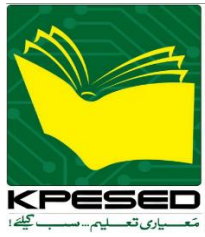




ایک قوم  
ایک نصاب  
ONE NATION, ONE CURRICULUM



# GEOGRAPHY (VI-VIII)

2022

## FOUR PARTS OF A CURRICULUM:



DIRECTORATE OF CURRICULUM & TEACHER EDUCATION  
KHYBER PAKHTUNKHWA ABBOTTABAD

بِسْمِ اللّٰهِ الرَّحْمٰنِ الرَّحِیْمِ

## GEOGRAPHY (VI-VIII)

2022



**DIRECTORATE OF CURRICULUM & TEACHER EDUCATION**  
**KHYBER PAKHTUNKHWA ABBOTTABAD**

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# Single National Curriculum

## Geography 6-8

### 1: INTRODUCTION

Geography is the scientific study of the Earth's surface, physical features, divisions, products, population, etc. It has fundamental importance for everyone. It helps people understand the world they live in and the impact of their interaction with the physical world.

Geography is best studied by observing, describing, and seeking explanations about the physical and human worlds. As students gain knowledge about the world, they can think more intelligently about the challenges and issues (global warming, population growth, food security, water and sanitation, migration, etc.), and hence can imagine new possibilities for the future.

Geography is an important field of study particularly for those who wish to pursue careers in Earth and space sciences, town planning, cartography, surveying, environmental engineering, agriculture, mining, tourism, climatology, social anthropology, Geographical Information Systems (GIS), Global Positioning System (GPS), etc.

### 2: VISION AND MISSION

The aim of geography education is to inspire curiosity and fascination in students about the world. The Single National Curriculum for Geography is designed to offer experiential learning to students with the following objectives:

- to investigate about Earth's processes and patterns
- to gather, organize, and interpret data using multiple sources of information e.g. maps/Google maps, satellite images, photographs, diagrams, graphs, GPS, GIS, newspaper articles, and field trips.
- to investigate the patterns of weather, climate, and climatic regions of the world.
- to investigate the reasons and impact of environmental damage, e.g. deforestation, greenhouse effect, depletion of ozone layer, global warming, and climate change.
- to study patterns of distribution, consumption, and conservation of resources, keeping in view Sustainable Development Goals (SDGs).
- to investigate about changing landforms due to human activities.
- to gather, organize, and interpret data about geographical features, climate, resources, beliefs, technological developments, human needs, economic activities, infrastructure, culture, and transport, etc. in diverse settlements around the world.
- to evaluate that advancements in scientific education, research, and technology influence the economic progress of a country.

### 3: RATIONALE BEHIND CHANGES

1. The SNC of Geography for grades 6-8 comprised of three sections:
  - a. Physical geography
  - b. Human geography
  - c. Geographical skills and Quantitative techniques

As research has proved that integration of theory and practice enhances learning, therefore, geographical skills and quantitative techniques (the third section) has been embedded with the topics at hand in the revised curriculum of Geography for grades 6-8.

Hence, the revised curriculum is now divided into three main domains of Geography:

- a. Physical geography
  - b. Human geography
  - c. Environmental geography
2. Human geography section is not limited to the study of selected countries (as in the curriculum) but allows students to explore many countries located in diverse climatic/physical regions to provide a holistic world view.
  3. The administrative regions of Pakistan are not split into different grades in the revised curriculum but are taught in a holistic manner in each grade from different perspectives.
  4. The following themes of international significance have been included in the revised curriculum:
    - a. depletion of fossil fuels
    - b. importance of alternate renewable sources of energy
    - c. climate change
    - d. international trade routes of transportation including CPEC (China-Pakistan-Economic Corridor)

## SNC - GEOGRAPHY (6-8)

### Progression Grid

Geography for Grades 6-8 has been organized in the following domains:

- A. Physical Geography**
- B. Human Geography**
- C. Environmental Geography**

SLOs in the Progression Grid have topics mentioned in brackets. These are important to follow to achieve the SLOs. However, not each item mentioned in brackets is mandatory for a textbook to be SNC compliant. Detailed guidelines on content for Textbook authors are given in the Curriculum Template in the Knowledge and Skills sections.

