# Dawood Public School
## Course Outline 2016-2017
### Geography
#### Class: VIII

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August:
Chapter: Chapter: Minerals

Topics:

- **Minerals- Introduction**
  "A mineral is an element or chemical compound that is normally crystalline and that has been formed as a result of geological processes" or "A mineral is a body produced by the processes of inorganic nature, having usually a definite chemical composition and, if formed under favorable conditions, a certain characteristic atomic structure which is expressed in its crystalline form and other physical properties"

- **How are minerals formed?**
  Minerals are formed under a variety of conditions, including when molten materials cool, when liquids evaporate or cool and under high temperatures and pressures. Minerals are found in the earth's crust and mantle, and many were created when feldspar and quartz reacted with other materials during the formation of the planet.

- **Mining Methods**
  There are three main mining process, open cast mining, adit mining and shaft mining, others process are: crushing, grinding and sizing, leaching and adsorption, Water treatment, Tailings disposal etc.

- **Metallic and non-metallic minerals**
  When a mineral contains metallic elements it is called a metallic mineral and when it doesn't contain metallic elements it is called a non-metallic mineral.

- **The mining industry in Pakistan**
  Mining is an important industry in Pakistan. Pakistan has deposits of several minerals including coal, copper, gold, chromite, mineral salt, bauxite and several other minerals. There are also a variety of precious and semi-precious minerals that are also mined. These include peridot, aquamarine, topaz, ruby, emerald, rare-earth minerals bastnaesite and xenotime, sphene, tourmaline, and many varieties and types of quartz. The Pakistan Mineral Development Corporation is the responsible authority for the support and development of the mining industry.

- **Effects of mining on the environment**
  Before mining can begin, the land is cleared. The first issue is deforestation. Deforestation immediately destroys wildlife habitats. As the land is cleared and low bushes and vegetation burned and destroyed, wildlife either moves on or dies.... Mining re-configures the land and its contours. Rain and subsequent ground water is diverted. As equipment is sunk and the ground hollowed out, chemicals such as cyanide, mercury, methyl-mercury and arsenic are forced through pipes (tailings). The water that runs off goes into streams, creeks, rivers, and lakes.

- **Sustainable development and mining**
  Minerals are essential for modern living, and mining is still the primary method of their extraction. To date, it appears that the main constraints to sustainability in the mining sector derive from the ever-increasing demand for mined resources; the consumption of resources (mostly energy and water) needed to extract and process metals, and the increasing pollution generated by the extraction process. This holds true for both large-scale, often multinational corporate, operations as well as for small-scale or artisanal ventures.
Key Words: inorganic natural substance, adit mining, shaft mining, metallic minerals, non-metallic minerals, Quarrying, Extraction, environmental losses, exploration, exploitation

(Refer to handout)

Model Questions:

1. How would you differentiate between metallic and non-metallic minerals?
2. Study Fig. 1, which shows limestone and rock salt extraction.
   (i) Describe the distribution of limestone extraction in Pakistan.

Projects, Assignments and Activity:

- Work Sheet and handouts will be provided.
- Students will make a research assignment on:
  ➢ “Reko diq cold mine in Pakistan”
- Show the samples of metallic and non-metallic minerals.

Surf I.T:

- [www.slideshare.net/junaidhassansheiks/mineral-resources-of-pakistan](http://www.slideshare.net/junaidhassansheiks/mineral-resources-of-pakistan)
- [http://greenliving.lovetoknow.com/How_Does_Mining_Affect_the_Environment](http://greenliving.lovetoknow.com/How_Does_Mining_Affect_the_Environment)
September:
Chapter: More about Industry

Topics:

- **Industries – Introduction**
  Industry is an organized economic activity concerned with manufacture, extraction and processing of raw materials, or construction. The output of an industry is a specified product or service. Industries can be classified on the basis of type of work, products, number of employees etc.

- **Primary, Secondary and Tertiary Industries.**
  Industries can be classified on the basis of obtained product or service. Primary industry can be called as extractive industry, while secondary industry is a manufacturing industry. Tertiary Industry provides services.

- **Factors that may Influence the Development of an Industry.**
  Development of an industry can be influenced by natural factors such as site requirement and natural routes and human factors such as capital, power supply, transport, skilled labor and industrial linkage.

- **Formal and Informal Sector**
  Industries can be classified as a formal sector if it is legal and registered, employs number of people on fixed wages and regular working hours and provide good working conditions.

- **Primary Industry - Natural Gas Extraction in Pakistan.**
  Natural gas extraction requires proper geologic study of an area to locate gas reserves and extract gas by boring wells with the help of skilled labor and high tech machineries.

