

National Curriculum for
GEOGRAPHY
Grades VI – VIII
2006



GOVERNMENT OF PAKISTAN
MINISTRY OF EDUCATION
ISLAMABAD

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INTRODUCTION

Geography is the study of place, or space, in the same sense that history is the study of time. The geographer's method of inquiry concentrates on asking two essential questions: "WHERE are things located?" and "WHY are they located where they are?" While the answer to the former is largely descriptive, the answer to the latter is entirely analytical. The geographer is concerned primarily with interpreting and explaining the occurrence, distribution, and interrelationships of the physical and cultural elements that can be discerned in the landscape. Geography analyzes phenomena according to the attributes of location, extent, and density. As the analysis continues over time it assumes a fourth dimension -- succession. The constantly changing physical and human landscapes on the earth's surface challenge the geographer to provide continuing interpretations of all parts of the world from the spatial point of view.

Geography is both a natural science and a social science as it examines people and their environment and serves as a bridge between the physical and cultural worlds. To be sure, individual geographers tend to emphasize differing aspects of the spatial continuum -- some specializing in physical geography by devoting their study to distributions of climate, vegetation, soils, and landforms. Among the many topics they explore are weather forecasting, watershed management, coastal planning, the utilization of forest resources, and soil erosion, to mention but a few. Other geographers concentrate on the spatial associations resulting from human activities and characteristics. Among the latter, economic, social, and political geographers investigate the abandonment of agricultural land, the intensification of settlement, territorial disputes, the trade areas of cities, cultural diffusion, the incidence of pollution, and the perception of environment. Though most geographic studies address contemporary phenomena, an important branch of the discipline -- historical geography -- looks backward into time to reconstruct the geographies of the past. Likewise, a growing number of geographers use techniques of spatial analysis to assist in planning cities and regions that will constitute the geography and geographic problems of the future.

Traditionally, geographers relied on field observation as the principle means of gathering data. Such observations have, in turn, been combined and generalized to form the scaled down graphics we know as "maps." Yet, our observations of the world around us are limited to what we perceive through our own eyes-- from an elevation of about five feet - our understanding of spatial relationships would be poor indeed. So we have sought to expand our perceptions by using data gathered from balloons, aircraft, and orbiting satellites. At the same time, we have added to the narrow observational capabilities of films, and more recently have exploited the more remote wavelengths of thermal images, radar, and even ultraviolet radiation. Thus, geography is currently experiencing an explosion in data collection, and in its wake has come to a growing reliance on such data processing techniques as statistical analysis, computer mapping, and geographic information systems.

Every one of us is born with an inherent curiosity about the world around us; it remains, however, for the geographer to channelize this innate intellectual curiosity into a systematic and disciplined method of study. Fortunately the old-fashioned place-name geography which so long colored the average Pakistani's impression of the discipline is being rapidly replaced by innovative and challenging curricula which will stimulate and nurture that curiosity rather than discourage or stultify it, as was so often true in the past.

These days, success as a geographer requires an interest in both the natural and social sciences, accompanied by an enthusiasm for research and an ability to organize and interpret data. That is why an “integrated” approach addressing simultaneously the real life problems is imperative; that has been the focus of this curriculum framing.

This newly designed course for VI – VIII classes comprises of all the important branches of Physical and Human Geography like Geomorphology, Climatology, Oceanography, Demography, Regional Geography, Urban Geography, Political Geography, Remote Sensing, Geographic Information System (GIS) and Map Reading. This integrated approach would help our students in understanding the environment through both Physical and Social Geography. This would enable them to come at par with international standards keeping in mind the national requirements.

AIMS & OBJECTIVES

The objectives of the new Geography curriculum are to:

- Inculcate knowledge about the World, Universe, Solar System, Earth Movements, Shape and Size of Earth, Continents and Oceans.
- Promote an understanding of Globe and Maps in detail, especially location and its importance.
- Learn about the various environments depending on the Physical Features, Climate, Fauna and Flora, Natural Resources and related human response.
- Develop consciousness about Human-Environment relationship and environmental hazards.
- Know about the population Characteristics, Human Settlement and Economic Activities.
- Acquaint with Natural Regions, World Geography, Pakistan and neighbouring regions.
- Highlight issues, problems and their solutions related to the subject.
- Impart awareness about the changes made by various agents over the surface of the earth.
- Highlight the problems of underdevelopment, Mega Cities, Global Warming, Climatic Change and their solutions.
- Inculcate awareness about the modern fields and tools of Geography like GIS, Remote Sensing and GPS etc.

