

Master Lesson Plan

For

Our Changing Earth

Board	Standard	Subject	Chapter	Language	Reference Link	Creation date
CBSE	STD VII	Social Science	Our Changing Earth	English	Our Changing Earth	2020-06-19 22:32:19

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Our Changing Earth

1. MS_Objective_Our Changing Earth

Objective - Our Changing Earth

Note for the teacher: The objective asset is for the teacher's reference so that the teacher gets an overview of the objectives that each asset is expected to meet.

The students will be able to :

- tell why earthquakes may not be a minor disaster.
- analyse how movements on earth surface originate.
- categorise the events that occur during an earthquake disaster.
- relate to the preparedness usually taken up before a disaster.
- able to classify how these processes wear down the lithosphere.
- get a peek into the important waterfalls of the country.
- discuss the formation of the two features on earth.
- relate to the formation of delta.
- illustrate the features formed.
- classify between erosional and depositional features formed by sea waves.
- give reasons how glaciers are potent in carving landforms.
- explain how glaciers create land features.
- summarise about earthquakes and volcanoes.
- discuss the features formed by wind.
- summarise about Major Landforms.

Time to teach	Asset Type	Theme	SubTheme
3 Minutes	Main Script	Solar system & the earth	Major LandForms , Lithosphere, Hydrosphere, Major LandForms , Lithosphere, Hydrosphere

2. IQ_Movements on earth

Movements on earth

Notes to the teacher: Teacher may enable the students to think and come out with as many answers as possible before giving out the right answer/ answers.

Q1. If we put some books, pencil boxes, and other articles on a table and the table vibrates, what do think will happen to the articles on it?

Ans. The table vibrates and the articles on the table also vibrates, rolls on the table surface or fall on the surface.

Q2. If inside the earth surface there is a turbulent movement, how can it affect the earth surface?

Ans. The movement inside the earth will make the earth's surface also vibrate and all things on the surface will experience movement.

Q3. How will people be affected if there is a sudden violent shaking of a part of the lithosphere?

Ans. The houses and buildings will collapse, people will lose life and property, and chaos will be created.



URL Reference:

EarthQuake: <https://pixabay.com/photos/earthquake-rubble-collapse-disaster-1665878/>

Time to teach	Asset Type	Theme	SubTheme
3 Minutes	Inquisitive Questions	Solar system & the earth	Major LandForms , Lithosphere, Hydrosphere, Major LandForms , Lithosphere, Hydrosphere

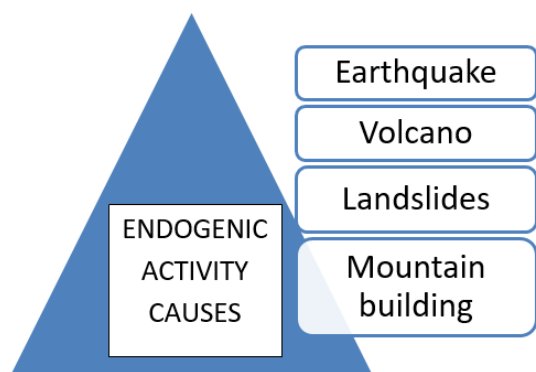
3. MS_Lithosphere and Earthquakes

Lithosphere and Earthquakes

- Lithospheric plates are broken pieces which float on the crust of the earth.
- The hot molten rocks and minerals called magma flows inside the earth, which makes the lithospheric plates move also.
- The movements causes a variety of changes on the earth surface which creates a set of new landforms.
- The forces leading to creation of landforms can be endogenic or exogenic.

Endogenic Forces :

These forces work from within the earth and causes sudden movements and vibrations which are felt on the earth's surface. **Earthquake and volcanic eruptions** are result of endogenic movements. Examples of landforms created by endogenic forces are block mountain and volcanic mountains.



Exogenic Forces :

These forces work on the earth surface to create landforms which are results of erosional or depositional activities of **natural agents** like running water, wind, glaciers and sea waves. Examples of landforms created by exogenic forces are mushroom rocks and flood plains.



Earthquakes and Volcano

Volcano is a vent or a hole on the earth's crust through which the lava or magma gushes out. These molten rocks and minerals collect near the hole and accumulate to form a mountain.

Earthquakes are violent shaking of earth surface due to forces that act from within the earth. The place inside the earth from where the vibration originate is called the **focus** and the place on the earth's surface vertically above the focus is called **epicentre**. Maximum damage in an earthquake is caused at the epicentre.

