

Dawood Public School
Course Outline 2020-21
Geography
Grade VI

Books:

- Song, Tan Kim, (2011) *International Lower Secondary Geography 3*, Marshall Cavendish Education, Singapore.

Reference Books:

- Chun, Tham Yoke, (1998) *Understanding Geography 3*, Longman, Singapore
- Bunnett, R.B (1988) *Physical Geography in Diagrams*, 4th ed. Longman, England.
- (2001) *New Secondary Geography*, FEP International (Private LTD), Rawalpindi.

Monthly Course Distribution

Month	Contents	Pages
August	Plate Tectonics Volcanism	2-12 24-33
September	Earthquake	34-45
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Syllabus Distribution

August
Chapter 1: Plate Tectonics
Chapter 3: Volcanism

Pages no: 2 – 12
Pages no: 24 – 33

Content	Learning Objectives
<p>Earth’s Internal Structure:</p> <p>Earth comprises of 4 main layers:</p> <ul style="list-style-type: none">• Crust• Mantle• Outer core• Inner core <p>The crust is composed of oxygen, aluminum and silicon-oxide whereas the mantle is composed of mainly magnesium and iron.</p> <p>The outer core is composed of iron and nickel which is semi solid and the inner core is composed of mainly iron which is solid.</p> <p>Heat and pressure play an important role in the formation of layers of Earth.</p> <p>As we move down into the earth, the heat and pressure increases. The temperature of the inner core is so high that it can melt the iron but due to high pressure it is compacted.</p>	<ul style="list-style-type: none">• Label the different layers of Earth’s structure.• Define the terms:<ul style="list-style-type: none">➤ crust➤ mantle➤ outer core➤ inner core• Describe the composition of Earth’s layers.• Discuss the effects of heat and pressure on changing states of Earth’s interior.
<p>Plate Tectonics:</p> <p>This is the study of changes taking place in the Earth’s crust and the forces which cause these changes.</p> <p>The Earth’s crust is made up of several major and minor plates. The crust and the upper mantle make up the lithosphere and the place where two plates meet are called the plate boundary.</p>	<ul style="list-style-type: none">• Define the terms:<ul style="list-style-type: none">➤ tectonics➤ lithosphere➤ plate boundary• Describe ‘plate tectonics’.• Name the types of crustal plates.• Label the major and minor plates on Earth’s crust.• Differentiate between Continental plates and Oceanic plates.• Explain the different resting places for each type of crustal plates.
<p>Movement of Crustal Plates:</p> <p>The crustal plates move in three different ways because of the convection current from the Earth’s mantle. These movements cause the formation of ridges and trenches.</p> <p>The plates can move toward each other as convergent plate movement or away from each other as divergent plate movement.</p> <p>The boundary where plates meet is the ‘destructive plate boundary’ as some parts of the crustal plates get destroyed here.</p>	<ul style="list-style-type: none">• Define the terms:<ul style="list-style-type: none">➤ magma➤ lava➤ subduction➤ destructive plate boundary➤ constructive plate boundary➤ convection currents• Describe the different types of movement of different plates:<ul style="list-style-type: none">➤ convergent plate movement➤ divergent plate movement➤ transform plate movement• Explain the formation of an ‘oceanic trench’.• State the location of The Mid Atlantic Ridge.• Explain the formation of the Mid Atlantic Ridge.