Grade VI

GRADE - VI

CHAPTER – 1

EARTH AS A PLANET

Contents	Learning Outcomes
<ol style="list-style-type: none">1. The Universe2. The Solar System and the Earth3. Shape and Size of the Earth4. Earth's Movement (Rotation and Revolution): Days and Nights, Seasons5. Eclipses (Solar and Lunar)6. Continents and Oceans	<p>Students will be able to:</p> <ul style="list-style-type: none">• Describe the Universe and its components.• Recognize the Sun as a Star and source of energy for planets.• List other members of the Solar System and describe their movements.• Describe the Shape and Size of Earth.• Explain the Rotation of Earth on its axis, formation of days and nights and changing length of days and nights during the year.• Explain the Revolution of Earth and how Seasons change.• Describe the Seasonal Variation in the two Hemispheres (Southern and Northern) at a time.• Describe the phenomena of Solar and Lunar Eclipses.• Draw diagrams of Solar Eclipse and Lunar Eclipse.• Label the Continents and Oceans on the given World Map.• Describe the Continents and Oceans.

Contents	Learning Outcomes
<ol style="list-style-type: none"> 1. Introduction 2. Components of a Map: <ul style="list-style-type: none"> • Directions; types of North • Scale; Types, measuring distances • Longitude and Latitude, Time Zones, International Date Line • Symbols 3. Location on a Map 4. Methods of showing Relief 5. Uses of Maps 	<p>Students will be able to:</p> <ul style="list-style-type: none"> • Recognize Globe as a Model of Earth. • Define a Map and state its importance. • Identify the Cardinal Points on a given Map and different types of North. • Identify directions with reference to a specific location on a Map. • Explain the concept of Scale and its types. • Measure the distance between two points on a Map using a Map scale. • Define Latitudes and Longitudes. • Identify important Longitudes and Latitudes. • Find the Location of a place on a Map using Latitudes and Longitudes. • Calculate the Time difference between two places with the help of Longitudes. • Recognize different types of Map Symbols on a Map. • List the Symbols. • Identify the Physical and Human features on a Map with the help of Conventional Signs. • Describe the utility of a Map and Atlas in everyday life.

Contents	Learning Outcomes
<p>1. Introduction</p> <p>2. Natural Spheres of the Earth</p> <ul style="list-style-type: none"> • Atmosphere • Lithosphere • Hydrosphere • Biosphere <p>3. Human-Environment Relationship</p> <ul style="list-style-type: none"> • Climate and Human Beings • Physical Landscape and Human Beings • Water and Human Beings • Forests and Human Beings • The Living World and Human Beings 	<p>Students will be able to:</p> <ul style="list-style-type: none"> • List the conditions that make Earth a habitable planet. • Describe various Spheres of the Natural Environment and their role in sustaining life on Earth. • Describe the factors that shape the pattern of Human-Environment Interaction with reference to: <ul style="list-style-type: none"> • Climate • Physical Landscape • Water • Forests • Living world

Contents	Learning Outcomes
<p>1. Igneous Rocks</p> <ul style="list-style-type: none"> • Intrusive • Extrusive <p>2. Sedimentary Rocks</p> <ul style="list-style-type: none"> • Mechanically formed • Chemically formed • Organically formed <p>3. Metamorphic Rocks</p>	<p>Students will be able to:</p> <ul style="list-style-type: none"> • Define Rocks, Elements and Minerals. • Describe various types of Rocks according to their Mode of Formation. • Describe Igneous Rocks and their types. • Describe Sedimentary Rocks and their types. • Differentiate between Mechanically, Chemically and Organically formed Rocks. • Describe Metamorphic Rocks and their types. • List the important characteristics of various Rock groups. • Identify Rocks in their local areas.

Contents	Learning Outcomes
<ol style="list-style-type: none">1. Introduction2. Mountains3. Plateaus4. Plains5. Major Features of the World, including main Rivers	<p>Students will be able to:</p> <ul style="list-style-type: none">• Differentiate between Mountains, Plateaus and Plains.• Describe types of Mountains according to their Mode of Formation.• Describe types of Plateaus according to their Mode of Formation.• Describe types of Plains according to their Mode of Formation.• Identify Major Land Features on a Map of the World.• List and locate main Rivers of the World on a Map.