We get to know about the movement of lava and magma and activities inside the earth from the earthquake waves. These earthquake waves comprises of P waves, S waves and transverse waves. P waves are fastest and travel through solid and liquid while S waves are slower and travels only through solid.

Living organism like birds and animals changes their behaviour when they sense the earthquake. This also gives an indication to human beings about predicting an earthquake.



Time to teach	Asset Type	Theme	SubTheme
10 Minutes	Main Script	Solar system & the earth	Lithosphere, Lithosphere

4. SA_Events during earthquake

Events during earthquake

Aim: To help the students recognise the sequence of events that take place during a disaster or after a disaster.

Resources Required: [mention quantities]

- Note book
- Pens

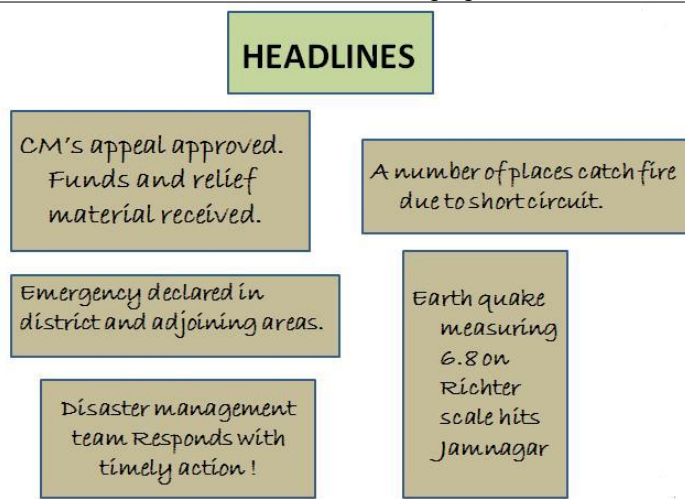
Setting for the Activity [Indoor/Outdoor] : *Indoor (Classroom Activity)*

Type of Activity: [Demonstration / Experiment/ Field Trip/ Project]:

Project

Procedure:

- The teacher will write on the blackboard some headlines of events from news reports, which took place during a disaster like an earthquake.
- The headlines of the events will not be written in sequence.
- The students will be asked to write the events in order in correct sequence in their notebooks.
- It will be an individual activity.
- A Worksheet may be given to students at the end of the activity.



Observation: Students will develop the ability to recognise the sequence of events that take place during a disaster.

Conclusion: Students will be aware of what happens and how a disaster like earthquake is handled.

Instructions to Teacher: (If any – Optional)

- Teacher has to collect such report from a news paper and keep it ready for the activity.
- Observe the students as they do the activity.

Precautions: (If any – Optional) None

Troubleshooting: (If any – Optional) None

Worksheet

- Write 10 points on what should you do if there is an earthquake in your area?
- Prepare a survival handbook on emergencies during a disaster.
- How will you make your friends and family aware of the do's and don'ts during an earthquake?

Reference link:

Source of Headlines : OC_chandranidebhaumik@gmail.com

Time to teach	Asset Type	Theme	SubTheme
10 Minutes	Suggested Activity	Solar system & the earth	Major LandForms , Major LandForms

5. DD_Preparedness during earthquake

Preparedness during earthquake

When people live in an earthquake prone area or there is a forecast of earthquake hitting areas we generally take some precautions. News on radio and television also alert people about safety measures to be taken.

Some common measures include :

- To stay away from glass structures like windows, panels, glass partitions that might crumble due to violent shaking
- To take shelter under wooden tables, desk, under beds, etc, to save oneself from heavy articles hitting on the head.
- Awareness is very important. People should make their friends and family member aware of what to do when such disaster hit us.
- People should not panic in such situation and face the disaster bravely providing timely support to each other as much possible.
- People should have some emergency supplies like torch, candle, etc, which should be kept handy.
- First aid kit should also be kept handy.



Time to teach	Asset Type	Theme	SubTheme
5 Minutes	Day-to-day Relevance	Solar system & the earth	Lithosphere, Lithosphere

6. MS_Weathering and Erosion

Weathering and Erosion

We are familiar with landforms being created on the earth's surface. The two major processes by which the lithosphere is modified are

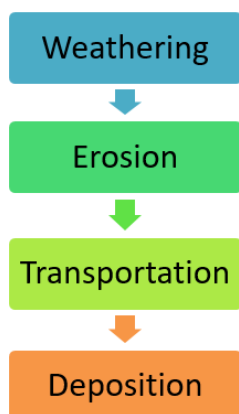
- Weathering
- Erosion

Weathering

This is the process which leads to fragmentation or breaking up of rocks in to smaller pieces.