- **Secondary Industry- Large, Medium and Small Scale Industries.**
  Industries can be distinguished into three on the basis of the capital invested, number of employees and amount of production. The Pakistan Steel Mills is an example of large scale industry while cottage industries are small scale industries.

- **Tertiary Industry -Tourism in Pakistan.**
  Tourism industry boosts the country’s economy and provides benefit to local people. Pakistan possesses a great potential for the tourism industry as it is blessed with different terrains, beautiful landscapes and rich cultural diversity.

- **Effects of Industrial Pollution on the Environment.**
  Industries can boost economy but poses a great threat to environment. Agriculture activities can cause eutrophication in natural water bodies; waste from chemical industries can cause high levels of heavy metals and other contaminants. Tourists coming to visit natural landscapes can degrade beauty of the area.
Key Words: Extractive industry, manufacturing, processing, assembling, raw material, capital, capital goods, value added product, GDP, trade, power supply, HEP, EPB, EPZ, green revolution, industrialization, infrastructure, syncline, iron ore.

(Refer to glossary given on Pageno#220-223)

Model Questions:

1. How do industries contribute to increase the GDP?
2. How do the factors shown in figure 1 affect industrial production?

![Figure 1](image1)

3. Describe the ways in which industries contribute to land, air and noise pollution.

![Figure 2](image2)

Projects, Assignments and Activity:

- Work Sheet and handouts will be provided.
- Multimedia presentation on “industries work as a system” will be screened.
- Students will make a research assignment on:
  - “Pakistan’s Energy Crisis and alternative sources of energy”
  - Lap book activity to show the cycle of Primary Product to Manufacturing Product”

Surf I.T:


October:

Chapter: Forests of Pakistan

Topics:

- Forest, A Major Natural Resource (importance and uses of forests);
  Forest plays a vital role in balancing atmosphere, ecosystem and habitats. Forest provides ecological, social and economic benefits. They are the source of variety of products and promote tourism.
• **Types and Distribution.**
  In Pakistan a variety of forests are found because of the diverse geographical location, climate and expanse of country from coast line to mountains. Pakistan is blessed with about six types of forest vegetation such as Alpine, Coniferous, Rakh, Sub tropical dry, Riverine and Mangroves.

• **Determinants of Major Forest Types.**
  Forest types are influenced by temperature, amount of precipitation, altitude, and type of soil. These factors determine density and type of vegetation growth in an area such as growth of coniferous in northern areas of Pakistan and growth of mangroves along the coastline.

• **Causes of Deforestation**
  Deforestation in Pakistan is a threat to forest resources. Large areas of forests are cleared for developing human settlements, infrastructure, expansion of agriculture fields, tourist resorts and for firewood and fodders.

• **Effects of Deforestation**
  Human activities such as deforestation contributes to the imbalance in environment, climate change and global warming, more run off and floods, siltation in dams, conversion of fertile lands into deserts.

• **Sustainable Forestry: Plantations, Afforestation and Forest Management Techniques.**
  Sustainability refers to development and strategies to make forest resources benefit present and future generations. Adaptation of afforestation, forest regeneration programs, urban and rural forestry, selective cutting, and soil conservation techniques.

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**Key Words:** productive forest, protection forest, linear plantation, biodiversity, soil erosion, runoff, interception, siltation, stilt roots, breeding roots, relief rainfall, water logging, tourism, western depression, selective cutting, deforestation, global warming, lumbering.

(Refer to glossary given on Pageno#220-223)

**Model Questions:**
1. State the meaning of the terms “afforestation” and reaforestation”.
2. Explain the importance of forests to the people of Pakistan.
3. Describe the features of the vegetation shown in figure 1.

**Projects, Assignments and Activity:**
- Work Sheet and handouts will be provided.
- Multimedia presentation about mangrove forests will be screened.
- Students will be given an assignments on:
  - Chilgoza and Juniper Forest- A treasure
  - Forest Sustainability- global targets and achievements.
  - Shrinking habitats- A threat to planet biodiversity.

**Surf I.T:**
- [http://pakistangeographic.com/forests.html](http://pakistangeographic.com/forests.html)
- [http://www.conservation.org/what/pages/forests.aspx?gclid=COSs_NSmr8CFSflwgodlh0ALw](http://www.conservation.org/what/pages/forests.aspx?gclid=COSs_NSmr8CFSflwgodlh0ALw)
January:
Chapter: Fishing

Topics:

- **Introduction to Fisheries- Primary Sector:**
  Fishing industry is based on harvesting fish from natural resources such as, oceans (Marine Fishing) or rivers and lakes (Inland fishing).