Contents	Learning Outcomes
<ol style="list-style-type: none">1. Mountains2. Plateaus3. Plains4. Deserts5. Coastal Areas	<p>Students will be able to:</p> <ul style="list-style-type: none">• Describe the following Landscape Features of Pakistan.<ul style="list-style-type: none">○ Mountains○ Plateaus○ Plains• Locate the major Mountain Ranges of Pakistan on a Map.• Locate Plateaus of Pakistan on a Map.• Locate Plains of Pakistan on a Map.• Locate Rivers of Pakistan on a Map.• Describe the main characteristics of Deserts and Coastal Areas of Pakistan.

Contents	Learning Outcomes
<ol style="list-style-type: none"> 1. Distribution and Density 2. Structure 3. Growth 4. Movement 5. Population Growth and Environmental stress 6. Population of Pakistan: <ul style="list-style-type: none"> • Distribution • Density • Structure • Growth • Rural Urban composition • Internal Migration 	<p>Students will be able to:</p> <ul style="list-style-type: none"> • Locate clusters of World Population on a Map. • Explain the high, moderate and low-density Population Areas of the World. • Explain the factors leading to uneven distribution of population. • Describe the Age and Sex Structure of Developed Countries (DC) and Less Developed Countries (LDC). • Explain the Growth of Population in LDC's / DC's. • Describe why people move and where they move. • Define factors of Migration and Urban/Rural Migration. • Describe problems of High Population Growth and its impact on Environment. • Identify the Population Concentration Areas of Pakistan. • Describe the problems caused by High Growth Rate of Population in Pakistan. • Explain the Population Density of Pakistan on a Map. • Describe the Age-Sex Structure of Pakistan. • Explain the Growth of Population in Pakistan.

Contents	Learning Outcomes
<ol style="list-style-type: none"> 1. Introduction 2. Location and Site of the Settlement 3. Urban, Rural Settlement 4. Settlement Hierarchy 5. Urban Function 6. Important Cities (Karachi, Mumbai, Shanghai, Tokyo, New York, London, Makkah) 7. Problems of Large Cities 	<p>Students will be able to:</p> <ul style="list-style-type: none"> • Define Human Settlement and Dwellings. • Discuss the Location and Site of Settlement. • Describe Rural Settlement and Village Forms. • Sketch out the towns of Early Civilizations and their Location and Site on the Map. • Describe the concept of Settlement Hierarchy (Hamlet to Mega-city). • Explain Urban Functions: (Manufacturing, Business, Religion, Education Services etc.). • Describe the problems of large cities and their solutions. • Locate important cities on the World Map.

Grade VII

GRADE - VII

CHAPTER – 1

PHYSICAL STATE OF THE EARTH

Contents	Learning Outcomes
<ol style="list-style-type: none">1. Internal structure of Earth2. Plate Tectonics3. Earthquakes and Tsunamis4. Volcanism	<p>Students will be able to:</p> <ul style="list-style-type: none">• Describe different Layers and Composition of Earth's interior.• Describe the basic concept of Plate Tectonics.• Locate the seven major Tectonic Plates on a Map.• Discuss Faults and their types.• Describe the major Plate Faults in Pakistan and locate them on a Map.• Describe the causes of Earthquakes, their effects and distribution.• List the great Earthquakes of the World and Pakistan.• List Instruments and Scales used to measure Earthquakes.• Explain Volcanism.• Enumerate types and categories of Volcanoes and their distribution.

Contents	Learning Outcomes
<ol style="list-style-type: none"> 1. Weathering 2. Erosion 3. Mass Wasting 	<p>Students will be able to:</p> <ul style="list-style-type: none"> • Define Denudation and its types. • Describe the causes of Rock- breakup. • Distinguish between types of Weathering. • Define Erosion and its causes. • Identify Erosion in local areas. • Define Mass Wasting. • Describe the conditions in which Mass Wasting takes place. • Differentiate between Weathering, Erosion and Mass Wasting. • Describe the impact of Erosion and Mass Wasting on Agriculture, Irrigation, Human Settlement and Transportation Networks. • Recommend measures that can be taken to minimize the impact of Erosion and Mass Wasting.

Contents	Learning Outcomes
<ol style="list-style-type: none"> 1. Composition 2. Structure 3. Weather and Climate 4. Climate Change 5. Ozone Depletion 	<p>Students will be able to:</p> <ul style="list-style-type: none"> • Describe the Atmosphere of the Earth. • Describe the Composition of the Atmosphere. • Discuss the significance of important gases for life on Earth. • Describe the Layered Structure of the Atmosphere. • Identify the basic characteristics of each Layer of the Atmosphere. • Differentiate between Weather and Climate. • Describe the climatic change over the Earth's surface. • Explain the significance of Ozone as a shield layer. • Discuss the causes and implications of Ozone Depletion. • List measures that can be taken to overcome the problem of Ozone Depletion.