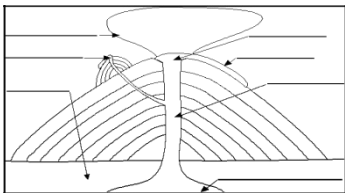
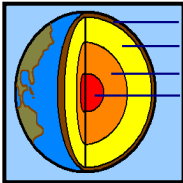
<p>Earthquake and Volcanic Eruptions:</p> <p>Earthquakes and volcanic eruptions take place due to movement of plates.</p>	<ul style="list-style-type: none">• Mark the world’s distribution of ‘Earthquake Zones’ on a given world map.• Mark the world’s distribution of ‘Active volcanoes’ on world map.• Explain the relationship between plate movement, volcanic eruption and earthquake occurrences.
<p>Plate tectonics in Pakistan:</p> <p>Pakistan lies at the boundary of two crustal plates which have similar density.</p> <p>The Himalayan Range formed due to the collision of the Indo-Australian and Eurasian plates.</p>	<ul style="list-style-type: none">• Describe the location of Pakistan with reference to tectonic plates.• Describe the formation of Himalaya Mountain Range.• Explain why the height of Himalayas is increasing every year.
<p>Structure and formation of volcano:</p> <p>A volcano consists of a vent, cone, pipe, crater and magma chamber.</p> <p>Magma that erupts on the surface in the form of lava, the volcanic material pile up and form a cone like feature called volcano.</p>	<ul style="list-style-type: none">• Describe a volcano.• Define the terms:<ul style="list-style-type: none">➤ vent➤ cone➤ pipe➤ crater➤ magma chamber• Label each structure on the given picture of a volcano.
<p>Classification of volcanoes:</p> <p>Volcanoes can be classified according to their frequency of eruption:</p> <ul style="list-style-type: none">• An active volcano takes its names because of frequent eruptions in recent years.• Dormant volcanoes have erupted in history but have become quiet in recent and present times.• A volcano that has not erupted in sufficient history is termed extinct.	<ul style="list-style-type: none">• Describe the following classifications of volcanoes:<ul style="list-style-type: none">➤ active volcanoes➤ dormant volcanoes➤ extinct volcanoes• Name some extinct volcanoes.• Name some active volcanoes.
<p>Volcanoes in Pakistan:</p> <p>Mud volcanoes in Pakistan are formed by the eruption of mud, water and gases.</p> <p>Volcanoes and our climate:</p> <p>When volcano erupts, they emit particles and a mixture of gases such as ash, sulphur dioxide and carbon dioxide.</p> <p>Carbon dioxide causes global warming by adding to the greenhouse effect.</p>	<ul style="list-style-type: none">• Explain the formation of volcanoes commonly found in Pakistan.• List the advantages of mud volcanoes.• List the characteristics of:<ul style="list-style-type: none">➤ mud volcanoes➤ magmatic volcanoes• Identify magmatic and mud volcano on a given picture.

Key Words:

lithosphere, plate boundary, continental and oceanic plates, magma, lava, subduction, destructive plate boundary, constructive plate boundary, passive plate boundary, vent, cone, pipe, crater, lava, magma chamber

Practice Questions:

- 1. Identify the different layers of Earth.
- 2. Define the composition of layers of Earth
- 3. State reasons that cause the movement of crustal plates.
- 4. How did the Himalayas begin to form?
- 5. Label the structure of the given volcano and distinguish between each of its features.



Projects, Assignments and Activity:

- Students will watch a short video on volcano eruption.
- Students will complete a research assignment on the “Future of countries on the basis of plate tectonics” OR “Human activities influenced on plate tectonic.”

Map Work:

- Students will identify the active volcanoes of Pacific Ocean “pacific ring of fire”.

Surf I.T

- <http://www.cotf.edu/ete/modules/mse/earthsysflr/plates4.html>
- <http://www.see.leeds.ac.uk/structure/dynamicearth/himalayas/index.htm>

September

Chapter 4: Earthquake

Pages no: 35 – 45

Content	Learning Objectives
What are Earthquakes: Tremors or vibrations in the Earth’s crust formed by a sudden release of stored up energy in the Earth’s crust.	<ul style="list-style-type: none">• Define the following terms:<ul style="list-style-type: none">➤ focus➤ epicenter➤ magnitude• Describe the formation of the following:<ul style="list-style-type: none">➤ aftershocks➤ seismic waves➤ landslides➤ tsunami• Differentiate between intensity and magnitude of an Earthquake.• Describe the use of a Richter scale.• List the factors which determine the intensity of an Earthquake.• List some ‘shock-absorbing’ building materials.
Earthquake zones in the world: Earthquakes usually occur at the boundaries of crustal plates and within areas with frequent volcanic activities.	<ul style="list-style-type: none">• List the areas in which earthquakes occur frequently.• Locate the Pacific Ring of Fire on the World map.

