



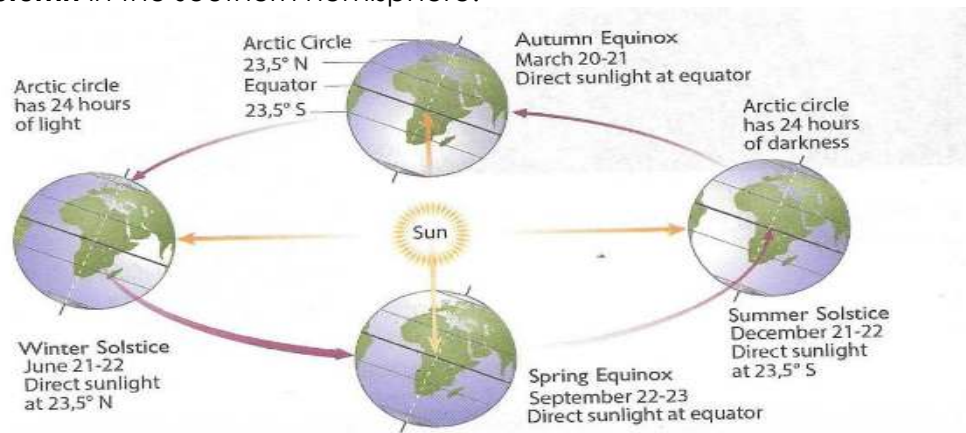
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Directorate: Curriculum GET: LESSON PLAN TERM 1 - 2021



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SUBJECT and GRADE	SOCIAL SCIENCES – GRADE 8 GEOGRAPHY		
TERM 1	Week 7-8		
LINK TO TEACHING AND ASSESSMENT PLAN	The Globe Seasonal changes in lengths of day and night Seasonal temperature changes	The Globe What satellite images look like Information from satellite images – water, vegetation, land use and cloud patterns	Satellite images How satellite images are used
AIMS OF LESSON	To enhance learners' knowledge and understanding of earth's representation on a globe, and satellite images and its appearance and use.		
INTRODUCTION	SEASONAL CHANGES IN LENGTH OF DAY AND NIGHT There are four seasons in a year and each season lasts approximately three months. In reality there is no sudden change where one season ends and another begins. In the southern hemisphere, the sun shines directly over the Tropic of Capricorn on 21 or 22 December. This is the furthest point south on Earth on which the sun's rays can shine directly. The longest hours of sunlight are experienced in the high latitudes of the south because the southern hemisphere is tilted towards the sun. As the sun moves further north back towards the Equator, the days become shorter. By 21 or 22 March, the sun is directly over the Equator and all places on earth receive 12 hours of daylight and 12 hours of darkness. This is autumn in the southern hemisphere.  This diagram shows the solstices and equinoxes.		



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Winter follows autumn as the **sun moves** even **further north** and shines directly over the **Tropic of Cancer on 21 or 22 June**. This is the **winter solstice** for the southern hemisphere and the summer solstice for the northern hemisphere. The days are the shortest and the nights are the longest in the south because the **south is tilted away from the sun**.

As the sun moves southwards again, the days begin to grow longer. When the sun is back over the Equator, on **22 or 23 September**, the **spring equinox** occurs for the southern hemisphere. When the sun is directly over the **Tropic of Capricorn on 21 or 22 December**, it is the **summer solstice** in the southern hemisphere.

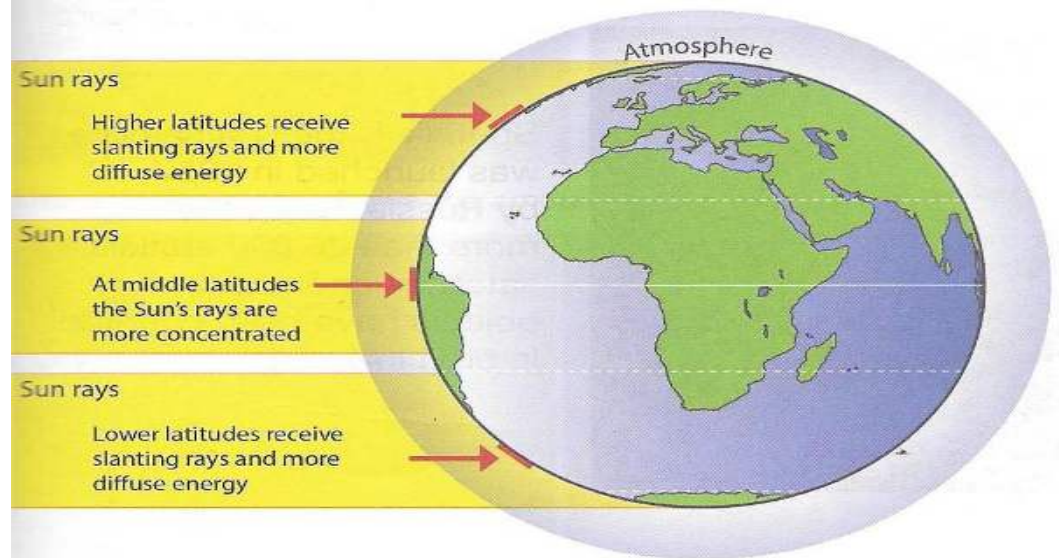
SEASONAL TEMPERATURE CHANGES

Temperatures on Earth are controlled by how much **insolation** the Earth receives. The amount of insolation is greatest during the summer solstice and least at the time of winter solstice.