#### Domain A: Physical Geography

Grade 6	Grade 7	Grade 8
<p><u>Earth Processes &amp; Patterns</u></p> <p><b>Benchmark 1:</b> <i>Students will be able to investigate Earth's processes and patterns.</i></p> <p><b>Benchmark 2:</b> <i>Students will be able to analyze the formation of landscapes.</i></p> <p><b>Benchmark 3:</b> <i>Students will be able to gather, organize and interpret data about Earth's natural processes and patterns using multiple sources of information e.g. Google Maps, satellite images, photographs, diagrams, GPS, GIS, newspaper articles, thematic maps, and field trips.</i></p> <p><b>Benchmark 4:</b> <i>Students will be able to compare the various geographical features of the world.</i></p> <p><b>Benchmark 5:</b> <i>Students will be able to analyze the causes and impact of natural disasters.</i></p>		
[SLO: G-06-A-01] Describe Earth's processes & patterns and how landscapes have		[SLO: G-08-A-01] Construct arguments and provide evidence for their understanding of

<p>changed over time (structure and formation of the earth).</p> <p>[SLO: G-06-A-02] Use map conventions in different types of maps to gather information about landforms, relief, and resources.</p> <p>[SLO: G-06-A-03] Use coordinates to read 6 figure grid references to locate places on a map.</p> <p>[SLO: G-06-A-04] Gather information using maps and globes to inquire about geographical changes of a selected region or a landform.</p>	<p>[SLO: G-07-A-01] Inquire about Earth's processes &amp; patterns and how landscapes have changed over time (weather &amp; climate, natural vegetation).</p> <p>[SLO: G-07-A-02] Use map conventions to understand time zones and datelines.</p> <p>[SLO: G-07-A-03] Gather information using maps, globes, photographs, aerial photographs, satellite images and graphs to inquire about geographical changes of a selected region or a landform.</p>	<p>Earth's processes &amp; patterns and how landscapes are changing constantly (earthquakes, river systems, water cycle, rock cycle, mineral resources).</p> <p>[SLO: G-08-A-02] Interpret required information using maps, globes, photographs, aerial photographs, satellite images, and graphs to inquire about geographical changes of a selected region or a landform.</p> <p>[SLO: G-08-A-03] Investigate geographical, climatic, political, cultural, and economic aspects of places using geographic representations and geospatial technologies.</p>
<b>Grade 6</b>	<b>Grade 7</b>	<b>Grade 8</b>
<p><u>Weather &amp; Climate</u></p> <p><b>Benchmark 1:</b> <i>Students will be able to investigate the patterns of weather and climate in different parts of the world.</i></p> <p><b>Benchmark 2:</b> <i>Students will be able to compare the different climatic zones of the world.</i></p> <p><b>Benchmark 3:</b> <i>Students will be able to investigate the reasons and impact of deforestation, greenhouse effect, depletion of the Ozone layer, global warming, and climate change.</i></p>		
<p>[SLO: G-06-A-05] Recall the differences between weather and climate.</p>	<p>[SLO: G-07-A-04] Investigate how and why our climate is changing (excessive agriculture).</p>	<p>[SLO: G-08-A-04] Investigate how and why our climate is changing (soil erosion).</p>

<p>[SLO: G-06-A-06] Study some of the elements of weather.</p> <p>[SLO: G-06-A-07] Study the distribution of climate in the world.</p> <p>[SLO: G-06-A-08] Investigate how climate is important for different vegetation.</p> <p>[SLO: G-06-A-09] Investigate how and why our climate is changing (deforestation).</p>		<p>Examine how weather and climate affect the processes of the Earth.</p>
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## Domain B: Human Geography