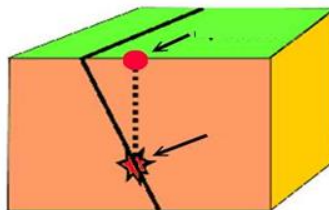
<p>Earthquakes and Humans:</p> <p>Earthquakes with high intensity may cause substantial damage to human life and property. Measures should be taken to minimize the loss of lives and damage.</p>	<ul style="list-style-type: none"> • Differentiate between the direct and indirect impact of earthquake. • List some ‘indirect impacts’ of an Earthquake. • Describe the destructive effects which may be caused by: <ul style="list-style-type: none"> ➤ tsunami ➤ landslide ➤ collapsed building • Explain the relationship between the magnitude of earthquake and destruction. • List some measures which can minimize loss of lives and damages caused by an Earthquake.
<p>Major Earthquakes in the World:</p> <p>Many devastating earthquakes have caused damage to lives and property across the world. Some of these are:</p> <ul style="list-style-type: none"> • Tangshan Earthquake • Pakistani Earthquake • Tohoku earthquake • Sichuan earthquake 	<ul style="list-style-type: none"> • List some of the destructive earthquakes in the world. • Explain the cause of Great Pakistani Earthquake. • State the reasons for huge destruction at Muzaffarabad during Earthquake in 2005.

Key Words:

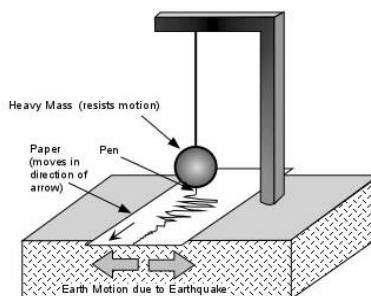
earthquakes, focus, epicenter, magnitude

Practice Questions:

1. What causes an earthquake to occur?
2. Label epicenter and focus of an earthquake in the following diagram.



3. Identify the following instrument and state its use.



Projects, Assignments and Activity:

- Students will demonstrate the point of focus and epicenter with the help of a chair.

Map Work:


- Students will mark earthquake zones in the world map. (comparison of active volcano and earthquake zone)

Surf I.T

- <http://earthquake.usgs.gov/earthquakes/eqarchives/year/eqstats.php>
- http://earthquake.usgs.gov/regional/world/events/1976_07_27.php

Content	Learning Objectives
<p>The River and its System:</p> <p>A river is a body of moving water that flows from highlands to lowlands, influenced by earth’s gravity. A river system is made up of following components:</p> <ul style="list-style-type: none">• Source• Stream• Tributaries• Distributaries• Mouth <p>A river travels its course in a path from its source to the mouth. Rivers have an upper course, a middle course and a lower course.</p> <p>The drainage system encloses the river system. The boundary of this drainage basin is the watershed.</p> <p>Rivers are part of the Hydrological Cycle.</p>	<ul style="list-style-type: none">• Define the following terms:<ul style="list-style-type: none">➤ river➤ tributaries➤ distributaries➤ mouth➤ drainage basin➤ water Shed• Identify the various components of river system on a given diagram.• Describe the source of river.• Recall the definition of Hydrologic Cycle.• Describe the processes involved in the Hydrological Cycle.• Identify the three parts of a river course.• Describe the characteristics of each course of river.
<p>River Processes:</p> <p>The river processes are important because different features of earth’s surface are formed due to these processes that are:</p> <ul style="list-style-type: none">• Processes of erosion• Processes of transportation• Processes of deposition <p>Erosion involves four important processes of:</p> <ul style="list-style-type: none">• abrasion• hydraulic action• solution• attrition <p>The river transport its load by four processes:</p> <ul style="list-style-type: none">• traction• saltation• suspension• solution <p>Deposition occurs when the river is unable to transport its load.</p>	<ul style="list-style-type: none">• List the river processes which are responsible for forming the features on Earth.• Describe the process of erosion.• List the materials which may be included in the process of transportation.• Describe the process of deposition.• Differentiate between corrasion and corrosion.• Describe the process of transportation in river.
<p>River Features or Landform:</p> <p>Water moves on ground forming different structures like waterfall, oxbow lakes etc.</p>	<ul style="list-style-type: none">• Define the following terms:<ul style="list-style-type: none">➤ waterfall➤ meanders➤ river cliff➤ slip off slope➤ oxbow lakes➤ flood plains➤ delta➤ levees• Identify various features of a river with the help of a diagram.• Describe the features of a river.• Explain the formation of a waterfall.• Differentiate between slip-off slope and river cliff.• Explain the formation of Oxbow lakes.