Contents	Learning Outcomes
<ol style="list-style-type: none">1. Temperature and its measurement2. Insolation3. Vertical and Horizontal distribution of temperature4. Isotherms	<p>Students will be able to:</p> <ul style="list-style-type: none">• Define Atmospheric Temperature.• Describe Scales and Instruments used in measurement of Temperature.• Explain how Earth and the Atmosphere are heated.• Discuss vertical variations in Temperature.• Describe the phenomenon of Inversion of Temperature.• Describe the Horizontal Distribution of Temperature and the factors influencing it.• Define Isotherms and state how they vary over land and water.

Contents	Learning Outcomes
<ol style="list-style-type: none"> 1. Pressure and its measurement 2. Isobars 3. Global Distribution of Air Pressure 4. Planetary Wind System: <ul style="list-style-type: none"> • Permanent • Seasonal • Local 5. Cyclones <ul style="list-style-type: none"> • Tropical • Temperate • Tornadoes 	<p>Students will be able to:</p> <ul style="list-style-type: none"> • Explain Air Pressure. • Describe how Air Pressure decreases with increasing height. • Describe the relationship between Temperature and Air Pressure. • Discuss Air Pressure Belts on the Globe. • Explain the circulation of Winds (Permanent, Seasonal and Local winds). • Describe Cyclones, their types, movement and distribution.

CHAPTER – 6 ATMOSPHERIC HUMIDITY AND PRECIPITATION

Contents	Learning Outcomes
<ol style="list-style-type: none">1. Humidity in the Atmosphere2. Condensation and related Phenomena, Isohyets3. Types of Precipitation (rainfall, snowfall, sleet, hailstone)4. Precipitation producing conditions	<p>Students will be able to:</p> <ul style="list-style-type: none">• Explain Atmospheric Humidity.• Describe the phenomenon of Condensation.• Sketch various types of clouds.• Explain Precipitation and types of Precipitation.• Describe the conditions of Precipitation.• Discuss Precipitation as the source of fresh water and its importance for life over the planet.

Contents	Learning Outcomes
<ol style="list-style-type: none"> 1. Types of Farming 2. Agriculture in Pakistan 3. Irrigation system of Pakistan 4. Problems of Agriculture in Pakistan 	<p>Students will be able to:</p> <ul style="list-style-type: none"> • Discuss the importance of Agriculture as an economic activity. • Describe major types of Farming <ul style="list-style-type: none"> ○ Subsistence Agriculture ○ Intensive Agriculture ○ Extensive Agriculture ○ Commercial Agriculture ○ Plantation ○ Truck Farming ○ Mixed Farming ○ Cereal Crops • Describe salient features of irrigated and rain-shed Agriculture in Pakistan and Farming practices in mountainous areas. • Describe the distribution of Major Crops in Pakistan and the factors of their distribution. • Analyze major Agricultural problems of Pakistan. • Describe the Irrigation System of Pakistan and problems associated with Canal Irrigation.

Contents	Learning Outcomes
<ol style="list-style-type: none">1. Mining as an Extractive Industry2. Conditions for Mining3. Types of Mining4. Important Minerals and Power Resources of Pakistan	<p>Students will be able to:</p> <ul style="list-style-type: none">• Describe the salient features of Mining as an Extractive Industry.• List important conditions for Mining.• Discuss the role of Minerals and Power Resources in the economy of a country.• Describe types of Mining.• Discuss the distribution of major Minerals in Pakistan.• Describe the Power Resources of Pakistan.

Contents	Learning Outcomes
<ol style="list-style-type: none"> 1. Locational Factors 2. Types of Industry 3. Major industries of Pakistan (Textile, Sugar, Cement, Automobile) 4. Cottage Industry of Pakistan 	<p>Students will be able to:</p> <ul style="list-style-type: none"> • Discuss the factors that affect the Location of Industry at a place. • Enumerate different types of Industries. • Describe Textile, Sugar, Cement, and Automobile Industries of Pakistan with reference to their importance, locational factors, distribution and major problems. • Describe the Cottage Industry. • Enquire about the Cottage Industry of Pakistan.

