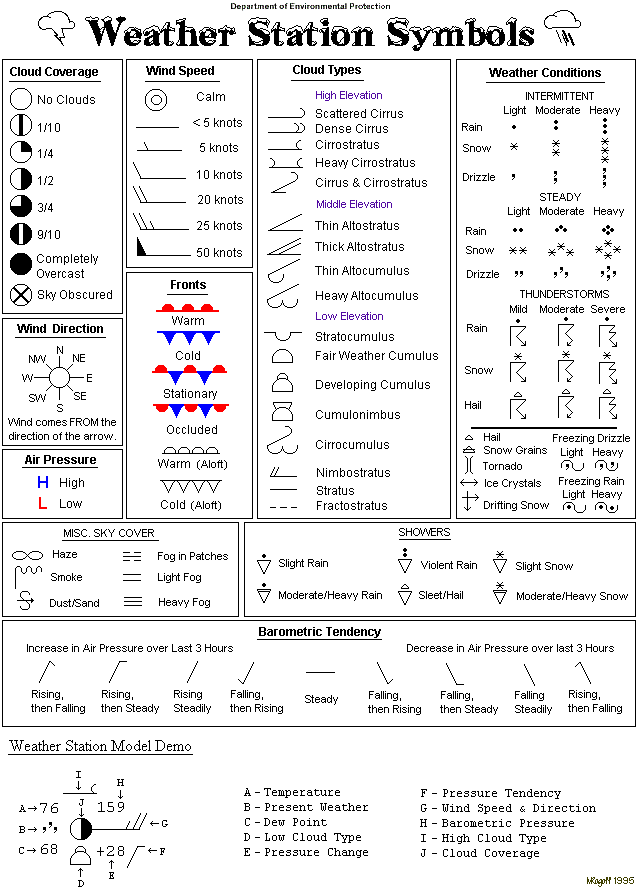
Overhangs and trees can interfere with rainfall collection data. A weather station’s placement mustn’t be obstructed if you want to get accurate rainfall and humidity information

***A simple diagram showing setup of weather station.***

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**Identify the symbols used to record weather elements*.***

**What are weather station symbols?**  
Weather symbols are used on many weather maps as shorthand for the conditions at weather observing stations.



**Describe a weather chart**

Weather charts are the fundamental basis for weather analysis and forecasts. They are based on the data collected by weather stations on the ground and on the data recorded at high altitudes by probes and satellites.

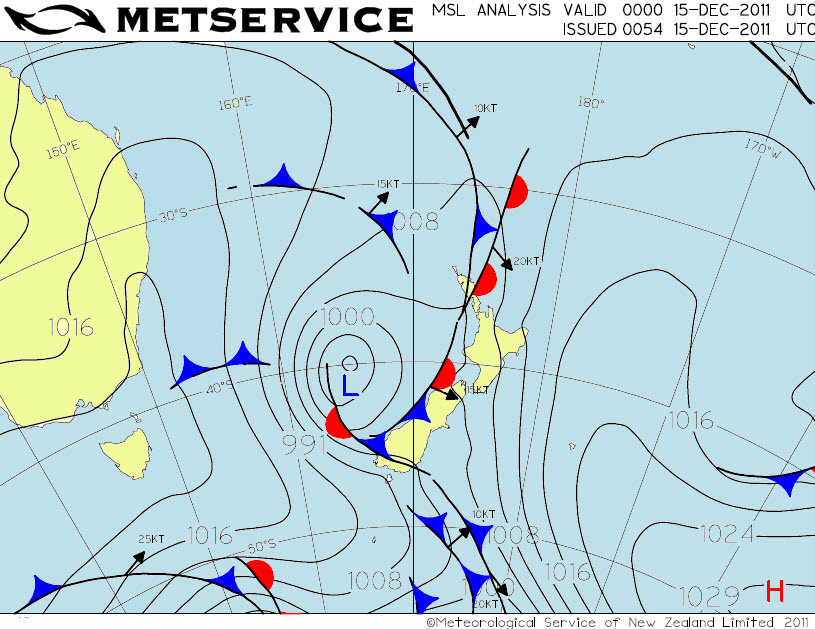
Weather charts are created using the data recorded at preset conventional timings, so that they may be comparable with one another in different locations around the world. The timings set by the World Meteorological Organization are called synoptic hours and are at 00:00-06:00-12:00-18:00 hrs.  
The related charts are known as synoptic weather charts. All the world stations are connected by networks managed by the World Meteorological Organization and for Europe, by The International Network of European Meteorological Services

The charts are created using standard criteria and symbols, so that they can be compared with each other.