<p>Impact of Rivers on People:</p> <p>There are many positive impacts which rivers have on people.</p> <ul style="list-style-type: none"> • Transportation • Farming • Power generation • Food supply <p>Rivers can create disaster as well in the form of floods.</p>	<ul style="list-style-type: none"> • State some positive and negative impacts of rivers on people. • Describe the importance of river other than domestic use.
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<p>Key Words:</p> <p>source, tributary, distributaries, drainage basin, watershed, hydrologic cycle, evaporation, condensation, precipitation, transpiration, waterfall, river cliff, slip off slope, delta, hydraulic action, solution, corrosion, attrition, traction, saltation, suspension, solution</p> <p>Practice Questions:</p> <ol style="list-style-type: none"> 1. Why is the action of river water in the upper section different from the lower section? 2. Name the three courses of a river and briefly describe the characteristics in each course. 3. Describe the formation of river valley shown in the following photograph <p>Projects, Assignments and Activity:</p> <ul style="list-style-type: none"> • Worksheets will be provided. <p>Map Work:</p> <ul style="list-style-type: none"> • Students will identify the Amazon River on the world map. • Students will identify the major rivers of Pakistan. <p>Surf I.T</p> <ul style="list-style-type: none"> • http://www.enchantedlearning.com/geography/rivers • http://www.internationalrivers.org 	
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<p>November</p>	<p>Revision for Mid-year Examination</p>
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<p>December</p>	<p>Mid-Year Examination</p>
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<p>January</p> <p>Chapter: Rocks and Rock formation</p>	<p>Pages no: 48 – 55</p>
Content	Learning Objectives
<p>Rocks, Minerals and Elements:</p> <p>Rocks are aggregate of minerals while minerals are the inorganic substances that occur naturally. Minerals are made up of elements. Element is small substance that can neither be broken down chemically nor physically.</p>	<ul style="list-style-type: none"> • Define the terms: <ul style="list-style-type: none"> ➤ rocks ➤ minerals ➤ elements • Differentiate between elements and minerals. • Differentiate between metallic and non metallic elements. • List the parameters that are used to differentiate one rock from another rock.