Grade 6	Grade 7	Grade 8
<p><u>Natural, Capital, and Human Resources</u></p> <p><b>Benchmark 1:</b> <i>Students will be able to gather, organize, and interpret data about the economic activities related to natural (forests, water, minerals, fossil fuels, and renewable energy), capital, and human resources.</i></p> <p><b>Benchmark 2:</b> <i>Students will be able to compare patterns of distribution and consumption of resources of some selected geographical regions of the world.</i></p>		
<p>[SLO: G-06-B-01] Recall economic activities related to natural, capital, and human resources (forestry, education, and industrialization).</p> <p>[SLO: G-06-B-02] Explore the ways in which forests of the world and forests of Pakistan contribute to the economy of the region they belong to.</p>	<p>[SLO: G-07-B-01] Describe economic activities related to natural, capital, and human resources (agriculture, land supply, and population).</p> <p>[SLO: G-07-B-02] Suggest ways to utilize resources and conserve them.</p>	<p>[SLO: G-08-B-01] Investigate economic activities related to natural, capital, and human resources (fishery, mineral &amp; energy).</p> <p>[SLO: G-08-B-02] Find ways to utilize and conserve resources.</p>
Grade 6	Grade 7	Grade 8
<p><u>Human Activities and Changing Landforms</u></p> <p><b>Benchmark 1:</b> <i>Students will be able to investigate how landforms are changing due to human activities.</i></p> <p><b>Benchmark 2:</b> <i>Students will be able to analyze the impact of excess land use.</i></p>		
<p>[SLO: G-06-B-03] Inquire why landforms are changing due to human activity (Agriculture).</p> <p><i>(Note: This varies according to provinces)</i></p>	<p>[SLO: G-07-B-03] Inquire why landforms are changing due to human activity (high population, scarcity of livable land).</p>	<p>[SLO: G-08-B-03] Express opinions on why landforms are changing due to human activity.</p>

	<p>[SLO: G-07-B-04] Describe the effects of excess land use (causes and effects of population increase, excessive agriculture, and excessive urbanization).</p> <p><i>(Note: This varies according to provinces)</i></p>	<p>[SLO: G-08-B-04] Describe the effects of excess land use.</p> <p><i>(Note: This varies according to provinces)</i></p>
<b>Grade 6</b>	<b>Grade 7</b>	<b>Grade 8</b>
<p><u>Settlements</u></p> <p><b>Benchmark 1:</b> <i>Students will be able to analyze reasons for selecting a place to develop settlements.</i></p> <p><b>Benchmark 2:</b> <i>Students will be able to gather, organize, and interpret data about economic activities, infrastructure, jobs, and transport in various types of settlements in the world.</i></p>		
<p>[SLO: G-06-B-04] Study reasons for selecting a place to develop settlements (economic activity, jobs &amp; transport).</p> <p>[SLO: G-06-B-05] Compare settlements to understand adaptation according to human needs.</p> <p>[SLO: G-06-B-06] Use a range of multiple sources such as conventional maps, Google Maps, satellite images, photographs, diagrams, GPS, GIS, newspaper articles, thematic maps, and field trips to derive information of physical, human and</p>	<p>[SLO: G-07-B-05] Study reasons for selecting a place to develop settlements (economic activity, jobs &amp; transport).</p> <p>[SLO: G-07-B-06] Compare urban and rural infrastructure to understand adaptation according to human needs.</p> <p>[SLO: G-07-B-07] Use a range of multiple sources as conventional maps, Google Maps, satellite images, photographs, diagrams, GPS, GIS, newspaper articles, thematic maps, and field trips to derive information of</p>	<p>[SLO: G-08-B-05] Study reasons for selecting a place to develop settlements (economic activity, jobs &amp; transport).</p> <p>[SLO: G-08-B-06] Study a selected infrastructure to understand adaptation according to human needs (CPEC).</p> <p>[SLO: G-08-B-07] Use a range of multiple sources such as conventional maps, Google Maps, satellite images, photographs, diagrams, GPS, GIS, newspaper articles, geographical journals, thematic maps, and field trips to derive information on the physical, human and</p>