Contents	Learning Outcomes
<ol style="list-style-type: none">1. Types of Trade2. Factors affecting Trade3. Major Imports and Exports of Pakistan	<p>Students will be able to:</p> <ul style="list-style-type: none">• Enlist and discuss different types of Trade.• Analyze major factors that affect International Trade.• Identify International Trade Partners of Pakistan with reference to its major items of Exports and Imports.

Contents	Learning Outcomes
<p>1. Means of Transportation</p> <p>2. Transport Networks of Pakistan</p>	<p>Students will be able to:</p> <ul style="list-style-type: none">• Discuss modes of Transportation (Rail, Road, Water and Air) and their characteristics.• Describe Road, Railway, Air and Water Transport Networks of Pakistan.• Discuss the importance of Transportation Network (Social, Economic, Geographical).

Grade VIII

GRADE - VIII

CHAPTER – 1 MAPS AND DIAGRAMS

Contents	Learning Outcomes
<p>1. Maps</p> <ul style="list-style-type: none">• Dot Method• Choropleth Method <p>2. Diagrams</p> <ul style="list-style-type: none">• Line Graph• Bar Graph• Pie Graph	<p>Students will be able to:</p> <ul style="list-style-type: none">• Discuss Distribution Maps.• Explain techniques to draw different diagrams.• Discuss the use of Statistical Data for diagrams.• Construct Line Graph, Bar Graph and Pie Graph using Statistical Data.• Evaluate merits and demerits of the diagrams.

Contents	Learning Outcomes
<ol style="list-style-type: none"> 1. Landforms made by Rivers: <ul style="list-style-type: none"> • Work of Rivers (Erosion, Transportation and Deposition) • Mountain stage • Plain stage • Delta Stage 2. Landforms made by Glaciers <ul style="list-style-type: none"> • Types (Valley, Continental) • Erosional Landforms • Depositional Landforms 3. Landforms made by Winds <ul style="list-style-type: none"> • Erosion • Deposition 4. Landforms made by Waves <ul style="list-style-type: none"> • Erosion • Deposition 	<p>Students will be able to:</p> <ul style="list-style-type: none"> • Describe functions performed by different agencies responsible for Micro-relief features. • Describe the work of Rivers and Landforms made by Rivers. • Describe Glacier and its types. • Differentiate between the Landforms made by Continental and Alpine Glaciers. • Recognize Wind as an agent of Landform change in the Desert Climate. • Describe the features made by Wind. • Identify the Waves as an agent of Landform Change over the Coastal Area. • Recognize features formed by any of these agencies with special reference to Pakistan.

Contents	Learning Outcomes
<ol style="list-style-type: none"> 1. Oceans and Seas 2. Relief of Ocean floor 3. Movement of Ocean water <ul style="list-style-type: none"> • Waves • Currents • Tides 	<p>Students will be able to:</p> <ul style="list-style-type: none"> • Describe the main characteristics of major Oceans and Seas. • Define the following Features: <ul style="list-style-type: none"> ○ Sea ○ Gulf ○ Bay ○ Bight ○ Channel/Strait ○ Peninsula ○ Island ○ Isthmus • Describe the configuration of Ocean floor. • Describe the nature and causes of various Oceanic movements. • Differentiate between Waves, Currents and Tides.

Contents	Learning Outcomes
<ol style="list-style-type: none"> 1. Volcanism 2. Land slides 3. Desertification 4. Floods 5. Cyclones 6. Earthquakes 7. Forest Fires 	<p>Students will be able to:</p> <ul style="list-style-type: none"> • Discuss the natural phenomena that cause Disasters for mankind. • Analyze the impact of various Natural Disasters with special reference to Pakistan. • Examine the usual management practices Including Forecast, Monitoring and Mitigation. • Discuss main considerations in constructing buildings in Earthquake prone areas. • List the safety measures that can be taken in case of Earthquakes, Floods, Cyclones, Volcanism and Forest Fire. • Discuss the measures that can be taken to avoid desertification.

Contents	Learning Outcomes
<p>1. Pollution</p> <ul style="list-style-type: none">• Air Pollution• Water Pollution• Soil Pollution• Noise Pollution <p>2. Global Warming</p>	<p>Students will be able to:</p> <ul style="list-style-type: none">• Define an Environmental Problem.• Identify the causes for various Environmental Problems.• Describe the impact of various Environmental Pollutants on life.• Describe the nature and causes of Global Warming and evaluate its impact on life.• Describe the Greenhouse Effect.• Recommend solutions to avoid Environmental Pollution.