- **Importance of Fishing Industry- Food Supply, Economic Benefits:**
  Fish is an important diet source. It provides protein and low cholesterol white meat. Fish waste is used to make fertilizers and poultry feed, fish oil has medicinal value. People engaged in fishing rely on fish catch for their livelihoods.

- **Major Fishing Areas Along Sindh and Makran Coast:**
  Makran Coast forms 70% of the coast line while Sindh coast 30% of the coast line but the amount of fish catch obtained from Sindh coast is 70%. This is mainly due to natural features (i.e. wide continental shelf, mangroves, river discharge, and creeks etc.) and more efficient fishing techniques and facilities available at Sindh Coast.

- **Marine and Inland Fishing:**
  The number of people employed in Marine fishing is half of those employed in inland fishing, but the catch from marine fishing is nearly three times greater than Inland fishing. This contrast is due to the influence of natural factors and fishing techniques.

- **Fishing Methods: Subsistence and Modern Fishing Methods, Including Fish Farming:**
  Subsistence fishing methods are adopted by people living along the coast and fishing runs in their families while, the commercial fishing employs large scale fishing operations and produce high fish catch.

- **Main Types of Fish Species Caught; or Reared in Fish Farms:**
  Fish species vary with the amount of salinity, and temperature of water. Similarly fish reared in farms are influenced by the temperature of an area such as palla can be farmed in Sindh while trout can be reared in KPK.

- **Fish Farming:**
  Fish farming or aquaculture is the cultivation of aquatic species in a human controlled environment. This could reduce the burden on natural fish resources. The joint fish farming (fish and poultry/cattle farming) operations require little space, low capital investments, and gives quick returns.

- **Government’s Effort for the Development of Fisheries and Fish Marketing:**
  To increase GDP contribution from Fisheries Department, government is taking number of steps these include development of ports, processing and storage facilities, monitoring of deep sea fishing vessels, strengthening of QC labs and improvements in MFD.

- **Fish Farming and Environment:**
  Fish farms affect environment they cause changes in ecosystem, low water tables, cause salinization, and chemical pollution. On the other hand, fish farms have positive impact as well as joint farming operations, recycle waste and help to protect natural fish resource.
Problems of the Fishing Industry:
Fishing Industry of Pakistan is facing problems due to water pollution, overfishing and destruction of breeding grounds and nurseries of fishes, and lower silt and water discharge in delta.

Future Development of Fishing and its Sustainability:
To attain sustainability several strategies need to be implemented such as ban on catching baby fish, use of small mesh size nets, protecting breeding grounds, and controlling pollution.

Key Words: subsistence fishing, commercial fishing, fish Farming, aquaculture, continental shelf, creeks, bays, , trawling, mechanized boats, endangered species, joint farming, phytoplankton, food chain, docking, harbor, Water table.
(Refer to glossary given on Page no#220-223)

Model Questions:
1. Differentiate between Marine and Inland Fishing.
2. With the help of figure 1, why are fish so plentiful in the mangroves of the Indus delta coast?

![Figure 1](image1)

3. Study the following photograph which shows a fish farm.
   a. How has the physical topography of the area made it easy to construct the ponds?
   b. Discuss the impact of this human activity on environment and people.

Projects, Assignments and Activity:
- Work Sheet and handouts will be provided.
- Multimedia presentation about construction of fish farm will be screened.
- Models will be displayed to show the Pakka and kaccha fish farms, and the process of water logging.
- Students will be given an assignment on: “modern techniques of marine aquaculture”

Surf I.T: 
SETTLEMENTS:
A settlement is any form of human dwelling, from the smallest house to the largest city.

TYPES OF SETTLEMENTS
Temporary
Temporary settlements are where people move their settled places to very temporary once.

Permanent
A permanent settlement is a community which is planned to remain in one place for a long time. One example of permanent settlement is a city, where even though people come and go, the buildings remain in use.

Nucleated
Nucleated settlements are ones where the houses are grouped closely together, often around a central feature like a church, pub or village green. New settlements that are planned often have a nucleated pattern.

Scattered / DISPERSED
Dispersed settlements are ones where the houses are spread out over a wide area. They are often the homes of farmers and can be found in rural areas.

Rural
A rural settlement is any settlement in the areas defined as rural by a governmental office, e.g., by the national census bureau. This may include even rural towns. In some others, rural settlements traditionally do not include towns. Common types of rural settlements are villages, hamlets and farms.

Urban
An urban area is a location characterized by high human population density and many built environment features in comparison to the areas surrounding it. Urban areas may be cities, towns or conurbations.

Linear
Linear settlements are settlements where the buildings are constructed in lines, often next to a geographical feature like a lake shore, a river or following a road. Where linear settlements follow a road, the road often predates the settlement.