A weather chart includes an isobar chart and the representation, with opportune symbols, of the principal atmospheric parameters, such as wind direction and speed, types of clouds and extension of the cloud formations, the position of warm, cold and occluded fronts and the high and low pressure centers.

Weather charts can describe the weather conditions on ground, or at high altitudes, and are the basis for the creation of weather forecast maps.

***A weather chart***

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**Activity 1.4. 2: Interpret weather map**

**A.**

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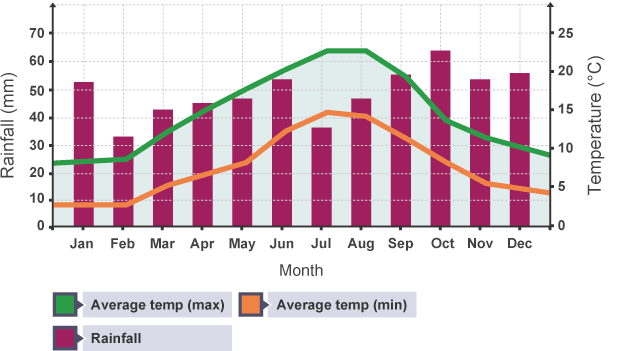
**Construct Climatic graphs from various weather stations**

**What are climatic graphs?**

**Climate graphs** are a combination of a bar graph and a line graph. Temperature is shown on a line graph, with the figures being shown on the right side of the graph. Rainfall is shown by a bar graph, with the figures being shown down the left side of the graph.

## Climate graph

The climate graph below shows average annual rainfall and temperature throughout the year for a particular area.



## Interpreting climate graphs

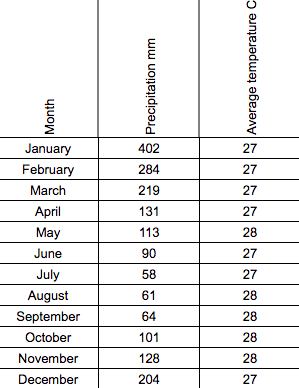
You may need to look at the information in a graph and describe the area's climate.

1. Look for patterns in the temperature data
   * Is the temperature the same all year round? If it is different, how many seasons does the location experience?
   * Which season is the warmest? Is it warm (10 to 20°C), hot (20 to 30°C) or very hot (above 30°C)?
   * Which season is the coolest? Is it mild (0 to 10°C), cold (-10 to 0°C) or very cold (below -10°C)?
   * What is the range of temperature? (Subtract the minimum temperature from the maximum temperature).
2. Look for patterns in the rainfall data
   * Does the rainfall occur all year round?
   * What is the pattern of the rainfall? Check which season(s) is/are drier or wetter than others.
   * What is the total annual rainfall? Add each month's total together to get the annual total.
   * Then put the rainfall and temperature information together - what does it tell you about this area?
3. Describe the patterns in temperature and rainfall, including how they relate to each other. You now have a description of the climate.
   * Now look again at the climate graph above. What can you deduce/tell about the climate?

**Activity 1.4.3: Using he information below construct a climate graph for Jakarta**

* Plan your scale carefully before you start; make sure you leave room for annotations. There are *always*annotations (extra information).
* Use a ruler and sharp pencil to draw the axes and make sure they are clearly labelled (include units)
* Plot precipitation as a bar graph. Use a pencil. Add blue.
* Plot temperature using small neat x's. Position the x in the middle of the month. Use a pencil. Join in red.

a.



Now look at your graph and interpret using the points below.

* Maximum temperature (the month with the highest average temperature)
* Minimum temperature
* Temperature range (the difference between the warmest and coldest months)
* Maximum rainfall
* Minimum rainfall
* Seasons - look carefully at your graph and try to identify seasons. There might be a hot season and a cold season; a wet season and a dry season; spring, summer, autumn, winter. Identify when they are and describe them.
* Anomalies - are there any figures which do not seem to fit the overall pattern?

b. Describe the relationship between these elements of weather, how they affect each other .