Erosion & Deposition

The fragmented or weathered pieces are worn down by exogenic forces like wind, water, moving ice or glacier and sea waves. The eroded particles are transported through long distances by these natural agents and deposited at a distance away. These wearing down and deposition leads to formation of new land features like flood plains, mushroom rocks, glacial moraines, delta, etc. Flood plains and deltas are depositional features formed by the river. Mushroom Rocks are erosional features of desert formed by wind erosion, while glacial moraines are deposits transported by glaciers to long distances.



Time to teach	Asset Type	Theme	SubTheme
5 Minutes	Main Script	Solar system & the earth	Major LandForms , Major LandForms

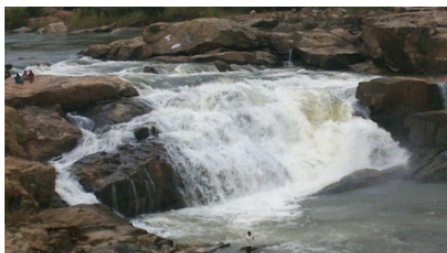
7. IA_Water Falls In India

Water Falls In India

Waterfall is an important erosional feature carved out by a river in its first stage while it descends a mountain or a hill.

India has beautiful waterfalls spread across the country.

Some of these are mentioned below.



Kaveri river waterfall

India is has beautiful waterfalls spread across the country.

Name	Location	Along River
Dudhsagar Falls	Goa	Mandovi
Jog Falls	Western Ghats, Karnataka	Sharavati
Shivanasamudra Falls	Chamarajanagar, Karnataka	Kaveri
Hudru Falls	Ranchi district, Jharkhand	Subarnarekha
Chitrakote Falls	Kalahandi district, Odisha	Indravati



Links for the images used in this asset:-

1. CC_SSSVV Gallery image ; search word : waterfall.
2. CC_SSSVV Gallery image ; search word : waterfall.

Time to teach	Asset Type	Theme	SubTheme
5 Minutes	Interesting Asides	Solar system & the earth	Hydrosphere, Hydrosphere

8. MS_ Formation of meanders and floodplains

Formation of meanders and floodplains

The river forms two important landforms while flowing through the plains.

Meanders

- A river passes through 3 phases. In the second phase when the river reaches the plain after it has descended the mountains, it becomes sluggish due to the burden of deposits it has transported from mountains.
- While flowing through the plain land it twists and turns to avoid obstruction and bypass them moving in a loop like path. Such bends are known as **Meanders**.
- The river continuously erodes and deposits on its path while flowing through the plain and eventually the bends become deeper and the ends meet.
- The loop then cuts off from the main river and becomes a lake in the shape of a horse's shoe which is known as **Ox-bow lake**.
- An example is meandering of river Ganga in India.

Flood Plain

- A river carries fine sediments which are fine grain silt deposits.
- When there is flood in the river, the water spill on the bank of the river on each side.
- The sediments are deposited on the banks of the river in the form of **flood plains**.
- These are extremely fertile lands for agricultural production as they are enriched with silt.
- The Brahmaputra valley in India is an example of flood plain.



Picture URLs

<https://pixabay.com/photos/meanders-vltava-%C5%A1umava-river-1316553/>

<https://pixabay.com/photos/coastal-flood-plain-gower-grass-3595700/>

Time to teach	Asset Type	Theme	SubTheme
10 Minutes	Main Script	Solar system & the earth	Major LandForms , Lithosphere, Major LandForms , Lithosphere

9. DD_Sundarban Delta**Sundarban Delta****Sundarban Delta**

- The Ganga - Brahmaputra delta also known as the Sundarban Delta is largest in the world.
- It is located in the state of West Bengal in India.
- The two rivers Ganga and Brahmaputra have given shape to the delta with their silt deposition at the mouth of the two rivers.
- Mangrove forest comprising of Sundari tree dominate this area.
- A part of the delta forms part of Bangladesh as River Meghna contributes to the delta formation as well.