environmental geography of Pakistan and of the world to reach and support conclusions.	the physical, human, and environmental geography of Pakistan and of the world to develop and support conclusions.	environmental geography of Pakistan and of the world to reach and support personal conclusions and critique with credibility.
<b>Grade 6</b>	<b>Grade 7</b>	<b>Grade 8</b>
<u>Responsible Use of Resources</u> <b>Benchmark 1:</b> <i>Students will be able to suggest ways of utilization and conservation of resources keeping in view Sustainable Development Goals.</i> <b>Benchmark 2:</b> <i>Students will be able to analyze the interdependence of resources within a global economy.</i>		
[SLO: G-06-B-07] Analyze how the scarcity of resources compels people to use resources wisely.  [SLO: G-06-B-08] Analyze the interdependence of resources within the global economy.	[SLO: G-07-B-08] Analyze how the scarcity of resources compels people to wisely use and modify resources.  [SLO: G-07-B-09] Describe the basic role of global economic systems and interdependence within the global economy.	[SLO: G-08-B-08] Demonstrate efficient use of resources in scarcity.  [SLO: G-08-B-09] Analyze basics of global economic systems and interdependence of resources in a selected region.
<b>Grade 6</b>	<b>Grade 7</b>	<b>Grade 8</b>
<u>Cultures of the Settlements</u> <b>Benchmark 1:</b> <i>Students will be able to compare the cultures/lifestyles of people living in different types of settlements in terms of geographical features, resources, beliefs, climate, technological development, and human needs.</i> <b>Benchmark 2:</b> <i>Students will be able to develop a deep sense of empathy for diverse groups in different settlements.</i> <b>Benchmark 3:</b> <i>Students will be able to evaluate that the social and economic development of settlements are interrelated.</i>		

<p>[SLO: G-06-B-09] Discover differences in lifestyles of two different settlements to appreciate and respect diversity.</p>	<p>[SLO: G-07-B-10] Study reasons for selecting a place to develop settlements (socio-economic status &amp; lifestyle of people in the city).</p> <p>[SLO: G-07-B-11] Develop a sense of respect for diversity and empathy to tolerate differences in near and far settlements.</p>	<p>[SLO: G-08-B-10] Develop a deep sense of empathy for the diverse groups in different settlements.</p> <p>[SLO: G-08-B-11] Discover differences in lifestyles of a selected region to understand that cultures are determined according to place, resources, beliefs, climate, technological development, and human needs.</p>
<p><b>Grade 6</b></p>	<p><b>Grade 7</b></p>	<p><b>Grade 8</b></p>
<p><u>Role of Science and Technology in Economy</u></p> <p><b>Benchmark I:</b> <i>Students will be able to understand and evaluate that advancements in scientific education, research, and technology influence the economic progress of a country.</i></p>		
<p>[SLO: G-06-B-10] Explain that advancements in science and technology influence the economic progress of a region.</p>	<p>[SLO: G-07-B-12] Explain that the economic progress of a region relies upon the specialization of resources through education, scientific research, and technology.</p>	<p>[SLO: G-08-B-12] Evaluate how the economic progress of a region relies upon the specialization of resources through education, scientific research, and technology.</p>

## Domain C: Environmental Geography

Grade 6	Grade 7	Grade 8
<u>Environmental Changes</u> <b>Benchmark I:</b> <i>Students will be able to investigate the causes and effects of natural and human activities on the physical environment.</i>		
<p>[SLO: G-06-C-01] Inquire about the relationship between physical &amp; human geography.</p> <p>[SLO: G-06-C-02] Describe the effects of the physical environment on humans (adaptation &amp; lifestyle).</p> <p>[SLO: G-06-C-03] Describe the effects of human activities on the physical environment (urbanization, industrialization).</p>	<p>[SLO: G-07-C-01] Inquire why landforms are changing due to the natural processes of the earth (causes and consequences).</p> <p>[SLO: G-07-C-02] Inquire why landforms are changing due to human activity (causes and consequences of pollution).</p>	<p>[SLO: G-08-C-01] Inquire about the impact of overusing natural and other resources on the environment.</p> <p>[SLO: G-08-C-02] Describe how places are interdependent on each other and how human activity in one place affects the other (deforestation, pollution &amp; climate change).</p>
Grade 6	Grade 7	Grade 8
<u>Managing &amp; Changing Environment</u> <b>Benchmark 1:</b> <i>Students will be able to suggest ways to improve the quality of their own and the global environment.</i>		
<p>[SLO: G-06-C-04] Find ways to improve the quality of their own and global environment (deforestation, global warming).</p>	<p>[SLO: G-07-C-03] Find ways to improve the quality of their own and global environment (deforestation, global warming).</p>	<p>[SLO: G-08-C-03] Reflect on their role to improve the quality of their own and global environment (managing land and water resources).</p>
Grade 6	Grade 7	Grade 8

Patterns of Global Economic Interactions

**Benchmark 1:** *Students will be able to identify the basic roles of global economic institutions e.g. World Bank and International Monetary Fund.*

**Benchmark 2:** *Students will be able to understand that exports of finished goods generate revenue for a country.*

[SLO: G-06-C-05] Discuss that exports generate revenue for a country which is necessary for a country to operate and progress.

