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Earth-Sun Relationships:

The air of the earth has been compared to a greenhouse, which traps the sun’s warmth for plants. However, without a greenhouse, the earth would be too cold for most living things. In this case, we have a big problem called Global warming now. Global warming is a general increase in the world temperatures by increased amounts of carbon dioxide. Also, the global warming is caused by the Greenhouse gasses from human activities such as the deforestation. Global warming makes flood, heat wave, and hurricane more. Because of this problem, the earth has many disasters such as hurricane, typhoon, flood, tsunami, and many more. I think we must stop global warming by recycling or anything we can do to stop human activities which make global warming increase more.

The earth has an axis that an imaginary line runs through its center between the North Pole and South Pole. The earth’s axis is tilted at 23 1/2°angle. The axis is always tilted in the same direction. Because the earth’s axis, not all places on earth receive the same amount of direct sunlight. Therefore, the earth’s tilt affects the temperature of places. The earth makes one complete rotation every 24 hours, turning from west to east.

As the earth rotates on its axis, the earth travels in an orbit, or path, around the sun too. The earth’s revolution takes one year, or 365 1/4 days. The earth’s revolution and tilt cause the changing seasons. Because of the earth’s revolution, our places that we are living on have different temperatures. For example, in summer, Asia has a hot weather but Europe has a cool weather, because the sun direct rays at around Asia.

Factors Affecting Climate:

Latitude is the distance north or south of the equator. The latitudes between the Tropic of Cancer and the Tropic of Capricorn are low latitudes. It receives direct rays of the sun all year round. Also, places in the low latitudes have warm to hot climate.

The latitudes between the North Pole and the Arctic Circle and between the South Pole and the Antarctic Circle are the high latitudes. It receives slanted rays of the sun all year round and has a cold climate.

The latitudes between the Tropic of Cancer and the Arctic Circle in the Northern Hemisphere and between the Tropic of Capricorn and the Antarctic Circle in the Southern Hemisphere are the middle latitudes. It receives warm masses of air from the tropics during only summer and cold masses of air from the high latitudes during only winter. Also, the temperature of a place depends on its elevation. For every 305m gained, the temperature drops about 1.9℃.

Wind and water combined with the results of the sun to create the weather and climates of the earth. Wind happens when temperatures create the difference in air pressure. Also, the changes in the atmospheric pressure create winds.

The prevailing winds that blow over a particular area most of the time blow towards the equator from about 30°N latitude and between 30°S latitude. And, at the equator is an often windless area called the doldrums.

Ocean currents generally flow in circular patterns, moving clockwise in the Northern Hemisphere and counterclockwise in the Southern Hemisphere. Currents are by the rotation of the earth, moving air, and differences in water temperature in the ocean. In this case, there is a place have the different climate because of the ocean currents even there have a same latitude.

World Climate Patterns:

The two kinds of tropical climate regions are tropical rain forest and tropical savanna.

Hot and wet all year, tropical rain forest climate regions are found near the equator.

Tropical savanna climate regions are an area that has a dry season in winter and a wet season in summer. However, it’s located farther from the equator than tropical rain forest regions, and temperatures high.

Desert is a large area where it is always hot and dry, and there is a lot of sand. Yearly rainfall in the desert rarely is more than 25 cm. desert has a hot weather during the day and cold in the night. For example, Gobi Desert which is located in Asia has hot summer and uncomfortable winters with 40℃. In the world, Gobi Desert in China is the most dry and hot desert.

The world has four mid-latitude climate regions. They are marine west coast, Mediterranean, humid subtropical and humid continental. Marine west coast is the climate areas generally found along western coastlines between latitudes 30°and 60°north and south. Its climate regions cover almost all of Western Europe and the Pacific coast of North America. Also, South America, Africa, and Australia have a marine west coast climate region.

Mediterranean climate regions are areas that have weather patterns and plants like those near the Mediterranean Sea. There have mild rainy winter and hot, sunny summer.

Humid subtropical climate regions are generally found at mild-latitudes in the southeastern parts of continents. There have a rain falls all year round and heavy thunderstorms happen in the summer. Winter is generally short and mild.

There are three types of high-latitude climates, subarctic, tundra, and ice cap. Also, subarctic climates have the greatest range of temperature that is 65℃.

People know what they should wear each season in each climate. For example, in cold region, people wear a long cloth, in hot region, people wear a short cloth. More, people adapt their building to their region too. For example, in cold region, people build a well-insulated house with some heating.