PLANNED AND UNPLANNED CITIES
Unplanned cities: An unplanned city means that its physical appearance in the form of structures and roads networks are not in its Geographical plans thus leading to congestion causing floods and impact of other natural hazards.

Planned cities: A planned community, or planned city, is any community that was carefully planned from its inception and is typically constructed in a previously undeveloped area. This contrasts with settlements that evolve in a more ad hoc fashion.

INDUSTRIES AND THEIR TYPES
Manufacturing industries: Manufacturing industry refers to any business that transforms raw materials into finished or semi-finished goods using machines, tools and labor. Manufacturing sectors include production of food, chemicals, textiles, machines and equipment.

Service industries: A business that does work for a customer, and occasionally provides goods, but is not involved in manufacturing.
**Key Words:** urban zone, residential zone, nucleated settlement, consolidation, service, household industries, sanitation, squatter settlements.

**Model Questions:**

1. Identify the settlements.

2. Why do settlements vary from place to place?

**Projects, Assignments and Activity:**

- Work Sheet and handouts will be provided.
- A Power point presentation on Settlement types in different countries will be screened.
- Flash card will be shown to the children to identify the types of settlement.
- Assignment on the life style of different tribes such as e.g Eskimos, Masai, Kelashi, Ibans, Yanomami, Red Indian and Gypsies will be given.

**Surf I.T:**

- [http://www.3dgeography.co.uk/#!settlement-geography/c11jl](http://www.3dgeography.co.uk/#!settlement-geography/c11jl)

### March:

**Chapter:** Water—its cycle and movement

**Topics:**

- **Hydrological Cycle**
  
  Hydrological cycle is the continuous movement of water on, above and below the surface of the Earth. It includes different processes of state change and movements such as evaporation, transpiration, precipitation, condensation, runoff and infiltration.

- **The Movement of Water**
  
  The movement of water can be classified into two depending upon the system, oceans and land. Movement of water in ocean (Ocean Currents) is influenced by temperature, salinity, earth’s rotation etc. while the movement on land is influenced by gravity, as general rule water flows from high land to lowland.

- **The Work of a River**
  
  Erosion, transportation, and deposition are the work of a river. The type of work done at any point depends upon the velocity, energy and pressure of the flowing waters.

- **Features Formed by River**
  
  River forms features by its erosion and depositional work. V-shaped valleys, waterfalls, meanders, deltas and floodplains are formed by the work of a river. River carves the landscape in the upper course forming erosion features such as V-shaped valley. In the lower stage as its energy decreases, river deposits its load and forms flood plains.

- **Uses of River**
  
  Rivers are the source of drinking, domestic, irrigation, and industrial water. Rivers are also used for transportation, and generation of HEP.

- **Irrigation in the Indus River System**
Irrigation water used across Pakistan is mainly from Indus and its tributaries. For proper management of Indus water, dams, barrages and canals are constructed as there is high fluctuation in the amount of water flow during each year.

• **Sharing the Irrigation Water**
  Water allocation between the provinces is regulated by IRSA, WAPDA and PIDs. The Rota system of distribution of water is based on the farmer’s acreage of land and location of their fields.

• **Irrigation in Egypt**
  River Nile system of irrigation is less complex than Indus river irrigation system. Aswan high dam on Indus River can be the point of conflict between countries.

• **Generation of HEP**
  Electricity generated from HEP’s is environmental friendly, renewable, low long term cost, and efficient power production. Hydel energy can be harnessed by fast flowing, high velocity water.

**Key Words:** evaporation, runoff, siltation, infiltration, erosion, transportation, deposition, corrosion, traction, saltation, suspension, v-shaped valley, wider v-shaped valley, waterfall, floodplain, delta, dam, HEP, perennial canals, inundation canals.

(Refer to glossary given on Pageno#220-223)

**Model Questions:**
1. Describe the formation of waterfalls in the upper course of a river.
2. Write at least four points in favor and against for the building of dams in the area shown in the photograph.

**Projects, Assignments and Activity:**
- Work Sheet and handouts will be provided.
- Documentary on barrages and dams of Pakistan will be screened.
- Students will be given assignment on:
  - The Role of River in Transportation- Swizz and Panama Canal.

**Surf I.T:**
- [http://www.slideshare.net/whiskeyhj/river-changes-and-landforms](http://www.slideshare.net/whiskeyhj/river-changes-and-landforms)
- [http://www.tvakids.com/electricity/hydro.htm](http://www.tvakids.com/electricity/hydro.htm)

**APRIL-REVISION FOR FINAL EXAMINATION 2016-2017**

**MAY- FINAL EXAMINATION 2016-2017**

**Reference books:**