- Temperature and rainfall

-Temperature and wind

c. Explain how the relationships between the above elements of weather impact/affect the climate of a place or country.

**What are some factors that influence temperature?**

**Explain how these factors affect temperature.( You are expected to do your own research to answer this)**

**1. LATTIDUE**

**2. ALTITUDE**

**3. DISTANCE FROM THE SEA**

**4. OCEAN CURRENTS**

**5. HUMIDITY  
6.CLOUD COVER**

**7. ASPECT**

**8. TYPES OF LAND SURFACE**

**What are the links between climate and vegetation?**

**What is natural vegetation-** Natural vegetation refers to plants which have grown naturally and not planted by people.

There are two types of vegetation:

a. Primary vegetation-refers to untouched, unspoiled forest that exists in its original form.

b. Secondary forest- refers to forest that has been disturbed in some way, naturally or unnaturally. Areas with secondary vegetation have fewer varieties of plants

There are many types of natural vegetation and they can be grouped into three major types

1. Forest

ii. Grasslands

iii. Deserts.

Each type major type of vegetation can be subdivided into various sub-types

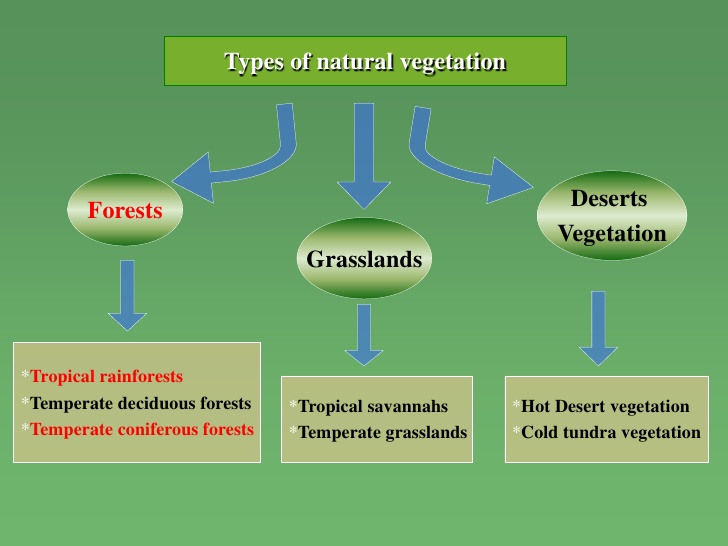


Fig. 1

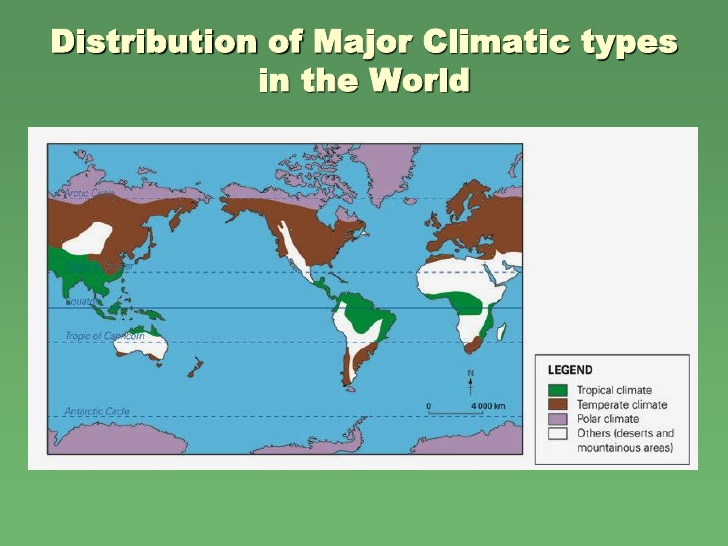
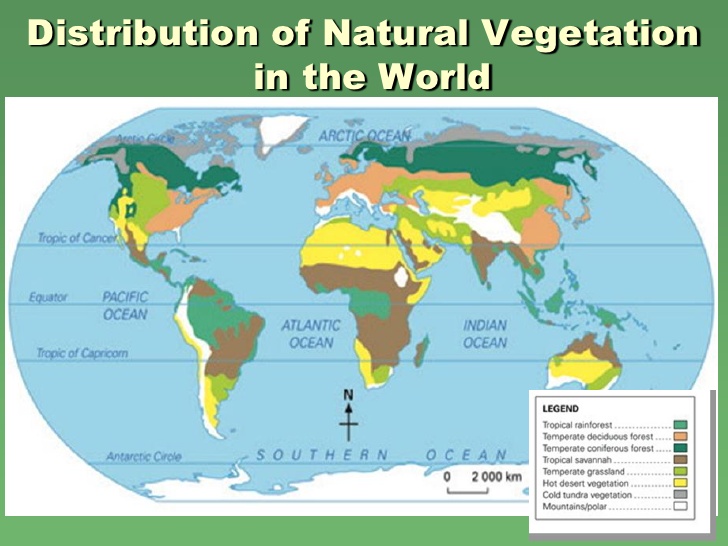