Link for the image used in this asset:-

<https://pixabay.com/vectors/world-map-earth-global-continent-146505/>

Time to teach	Asset Type	Theme	SubTheme
5 Minutes	Day-to-day Relevance	Solar system & the earth	Major LandForms , Major LandForms

10. SA_Erosional and depositional features

Erosional and Depositional Features

Aim: To make the students familiar with differences in erosional and depositional landform features.

Resources Required: [mention quantities]

- Chart Paper
- Colour pencils / Colour pens
- Eraser, pencil, pens.
- Notebook.
- Scale.
- Outline Map of the world (may be provided by school).

Setting for the Activity [Indoor/Outdoor] : *Indoor (Classroom Activity)*

Type of Activity: [Demonstration / Experiment/ Field Trip/ Project] : *Project*

Procedure:

1. The activity may be group activity of 2 - 3 students per group.
2. Each group may have a student who can draw well (if possible).
3. The students will be informed about the activity in the previous class so that come prepared.
4. The chart will be marked in 2 parts.
5. The students will draw erosional features carved out by different natural agents like water, ice, wind, sea waves, on right side of the chart paper
6. While on the left side, they will draw depositional features carved out by the above mentioned natural agents.
7. The teacher may select and instruct about the particular landform features to be drawn.
8. The students will also mention below each feature about the natural agent which has carved it.

A **Worksheet** may be given to students at the end of the activity.



Observation: The students will be able to recognise which are erosional and depositional features and connect them with the respective natural agents which created it.

Conclusion: Students develop an idea of how erosional features are different from depositional features.

Instructions to Teacher: (If any – Optional)

- Students should be informed about the activity in the previous class and also told about the resources required for it.
- Students should be given clear instruction about how to do the project.
- Outline Map of the world for worksheet may be provided by school.

Precautions: (If any – Optional)

Troubleshooting: (If any – Optional)

Worksheet

Q1. Name two rivers of India that forms delta.

Ans : Ganga, Brahmaputra.

Q2 . In which continents do the following erosional feature belong to.

- Niagra Falls : (ans - North America)
- Angel Falls : (ans - South America)
- Victoria Falls : (ans - Africa)

Q3. In an outline map of the world also locate the waterfalls.

(URLs) References:

Waterfalls _CC_ <https://pixabay.com/photos/kuang-si-falls-waterfall-water-laos-463925/>

Sea arches _CC_ <https://pixabay.com/photos/landscape-arches-stone-rocks-sea-5170125/>

Sand dunes _CC_ <https://pixabay.com/photos/desert-morocco-dunes-sand-2435404/>

Time to teach	Asset Type	Theme	SubTheme
20 Minutes	Suggested Activity	Solar system & the earth	Major LandForms , Major LandForms

11. MS_ Features carved out by sea waves

Features carved out by sea waves

The coastal landscape is carved out erosional and depositional activity of sea waves.

Erosional activity by sea waves

Sea Caves : When sea waves constantly strike against coastal rocks, they cause cracks and eventually which result into large openings forming caves.

Sea arches: When the sea caves are further eroded by sea waves and the roof of the cave remains, it form sea arches.



Stacks : With further erosion by sea wave the roof finally collapses leaving behind a column like structure called stacks.

Sea cliff : Steep rocky cliffs are called sea cliff found to rise vertically from the sea water.

Depositional activity by sea waves

The sea waves form sea beaches which are the only depositional landform by sea waves. Rocks, pebbles , sand are transported by sea waves and deposited on the shore which forms the beaches.

Links for the images used in this asset:-

Sea arches _CC_ <https://pixabay.com/photos/landscape-arches-stone-rocks-sea-5170125/>

Time to teach	Asset Type	Theme	SubTheme
10 Minutes	Main Script	Solar system & the earth	Hydrosphere, Hydrosphere

12. IQ_Glaciers

Glaciers

Notes to the teacher-Teacher may enable the students to think and come out with as many answers as possible before giving out the right answer/ answers.

Q 1. What happens to water when it is kept in a freezer for long time?

Answer : The water turns in to ice, which is a hard solid state of water.

Q2. If a very large slab of ice is pushed down a slope what do you think happens to it?

Answer : The slab of ice slowly slips down the slope also scratching the ground under it.

Q3. What do you think will happen to the obstructions like rocks and soil on the path of a glacier that moves down a mountain slope?

Answer : The rocks and soil will be pushed down with the glacier scouring the ground as it slopes down.