<p>Types of Rocks:</p> <p>On the basis of formation, rocks can be classified as:</p> <ul style="list-style-type: none">• Igneous• Sedimentary• Metamorphic <p>Igneous rocks:</p> <p>These rocks are formed by the solidification of magma (intrusive) or lava (extrusive).</p> <p>Sedimentary rocks:</p> <p>Sedimentary rocks are formed by a process called sedimentation. They can be classified in three groups depending whether they are formed mechanically, chemically and organically.</p> <p>Metamorphic rocks:</p> <p>These rocks are formed by metamorphism. The rocks undergo intense heat and pressure.</p>	<ul style="list-style-type: none">• Define the terms:<ul style="list-style-type: none">➤ solidification➤ sedimentation➤ metamorphism• Classify rocks in three types on the basis of formation.• Differentiate between Intrusive rocks and Extrusive rocks.• Describe the formation of limestone chemically and organically.• Differentiate between types of sedimentary rocks according to its formation.• Describe the formation of coal.• State the stages of coal.• Explain the causes of metamorphism.
<p>The Rock Cycle:</p> <p>All the rocks that make up the Earth today are continuously recycled within a closed system called the rock cycle.</p>	<ul style="list-style-type: none">• Explain the importance of rock cycle.• State the processes which are involved in rock cycle.
<p>Uses of Rocks:</p> <p>Rocks are used for different purposes like construction.</p>	<ul style="list-style-type: none">• Describe the main uses of rocks by people.• Explain the importance of rocks in industrial manufacturing.

<p>Key Words:</p> <p>minerals, elements, solidification, sedimentation, metamorphism</p> <p>Practice Questions:</p> <ol style="list-style-type: none">1. Describe the formation of rock salt and coal.2. Differentiate between sedimentary and metamorphic rocks.3. Identify the intrusive and extrusive rocks in the following diagram. <div data-bbox="639 1626 1016 1870"></div> <p>Projects, Assignments and Activity:</p> <ul style="list-style-type: none">• Students will observe different types of rocks and minerals.• Students will be taken to the parking area of the school to observe sedimentation.• Students will conduct a research assignment on any one of the following:<ul style="list-style-type: none">➤ Glass making and Mirror making➤ Deadliest rocks and minerals on Earth – select any one: asbestos, chalcantite, cinnabar, stibnite, galena, torbernite, hutchinsonite, orpiment <p>Surf I.T</p> <ul style="list-style-type: none">• http://geology.about.com/od/rocks/a/whatisarock.htm
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Content	Learning Objectives
<p>Weathering:</p> <p>A rock disintegrates at or near the Earth’s surface by different agents, depending on the nature of the rock.</p> <p>The agents of weathering are temperature, rainfall, plants and animals.</p> <p>Erosion:</p> <p>Erosion refers to the removal of the weathered material.</p>	<ul style="list-style-type: none">• Define the terms:<ul style="list-style-type: none">➤ weathering➤ erosion➤ <i>in situ</i>• Explain the nature of rocks that influence the rate of weathering.• Describe the role of natural agents for different kind of weathering.
<p>Types of Weathering:</p> <p>Depending on the agent of weathering, it can be classified into:</p> <ul style="list-style-type: none">• Physical Weathering• Chemical Weathering• Biological Weathering	<ul style="list-style-type: none">• State the types of weathering according to the agents which cause it.• Identify types of weathering with the help of given pictures.• Differentiate between exfoliation and frost shattering.• Differentiate between oxidation and carbonation.• Describe the role of animals and plants in weathering.
<p>Erosion:</p> <p>Erosion is a natural process spread over time where weathered material is removed by the action of flowing water and wind.</p>	<ul style="list-style-type: none">• List the agents of erosion.• Describe the role of natural agents that are responsible for the erosion of the surface of Earth.• Name the features which are formed by erosion.
<p>Impact of Weathering and Erosion on Human Activities:</p> <p>Erosion can have a positive impact as it causes the creation of different landforms. These natural landforms often become tourist attractions.</p> <p>The negative impact of erosion may occur by flowing water during floods, which can cause extensive damage to human properties and lives.</p>	<ul style="list-style-type: none">• Describe the relationship between weathering and erosion and lives of people.• Describe the positive and negative impacts of weathering and erosion.• Discuss the increase of tourist activity due to weathering and erosion.

Key Words:

weathering, physical weathering, exfoliation, chemical weathering, biological weathering, erosion

Practice Questions:

1. Name the process of weathering which takes place in deserts.
2. Identify the type of weathering shown in the following photograph.