Fig.2



**Activity:1. 4.4**

Study the maps above fig.1 and fig .2 and answer the following questions.

a. (Fig1)Tropical climate are mostly located along the \_\_\_\_\_\_\_\_\_\_\_\_\_\_. While \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ climate are located \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ from the equator in the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_and the polar climate is located in the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ hemisphere.

b. (Fig2)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ are mostly found along the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. While \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ forests are found farther away from the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and they \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ are found in the Northern Hemisphere.

c. **Temperature** plays a big role in affecting the type of vegetation in different parts of the earth. Places with very \_\_\_\_\_\_\_\_\_\_\_\_\_\_ temperature will have very few plants growing, for example \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. Places with \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ temperatures will allow more plants to grow, for example\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

d. **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**also affects plant growth because plants require water to grow. Therefore most \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ grow in areas with high rainfall. In areas of moderate precipitation\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ are more common and in areas with less than 200mm of rain \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ are found.

In summary the link between climate and vegetation can be summarized below:

* Natural vegetation is influenced mainly by **Climate**
* A climate-vegetation relationship exists because **rainfall and temperature** determine the type of natural vegetation found in a place.
* High rainfall--------------forest
* Moderate rainfall--------------grasslands
* Low rainfall-----------------desert vegetation.
* Climate is a major factor that influences the distribution of natural vegetation apart from the **type of soil and altitude.**

**CLIMATE CHANGE**

**Activity 1.4.5.**

**You are expected to carry out your own research to answer the following questions.**

a. Define climate change

b. Discuss three causes of climate change

d. Describe three effect of climate change.

e. Write an essay discussing the impact of climate change on the environment using examples (500words on a separate sheet of paper)

**SUB-STRAND 1.5 Natural resources: Energy and water.**

**SLO: 1.5.1.1 -1.5.4.1**

**Define natural resources**

A **natural resource** is what people can use which comes from the [natural environment](https://simple.wikipedia.org/wiki/Natural_environment). Examples of natural resources are [air](https://simple.wikipedia.org/wiki/Air), [water](https://simple.wikipedia.org/wiki/Water), [wood](https://simple.wikipedia.org/wiki/Wood), [oil](https://simple.wikipedia.org/wiki/Crude_oil), [wind energy](https://simple.wikipedia.org/wiki/Wind_energy), [natural gas](https://simple.wikipedia.org/wiki/Natural_gas), [iron](https://simple.wikipedia.org/wiki/Iron), and [coal](https://simple.wikipedia.org/wiki/Coal).

We often say there are two sorts of natural resources: renewable resources and non-renewable resources.