Picture URL :

<https://pixabay.com/photos/bossons-glacier-la-jonction-2354230/>

Time to teach	Asset Type	Theme	SubTheme
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5 Minutes	Inquisitive Questions	Solar system & the earth	Hydrosphere, Hydrosphere
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13. MS_Work of Moving Ice

Work of Moving Ice



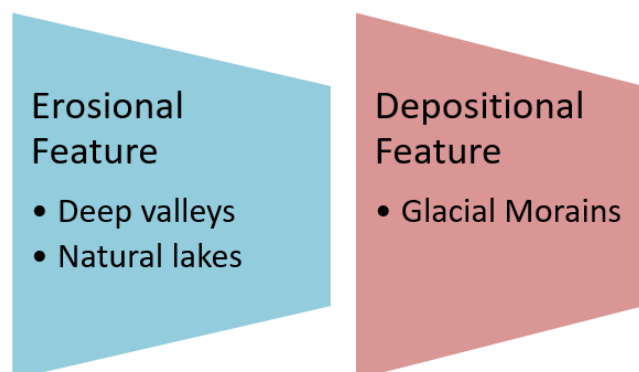
Glaciers are large masses of frozen water also called rivers of ice. They slide down the slopes of mountains scraping out rocks and boulders on their way.

Erosional Activity of Glacier

- The glaciers carve out **deep valleys**. The hollows carved out by glaciers get filled up with water, later giving rise to **beautiful natural lakes**. For example, Dudipatsar Lake in Pakistan and Tasman Lake in New Zealand are glacial lakes.

Depositional Activity of Glacier

- The glaciers transport small rocks and big size rocks and deposit them as they melt. These deposits brought down by glaciers are called **glacial moraines**.



Picture URL:

Glaciers: <https://pixabay.com/photos/bossons-glacier-la-jonction-2354230/>

Time to teach	Asset Type	Theme	SubTheme
7 Minutes	Main Script	Solar system & the earth	Hydrosphere, Hydrosphere

14. MS_Work of Wind

Work of Wind

In the desert the winds are the natural agents which carve out landforms by erosion as well as deposition.

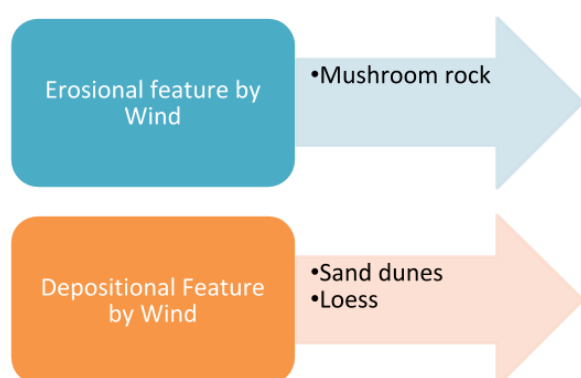
Erosional Feature by Wind

- A typical erosional feature found in the desert is a **mushroom rock**. It has a narrow base and wider top because the wind erodes the base of

the rock more than the top. These types of rocks are a combination of hard and soft rock.

Depositional Features by Wind

- Sand particles in the desert are carried to long distances by wind. Sometimes they are obstructed by bushes or rocks. The wind drops the sand in the form of hills when they are obstructed. Such hills are called **sand dunes**.
- When the winds carry fine and light grains of sand over long distances and deposit them in large areas, they are called loess. Such large areas of fine sand are found in china.
- We also find loess in the north western part of India near the Thar desert.



Picture URL :

Sand dunes_CC_ <https://pixabay.com/photos/desert-morocco-dunes-sand-2435404/>

Time to teach	Asset Type	Theme	SubTheme
7 Minutes	Main Script	Solar system & the earth	Major LandForms , Major LandForms

15. QA_Recap-Major Landforms and lithosphere

Recap-Major Landforms and lithosphere

Answer in short

1. Why do lithospheric plates move?

Hint : The magma inside the earth flow which in turn causes the lithospheric plates on the surface of the earth to move.

2 . What is erosion?

Hint: Wearing away of the rocks and minerals is called erosion.

3. Name the natural agents associated with the formation of :

Flood plains, Sand dunes, Oxbow lakes, Beaches

Hint :

Flood plains – running water

Sand dunes – wind

Ox-bow lakes – running water

Beaches – sea waves.

Tick the correct one

1) Which is not an erosional feature?