Projects, Assignments and Activity:

- Work Sheet will be provided.
- Students will be taken to the parking area of the school to observe the weathered rocks.
- Student will conduct a research assignment on any one of the following:
 - five spectacular features formed by weathering and erosion
 - waste to energy

Surf I.T

- http://www.bbc.co.uk/schools/ks3bitesize/science/environment_earth_universe_rock_cycle/revise1.shtml

March

Chapter: Mineral and Energy Resources

Pages no: 89 – 97

Content	Learning Objectives
<p>Minerals: Inorganic substances found in rocks in the ground. It contains metallic and non metallic elements.</p> <p>Mineral Resources: A large deposit of mineral found in any area can help people to carry out economic activities e.g. iron and gold resources</p>	<ul style="list-style-type: none">• Recall the definition of ‘mineral’.• Define ‘mineral resource’.• Describe how mineral resources can help people in any area.• List some minerals which can be classified as a mineral resource.
<p>Types of Mineral Resources:</p> <ul style="list-style-type: none">• Metallic resources such as copper and iron.• Non metallic mineral resources such as clay, rock salt.• Energy mineral resources are coal and petroleum.	<ul style="list-style-type: none">• List the types of mineral resources.• Classify given lists of minerals into their respective types.• Differentiate between metallic and non metallic mineral resources.• Explain the importance of copper and iron mineral resources.• List some energy mineral resources.

<p>Type of Energy Resources:</p> <ul style="list-style-type: none"> • Non-Renewable Energy Resources are finite. Examples of finite energy resources are coal and petroleum etc. • Renewable Energy Resources are infinite. Example of infinite energy resources are hydroelectric energy, solar energy and wind energy. 	<ul style="list-style-type: none"> • Classify energy resources into their respective types. • Differentiate between renewable and non renewable energy resources. • List the non renewable energy resources. • Define the following types of energies: <ul style="list-style-type: none"> ➤ Hydroelectric energy ➤ Solar energy ➤ Wind energy ➤ Geothermal energy ➤ Biomass energy
<p>Uses of resources and their impact on the environment:</p> <p>The use of mineral and energy resources has increased worldwide.</p> <p>These resources play a vital role in the economic development of a country. They may also have a negative effect on the environment such as scarring and alteration of environment, soil erosion, increased mud and silt in river, leaking of poisons and abundant waste etc.</p> <p>Energy resources of Pakistan:</p> <p>Historically, Pakistan has always been an energy importer and is highly dependent on fossil fuels (non renewable resources of energy). But due to the increase in demand of energy Pakistan is now generating energy with renewable resources at the following places:</p> <ul style="list-style-type: none"> • KANUPP is Pakistan's first nuclear power plant, inaugurated on November 28, 1972, with a total gross capacity of 137 MW. • The Jhimpir Wind Power Plant was developed in Jhimpir, Sindh, it has a total capacity of 50 MW. • The Quaid-e-Azam Solar Park in Bahawalpur, Punjab is a 100 MW solar powered plant. 	<ul style="list-style-type: none"> • State the energy resources which are used extensively worldwide. • State the negative impacts of energy resources on the environment. • Develop awareness for the difference between an ‘energy producer’ and an ‘energy importer’. • Discuss the disadvantages of being an ‘energy importer’. • List the places in Pakistan where renewable energy resources are being generated.

<p>Key Words:</p> <p>mining, quarrying, scarring</p> <p>Practice Questions:</p> <ol style="list-style-type: none"> 1. With the help of examples, distinguish between metallic, non-metallic and energy mineral resources. 2. Identify and discuss the importance of the type of energy resource shown in the following diagram. <div data-bbox="695 2026 1070 2284" data-label="Image"> </div> <p>Projects, Assignments and Activity:</p> <ul style="list-style-type: none"> • Students will be taken to show the solar panel installed in the school. <p>Surf I.T</p> <ul style="list-style-type: none"> • http://www.miracosta.edu/home/MEggers/MRE%20Mineral%20ResourcesCh13.pdf

April

Revision for Final Examination

May

Final Examination