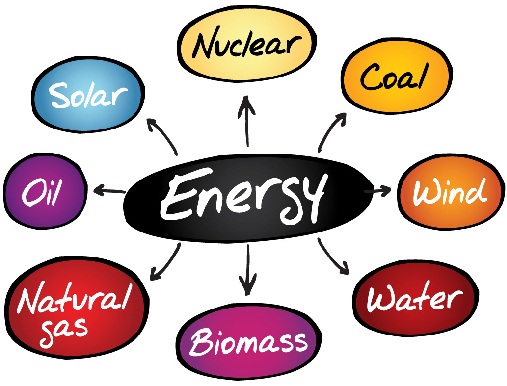
* A [renewable resource](https://simple.wikipedia.org/wiki/Renewable_resource) is one which can be used again and again. For example, [soil](https://simple.wikipedia.org/wiki/Soil), [sunlight](https://simple.wikipedia.org/wiki/Sunlight) and [water](https://simple.wikipedia.org/wiki/Water) are renewable resources. However, in some circumstances, even water is not renewable easily. [Wood](https://simple.wikipedia.org/wiki/Wood) is a renewable resource, but it takes time to renew and in some places people use the land for something else. Soil, if it blows away, is not easy to renew.
* A [non-renewable resource](https://simple.wikipedia.org/wiki/Non-renewable_resource) is a resource that does not grow and come back, or a resource that would take a very long time to come back. For example, [coal](https://simple.wikipedia.org/wiki/Coal) is a non-renewable resource. When we use coal, there is less coal afterward. The non-renewable resource can be used directly (for example, burning oil to cook), or we can find a renewable resource to use (for example, using wind energy to make [electricity](https://simple.wikipedia.org/wiki/Electricity) to cook).

[](https://simple.wikipedia.org/wiki/File:P0000003283(35755)(NRCS_Photo_Gallery).jpg)

Soil, a natural resource for farming

Most natural resources are limited. This means they will eventually run out. A perpetual resource has a never-ending supply. Some examples of perpetual resources include [solar energy](https://simple.wikipedia.org/wiki/Solar_energy), [tidal energy](https://simple.wikipedia.org/wiki/Tidal_energy), and [wind energy](https://simple.wikipedia.org/wiki/Wind_energy).[[1]](https://simple.wikipedia.org/wiki/Natural_resource#cite_note-1) There may be a limit to how much can be taken in a given day or year, but that amount can be taken again next day or next year.

**The different types of energy resources**



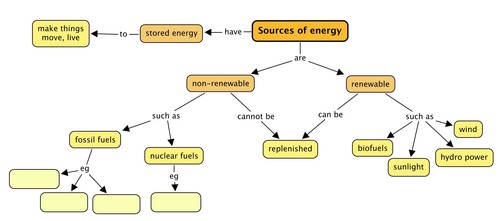
Energy resources are all forms of fuels used in the modern world, either for heating, generation of electrical energy, or for other forms of energy conversion processes. Energy resources can be roughly classified in three categories: **renewable, fossil, and nuclear**.

**Fossil energy** resources are obtained from dead plant and animal deposits created over the long history of the planet. These resources are vast, but limited, and are not renewable. Until recently fossil fuels have provided for the majority of humanity’s energy demands. These resources mainly include coal, oil, and natural gas.

[**Renewable energy resources**](https://www.sciencedirect.com/topics/engineering/renewable-energy-resources) are forms of energy that are naturally replenished on our planet. Examples of traditional [**renewable resources**](https://www.sciencedirect.com/topics/engineering/renewable-energy-resource)are hydropower and biomass (e.g., plant fuels such as wood traditionally have been used throughout history, mostly for heating). Modern renewable resources include wind, wave, tidal, solar, and geothermal. Some forms of fuels created from biomass (plants and animals) also fall under this category.

Deposits of certain radioactive elements in Earth’s crust can be classified as **nuclear energy resources.** These resources are used as fuel for nuclear fission-based power plants. The amount of these rare radioactive elements is limited on our planet and cannot be replenished. Over the years, there has been some research on fusion power but it is still not proven to be a feasible energy resource. This form of energy conversion aims to harvest the energy from sustained fusion of [hydrogen atoms](https://www.sciencedirect.com/topics/engineering/hydrogen-atom) into helium.

**Fig1. Classifying the different forms of natural resources**



**Water resources**

Water resources are sources of water that are useful or potentially useful to humans.

It is important because it is needed for life to exist.

Many uses of water include agricultural, industrial, household, recreational and environmental activities.

Virtually all of these human uses require fresh water.

Only 2.5% of water on the Earth is fresh water, and over two thirds of this is frozen in glaciers and polar ice caps.