1. Cliff
2. Beaches
3. Sea cave

(Ans : beaches)

2) Which is caused by sudden movement of the earth?

1. Volcano
2. Folding
3. Flood plain

(Ans : volcano)

C) Mushroom rocks are found in ?

1. Glaciers
2. River valleys
3. Deserts

(Ans: Deserts)

Match the following:

1	Glacier	a	Epicentre
2	Loess	b	River
3	Sea waves	c	Distributaries
4	Lava	d	Moraines
5	Earthquake	e	Sea cliff
6	Exogenic	f	Wind
		g	Volcano
		h	Delta

Hint : 1d, 2f, 3e, 4g, 5a, 6b

Picture based questions

1. Identify the above feature and explain how they are formed.

Hint: Sea Stack ; The roof of the sea caves collapse due to excessive erosion by sea waves. Thus the sea stacks are formed.

2.



What is the natural agent associated with the above feature? How is it formed?

Hint : Running water. The river moves sluggishly in the plain and form deep bends due to twists and turns. These bends are called meanders.

Links for the images used in this asset:-

<https://pxhere.com/en/photo/1375249>

Time to teach	Asset Type	Theme	SubTheme
15 Minutes	Assessments	Solar system & the earth	Major LandForms , Lithosphere, Major LandForms , Lithosphere

16. VC_Our Changing Earth

Our Changing Earth

Learning Domain- Classroom

Erosion is the wearing away of the landscape by different agents like water, wind, and ice. The eroded material is carried away or transported by water, wind etc, and eventually deposited. This process of erosion and deposition create different landforms on the surface of the earth.

Activity—There is no substitute for patience

Landforms on the earth patiently faced several hardships and transformed into present state. Patiently accepting the natural changes helped the landforms to become new creations.

Quotes -

"A man who masters Patience, masters everything else "

"Patience is Bitter - but its fruit is sweet."

"Patience is self-suffering."

1. Unscramble the jumbled words. And find the hidden Value from the underlined letters.

- GCDNEOENI
- IECNTREPE
- TGWRENAEHI
- SAEDNREM
- SESOL
- AGCILAL

Answers - 1. Endogenic 2. Epicentre 3. Weathering 4. Meanders 5. Loess 6. Glacial

Hidden value - EIPTNAEC Ans - PATIENCE

2. Complete the following Saying -

" --- A -- --- E --- --- I S --- T --- --- , B --- I --- ---

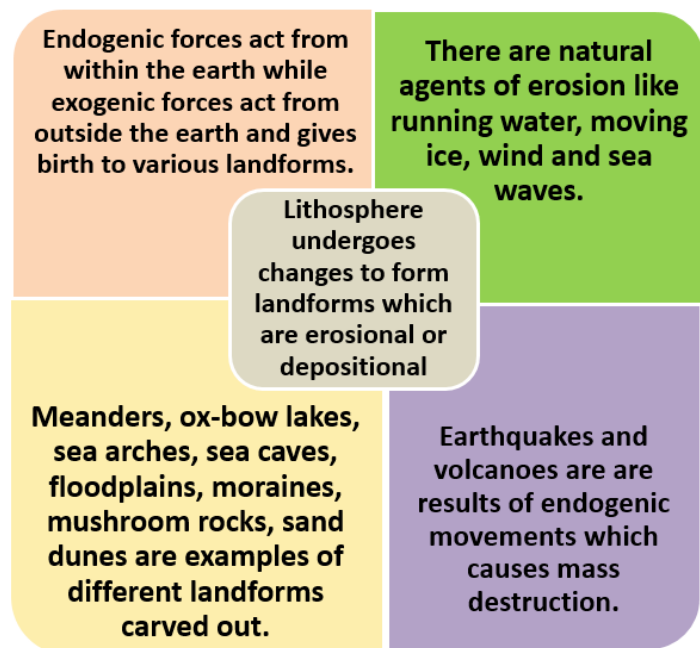
F --- --- IS --- --- T."

Ans - "Patience is bitter but its fruit is sweet."

Time to teach	Value Type	Value Sub Type	Value Attribute
5 Minutes	Love		Open

17. MS_Summary_Our Changing Earth

SUMMARY



Time to teach	Asset Type	Theme	SubTheme
3 Minutes	Main Script	Solar system & the earth	Major LandForms , Lithosphere, Hydrosphere, Major LandForms , Lithosphere, Hydrosphere