Contents	Learning Outcomes
<ol style="list-style-type: none"> 1. Concept of a Region 2. Major Regions <ul style="list-style-type: none"> • Tropical • Temperate • Cold 3. Important Natural Regions <ul style="list-style-type: none"> • Rainforest • Monsoon Region • Mediterranean Region • Steppe • Tundra Region • Desert 	<p>Students will be able to:</p> <ul style="list-style-type: none"> • Identify a Region as a Spatial Entity. • Identify the Major Regions of the World in terms of Climate. • Describe selected Natural Regions in terms of Climatic Controls and their impact on human activities. • Describe the importance of selected Natural Regions in terms of Climate and Human Activities. • Name some countries from each Natural Region.

Contents	Learning Outcomes
<ol style="list-style-type: none">1. Seasons2. Climatic Regions of Pakistan3. Impact of Climate on Life	<p>Students will be able to:</p> <ul style="list-style-type: none">• Describe the nature and extent of Seasonal and Regional Diversity.• Describe the Seasons and their salient features.• Identify the Climatic Regions of Pakistan and their major characteristics.• Relate Climatic Conditions with Vegetation and Human Activities.

Contents	Learning Outcomes
<ol style="list-style-type: none">1. South Asia2. Middle-East3. Central Asia4. China	<p>Students will be able to:</p> <ul style="list-style-type: none">• Name the countries of each region, locate them on a Map and draw the sketch of each region.• Describe the economic characteristics of each region.• Examine the relationship between Pakistan and its neighboring regions.• Discuss Geographic Setting and Strategic Importance of Pakistan and its Neighboring Regions.

Contents	Learning Outcomes
<ol style="list-style-type: none"> 1. Introduction to Developed and Underdeveloped Areas 2. Economic Problems 3. Social Problems 4. Political problems 	<p>Students will be able to:</p> <ul style="list-style-type: none"> • Differentiate between Development and Underdevelopment. • Explain and compare Developed and Underdeveloped Areas of the World. • Identify the Geographic features that promote development. • Discuss economic, social and political problems of Underdeveloped Areas. • Discuss the reasons of Underdevelopment of Pakistan. • Locate Developed and Underdeveloped Areas on the World Map.

CHAPTER – 10 INTRODUCTION TO MODERN TECHNIQUES IN GEOGRAPHY

Contents	Learning Outcomes
<ol style="list-style-type: none">1. Remote Sensing2. Geographical Information System (GIS)3. Global Positioning System (GPS)4. Computer-based Models	<p>Students will be able to:</p> <ul style="list-style-type: none">• Describe the main features of the Modern Techniques in Geography.• Learn about Satellites, Satellite Imageries and Aerial Photographs.• Discuss the use of Computer in Geography.• Explain the usefulness of Modern Tools in Geography.• Describe the scope of these Modern Tools.

TEACHING STRATEGIES

Teaching of Geography should focus on meaningful learning, understanding and application of Geographical concepts rather than mere memorization of Geographical facts. In order to make the teaching of Geography effective teachers should ensure that through the study of Geography students are able to interpret Geographical information from maps, tables, graphs and texts to recognize patterns and solve problems at local and international level. Teachers need to integrate concepts from areas of sciences and social sciences to enable students to understand and deal with current issues, and use the knowledge of Geography to appreciate our world and be better citizens contributing effectively to conservation of natural resources. Students should be able to examine the relationship between people and their environment and the impact human activity has on the natural environment.

Teachers need to ensure that whatever students learn prepares them not only to do well in examinations, but to successfully face the challenges of a global society, and develop their social consciousness to the extent that they become the agents of social change. In order to achieve this objective teachers need to adopt innovative instructional strategies.

These strategies should intellectually engage the students of varying degrees of interests, abilities and styles of learning, strengthen their power of reasoning and stimulate their active participation through different activities like maps, diagrams and exercises.

There are many reasons for using a variety of instructional strategies. Students' own active intellectual engagement in the learning process increases their retention of their learning. Living in the information age where knowledge is growing exponentially and facts are available at the click of a button students need to learn "how to learn". Many instructional strategies besides facilitating students' academic learning also aid development of a number of skills and values preparing them for the varied roles they will play in today's society. Also, in any class of students there will be a range of interests, abilities and styles of learning. Varying the teaching strategies will address these differences allowing all children to learn.