Water demand already exceeds supply in many parts of the world, and many more areas are expected to experience this imbalance in the near future.

It is estimated that 70% of world-wide water use is for irrigation in agriculture.

Climate change will have significant impacts on water resources around the world because of the close connections between the climate and hydrologic cycle.

Due to the expanding human population competition for water is growing such that many of the world’s major aquifers are becoming depleted.

Many pollutants threaten water supplies, but the most widespread, especially in underdeveloped countries, is the discharge of raw sewage into natural waters.

**Activity 1.5.1**

a. Distinguish between renewable and non renewable resources.

B .Identify the different types of energy resources and give example of each.

c. Describe how energy is consumed in Vanuatu and the region.

d. State the different uses of water as a natural resource

e. Discuss how water is obtained and used in the community.

**STRAND 2: CULTURAL PROCESSES.**

**Sub –Strand 2.1 Population growth and movement.**

**SLO: 2.1.1.1 – 2.1.4.3**

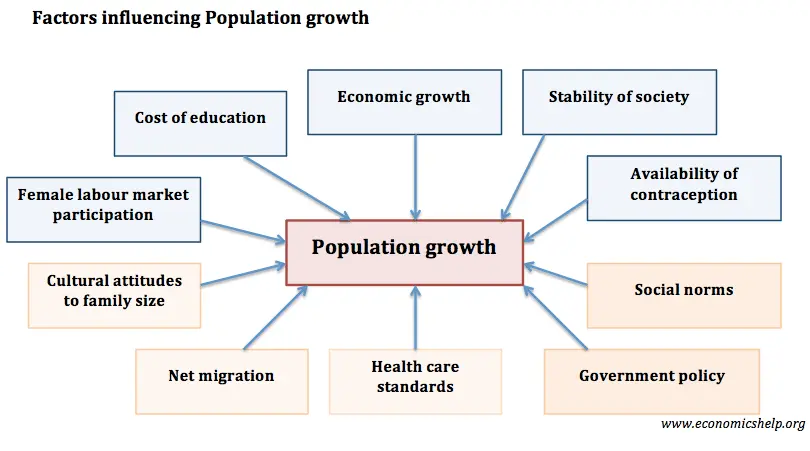
**What is population growth?**

Population growth is the change in population size obtained by adding together **natural increase and net migration.**

Changes in the size of the population results from birth deaths and migration, the number of babies born, the number of people dying and the number of people migrating are influence by certain factors thus affecting the size of the population.

**Factors that Influence population growth**

Population growth is determined by fertility rates (the number of children per adult) – fatality rates. Birth rates and mortality rates are, in turn, determined by a combination of factors. Often **economic growth and economic development have led to a decline in population growth**, but there are no hard and fast rules and other factors, such as availability of family planning, **social expectations and government intervention can play an important role**.

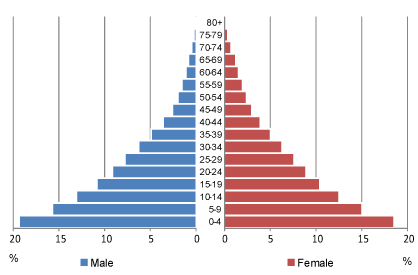
**Fig.1 Factors influencing population growth.**

Population indicators
Birth rate The number of live births occurring among the population of a
given geographical area dur...

**POPULATION PYRAMID**

**Population pyramid**, graphical representation of the age and sex [composition](https://www.merriam-webster.com/dictionary/composition) of a specific [population](https://www.britannica.com/science/population-biology-and-anthropology). The age and sex structure of the population determines the ultimate shape of a population [pyramid](https://www.britannica.com/technology/pyramid-architecture), such that the representation may take the form of a pyramid. It is a collection of bar charts placed upon each other; each bar represents the number (%) of male or females.