Insolation: the amount of heat and light that enters the Earth's atmosphere from the sun.

Insolation is greatest over the over the Equator and between the tropics. Here, the sun has less atmosphere to shine through and the rays are directly focused. Less heat is lost getting to the Earth's surface. This is why it is so warm at the Equator and in the tropics all year round.

Insolation is least in the high latitudes near the Poles. The angle at which the sun's rays strike the Earth is greater and this spreads the heat over a wider area making it less intense. Heat is lost because the sun's rays must travel through more atmosphere to reach the Earth's surface.



This diagram shows that the most direct rays of the sun fall between the tropics and that at higher latitudes the insolation is less direct

3. SATELLITE IMAGES

3.1 What do satellite images look like?

A satellite is a highly complex piece of technology which is positioned above Earth in space. Sensors on the satellite collect information about Earth and send it back to satellite-receiving stations on the ground. The information is used to make different kinds of satellite images.

Satellite images are not photographs. The images are made from a collection of data obtained by sensors on the satellite. The satellite sends information to receiving centres on the ground. Computers process this data and produce different images that we can view and interpret.



Satellite Image of Cape Town taken in 2010.

3.2 Information from Satellites Images:

Satellite images have many applications: mapping, weather forecasting and cloud patterns, land use, agriculture, geology, vegetation studies and forestry, biodiversity, conservation, regional planning, education, intelligence and warfare. It is also used in seismology and oceanography in deducing changes to land formations, water depth and sea bed, changes by earthquakes, volcanoes and tsunamis. Often a series of satellite images can be put together to make a composite image.

3.3 How Satellite Images are used:

Satellite images help scientists identify areas where there is water and vegetation and if rocks contain valuable resources such as oil, iron and gas deposits, as well as providing information about

	approaching cloud patterns and storms. All of these uses can take place from examining satellite images without people having to actually visit the areas in question. One of the most common uses of satellites is in weather forecasting. Weather satellites provide information about the position and types of clouds in the atmosphere, wind speeds, pressure differences and temperature. A weather satellite can supply regular information about how conditions in the atmosphere change over a short time. A trained meteorologist can interpret a weather satellite image and make informed predictions about what the weather will be like in different places. Cloud patterns provide information about approaching rain or snowstorms. This information can help people prepare for what could be a natural disaster. 	
SKILLS	Using a globe to explain and achieve the knowledge and skills to understand about : The earth's revolution around the sun: The angle of axis, Equinox, solstice and the change in angle of the midday sun; the changes in the length of day and night and temperature changes. <i>To enhance learners' perceptions and use of satellite images.</i>	
ACTIVITIES/ASSESSMENT	Complete below.	
CONSOLIDATION	- Learners complete the given activity in their notebooks, assessed and feedback given. - Learners to redo answers they had incorrect and reassess.	
RESOURCES (if necessary)	Paper based resources	Digital resources
	- Newspapers - Books - Textbooks - Topographic Maps	Refer to the relevant digital resources e.g. links on the WCED ePortal https://www.thelearningtrust.org/asp-treasure-box

NOTES

SUBJECT	SOCIAL SCIENCE GEOGRAPHY		TERM	1
	GRADE	8	DATE	10-19 MARCH 2021
 TEACHER'S ACTIVITIES	Skills (WHAT I am going to teach/guide/support...)		Teaching Methodologies/ Approach (HOW I am going to teach/guide/support...)	Resources / LTSM (WHAT I am going to use to teach/guide/support...)
	-Define concepts like (latitude, longitude, etc.) -Ask the learners to copy them in their books. - Use atlases and globes to explain these concepts and show position.		> Use IT to make the lesson more fun and enjoying (You Tube etc) > Use globe to show the learners world population growth areas > Define all new concepts (Learners must make use of dictionaries) > Make use of resources such as maps.	Worksheet and Notes. IT, You Tube Textbooks Maps, Atlases, Globe Dictionaries
 PARENTS ACTIVITIES	Similar to what teachers would teach, etc. as indicated above – this could be a repeat of the teacher's info – just so that parents are aware of content. Keep it simple. ➤ Make time to listen to your child or children reads and help them with their reading ➤ Children be able to tell what he/she has read.		Could include tips to parents, e.g. Help your child search for a map to use with the weather report ➤ Children must make use of the dictionaries more often when dealing with Social Science concepts as well as Atlas ➤ Make them to write more often of what they read	Please indicate resources that can be found at home: magazines, newspapers, dictionary, etc.
 LEARNER'S ACTIVITIES	ACTIVITY: 1. Explain which dates are applicable to an (a) Equinox and (b) Summer solstice in the Southern Hemispheres. 2. Briefly explain why these two events (a and b) mentioned in 1 occur. 3. What is insolation? 4. Why is insolation the least at the poles? 5. Why is insolation the highest at the Equator? 6. List 4 applications of Satellite images. 7. Explain how satellites are used in weather prediction.			