Lecture

Lectures must be well-planned, problem-oriented and accompanied by the use of appropriate maps, models, diagrams, transparencies, photos, graphics, charts, animations, movies etc. These can also be displayed by an overhead or multimedia projector if possible and wherever available.

Lectures should not be one-sided. In order to make a lecture interactive and keep students engaged, the teacher should from time to time ask questions. The students should also be encouraged to ask questions which may be answered by the teacher or directed to other students inviting them to answer. This strategy is highly effective as

students participate equally, practice social skills, and individually demonstrate what they have learned from their partners.

Discussion

Discussion is yet another important form of group interaction which yields a number of benefits to the students. It increases their knowledge of the topic and provides them with an opportunity to explore a variety of views which in turn help them to examine their assumptions in the light of different perspectives. It also strengthens their communicative skills and familiarizes them with the art of academic discourse. In planning a discussion, the teacher should review the material and choose such a topic which builds upon the contents the students have recently covered and allows them enough room to come up with innovative ideas. It should not be merely a repetition of the facts they have learned from their books or the teacher's lecture.

All students should be given equal opportunity to participate and contribute in the discussion and by putting probing questions, such as "Why do you think so?" and "Can you elaborate further?", etc., they should be encouraged to come up with appropriate answers. All discussions should be summarized briefly and precisely, identifying the questions for further inquiry and discussion.

Cooperative Learning

Cooperative learning is one of the most important strategies in which students work together in small groups or pairs to maximize their own and each others' learning. Improved self-esteem, increased on-task time, increased higher order thinking, better understanding of material, ability to work in collaboration with others and improved attitude towards school and teachers, are some of the more prominent benefits of cooperative learning. Besides, it creates opportunities for students to use and master social skills necessary for living productive and satisfying lives.

Inquiry/Investigation

Inquiry/investigation is a process of framing questions, gathering and analyzing information and drawing conclusions from it. There are a number of steps in conducting an inquiry, for example:

1. The teacher may choose a topic and have students frame inquiry questions(s) based on the topic, for instance; *What is the geo-strategic position of Pakistan?*
2. Students formulate a hypothesis, i.e. provide possible explanation or educated guesses in answer to the question, for instance, *Pakistan is a gateway to Central Asia, South Asia and Middle East.*
3. Students plan the inquiry. For example:

What is the best place to find information on the topic? /What is the best way to gather data?
How to allocate time?
Whom to consult?

4. Help students locate information/gather data. For example:
Read books on Geography of Pakistan and South Asia; search the internet.
(Depending on the availability of facilities)
5. Students record information as they find it.
6. Help students evaluate their findings and draw conclusions. Students may look for relationships in the information gathered, analyze the information and try to find an answer to the query. Teach them to support their opinions with evidence from their data.
7. Have students communicate their findings in creative ways, written, oral and visual. For example, as a poster, article, talk show, role-play, PowerPoint presentation or presentations on charts, maps or even the blackboard.
8. Encourage students to suggest possible action based on findings, if required by the theme. Select actions that are doable. Look at possible consequences of each action. Choose the best action. *E.g. write a letter to the newspaper emphasizing the importance of improved transportation networks to encourage international trade to use Pakistan as the gateway for Central Asia, South Asia and Middle East.*
9. Make an action plan and carry out the action. *E.g. write the letter and send it to the newspaper*
10. Reflect on the success/challenges of the action if required.

To conclude, these strategies besides promoting academic achievements would enable students to explore a range of views on a topic, gather information, answer questions, improve their problem-solving and communicative skills and teach them how to work as a team. It will also increase higher order thinking and improve their attitude towards self-learning and the environment.

ASSESSMENT AND EVALUATION

Assessment is gathering quantitative and qualitative information, using a variety of tools and techniques that are easy to understand and interpret. Assessment should aim at evaluating teaching and learning, showing proficiency in a wide variety of tasks at class level and at providing information to different people on how well standards are being met.

Assessment and its various patterns should be in accordance with the needs of the curriculum and designed in such a manner that they inculcate and improve in students various skills such as observation, curiosity, creativity and application.