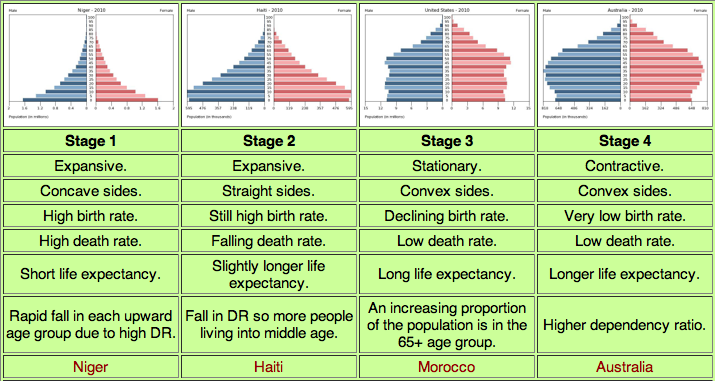
**Fig 2. Diagram of population pyramid**

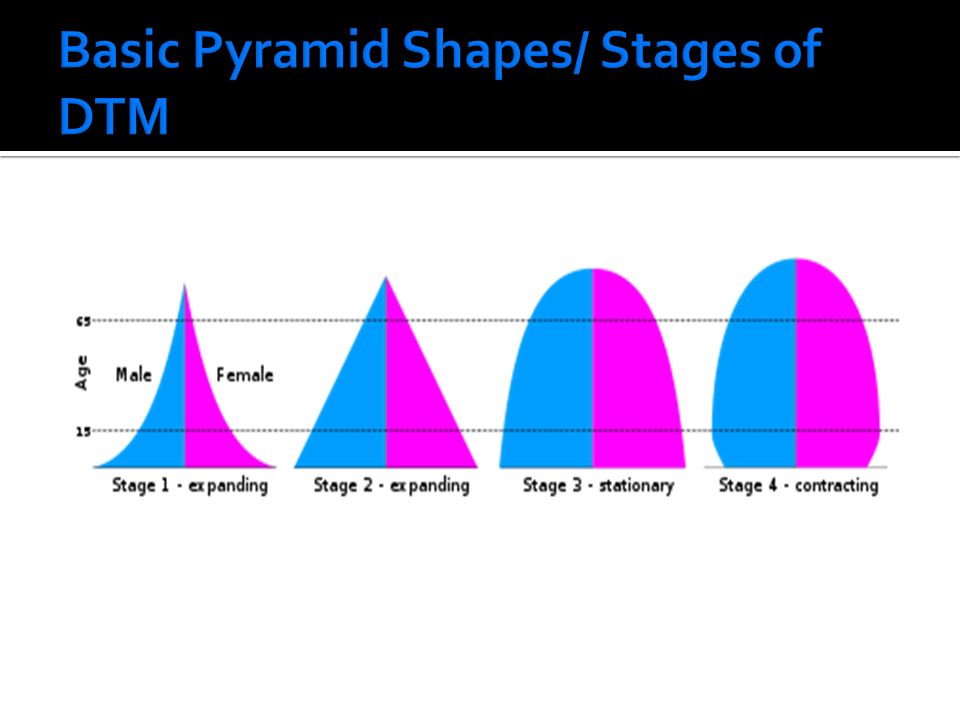


**Types:**

* **Expansive** - pyramid with a **wide base** (larger percentage of people in younger age groups, indicating high birth rates and high fertility rates) and narrow top (high death rate and lower life expectancies). It suggests a growing population. Example: [Nigera Population Pyramid](https://www.worldometers.info/demographics/nigeria-demographics/" \l "population-pyramid)
* **Constrictive** - pyramid with a **narrow base** (lower percentage of younger people, indicating declining birth rates with each succeeding age group getting smaller than the previous one). Example: [United States](https://www.worldometers.info/demographics/us-demographics/#population-pyramid)
* **Stationary** - with a somewhat **equal proportion**of the population in each age group. The population is stable, neither increasing nor decreasing.

**Stages:**





**ACTIVITY 2.1.1**

1. From Fig 1.(***Factors influencing population growth***)Choose three of the above factors and explain how it influences population growth .
2. Study Fig 2.(*Population pyramid*) and answer the following questions:

a. Which age group has the highest % of population and what is the total % for the male and the female population.

b. Which age group has the lowest % of population and what is their total percentage.

c. Which age group are the dependent group or not economically active?

d. . Which age group are the independent group or economically active?

1. Study the different stages of the population pyramid. Which one mostly likely will represent Vanuatu and explain why.
2. Using the information given in Fig 2. Construct a line graph.

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