Some of the assessment types are as under:

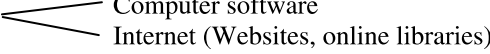
- **The selected response**, where students select the answer to a question from two or more given choices. This category includes multiple choice, true/false, fill in the blanks and matching items type questions.
- **A constructed response** format requires students to create their own answer to a question or task. This allows teachers to gain insight into students' thinking and creative process, and to assess higher order thinking. This category includes short and essay type questions.
- **Teachers' observations** are commonly ignored as a form of assessment. However, teachers should constantly observe and listen to students as they work. Nonverbal communication, such as inattention, looks of frustration and other cues, give greater insight than verbal feedback. Observation is also important in assessing performance tasks, classroom climate and teacher effectiveness.
- **Self-assessment** refers to students evaluating themselves. In *self-evaluation of academic achievement*, students rate their own performance in relation to established standards and criteria. Students may also be asked to answer questions that reveal their attitudes and beliefs about themselves or other students as part of their self-reporting.

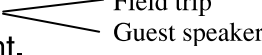
The techniques of testing and evaluation adopted for continuous assessment of students at classroom level should be both valid and reliable and proper care should be taken to prepare the objective type questions so that they can appropriately assess students' knowledge comprehension application, analysis and synthesis skills. There should also be periodic/monthly tests containing both objective and subjective type questions. Class and home assignments should also be given due weightage while assessing students' performance.

GUIDELINES FOR DEVELOPING TEACHING LEARNING RESOURCES

There are a number of teaching and learning materials required for effective teaching of particular subjects. For example:

- Textbooks
- Teachers' guides
- Students workbooks
- Visual aids such as charts, models, maps, transparencies, documentaries and study tours etc.

- Computers 
 - Computer software
 - Internet (Websites, online libraries)

- Community 
 - Field trip
 - Guest speaker
- The environment.

For Geography in particular the following resources/teaching aids can be utilized to effectively support the process of teaching and learning in the classrooms:

- Primary and secondary source material
- Maps/globe (different kinds)
- Charts and models
- case studies
- encyclopedias
- documentaries
- newspapers/newsmagazines
- internet
- Museums

TEXTBOOK

A textbook is an important teaching and learning resource. It is one of the most extensively used resources and serves as a framework for teaching throughout the year.

Basic features of a textbook

- The textbook should conform in all its details to the parameters laid down in the Curriculum.
- It must have accurate, factual and up-to-date material.
- The material must be sufficient to give students the knowledge they need to understand concepts, develop skills and engage in higher order thinking.
- The material should help students understand the world in which they live, prepare for exams, prepare for life, raise their standard and promote independent thinking.

- The language of the narrative should be simple, clear and logical and should not be loaded with unnecessary details and repetitions.
- The material must be error- free so that it can be trusted.
- The material must be unbiased and non-controversial.
- Textbooks should be well illustrated with maps, diagrams, charts, and photographs.
- A number of activities should be recommended in the textbooks.
- A variety of activities should be included throughout the book.
- End-of-the-chapter exercises must encourage students to think, develop skills, and use information for a variety of purposes.
- Textbooks must have an Index.
- Must include a Glossary.
- Must be contextually relevant.

TEACHERS' GUIDE

Teachers' guides provide detailed explanation of key concepts of the curriculum, lay down guidelines on how to teach a particular topic, and provide further examples to facilitate learning. A teacher's guide serves to educate teachers and thus can be seen as a means of helping teachers develop professionally.

Basic features of a teachers' guide:

- A teachers' guide helps teachers teach text and extend activities.
 - It does this by keeping contextual realities in view.
 - It recommends various teaching strategies and contains:
 - rationale for suggested teaching
 - various assessment strategies
 - teaching learning resources
 - additional information sources
 - extended activities and how to conduct them
 - materials that teachers can photocopy, use themselves or for students
- } up-to-date, relevant

A teachers' guide should include introduction to the guide explaining how to use it. It must be easy to understand and use, expand and develop teachers' repertoire of knowledge and skills.

WORKBOOK

Workbooks are books that contain writing activities, maps, blank maps, diagrams and exercises that are related to each chapter in the textbook. Workbook exercises help to develop students' understanding of the concepts dealt with in the text, to develop skills and to apply knowledge to new situations.

Basic features of a workbook:

- Workbooks contain many exercises and activities for each chapter, topic, sub-topic.

- These exercises and activities effectively help develop, practise and assess students' content knowledge, skills and higher order thinking and are different from exercises, activities in text and guide.
- Workbooks correspond to text – exercises and activities for same topic/ chapter grouped together; presuppose knowledge and skills developed in text only.
- They are non-repetitive in style, structure with a purpose to engage students.
- They are easy for students to understand and follow, clear instructions.
- They carry several illustrations/examples/explanations to reinforce concepts of the textbook

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