[SLO: G-07-C-04] Explain that high revenues can be generated by exporting finished goods as per current demand.

[SLO: G-07-C-05] Recognize the basic role of global economic institutions (World Bank & IMF).

[SLO: G-08-C-04] Analyze that high revenues can be generated by exporting finished goods through technological advancements, marketing trends, and professional ethics.

[SLO: G-08-C-05] Describe the basic role of global economic institutions (World Bank & IMF).

## SNC - Geography Suggested Guidelines - Grade 6

*Additional SLOs are given in italics*

### Unit 1. Structure of Earth and Types of Rocks

**DOMAIN 1: Physical Geography**

**DOMAIN 2: Human Geography**

**DOMAIN 3: Environmental Geography**

<p><b>Student Learning Outcomes:</b></p> <ul style="list-style-type: none"> <li>● Describe Earth's processes and patterns and how landscapes have changed over time.</li> <li>● Use appropriate vocabulary to describe physical, human, and environmental geography and the economy related to them.</li> <li>● Introduce and use a range of multiple sources such as Google Maps, satellite images, photographs, diagrams, GPS, GIS, newspaper articles, thematic maps, and field trips to derive information of the physical, human and environmental geography of Pakistan and of the world to reach and support conclusions.</li> <li>● Gather information using maps and the globe to inquire about geographical changes of a selected region or a landform.</li> </ul>	
<p><b>Knowledge:</b> <i>Students will:</i></p> <ul style="list-style-type: none"> <li>● Define Geography</li> <li>● Describe the internal structure of the Earth.</li> <li>● Differentiate between three layers of the Earth.</li> <li>● Explore the theory of plate tectonics.</li> <li>● Identify different types of rocks.</li> <li>● Explore the process of the rock cycle in the formation of rocks.</li> <li>● Discover the uses of rocks.</li> <li>● Identify the most commonly found rocks in Pakistan.</li> </ul>	<p><b>Skills:</b> <i>Students will be able to:</i></p> <ul style="list-style-type: none"> <li>● Use maps, Google Maps, or GIS to understand the structure of Earth and rock formation.</li> <li>● Analyze the importance and uses of rocks.</li> <li>● Gather, organize, and interpret data to conclude the types of rocks found in Pakistan.</li> <li>● Analyze surroundings to identify uses of rocks.</li> </ul> <p>● <i>Identify the variety of marble found in Pakistan</i></p>

- Describe the importance of rocks in the economy of the region.
- Describe the main features of modern techniques in Geography (GIS, GPS, Google Maps etc.).

### **Assessments**

#### **Formative Assessments**

The teacher will ask students to:

- Name the three layers of the Earth.
- Tell what they understand about the theory of Plate Tectonics.
- Give examples of different types of rocks.
- Tell what happens in each stage of the rock cycle.
- Talk about the uses of different types of rocks.

#### **Summative Assessments**

Students will:

- Label the internal structure of the Earth on a given diagram.
- Write at least two features of each of the three layers of the Earth.
- Write the role of Plate Tectonics in the formation of continents.
- List different types of rocks and their importance.
- Draw and label the different stages of the rock cycle in the formation of rocks.
- List at least five types of rocks and their uses found in Pakistan.
- Locate the places where rocks are found on the map of Pakistan.
- Write a paragraph about the economic activities related to rocks.
- Write a report to tell how rocks can contribute to the economy of Pakistan.

#### **Learning Activities**

The teacher will:

- Use diagrams, videos, etc. to describe the internal structure of the Earth.
- Show videos to explain the theory of Plate Tectonics.
- Bring samples or photographs of different types of rocks in class. Ask students to identify the different types and give reasons for their answers.



- Divide the class into groups to collect information about the features of rocks. Students will present their findings to other groups. The teacher can guide how to take notes while one group is presenting.
- Show a video about the Rock Cycle to explain the formation of rocks.
- Organize a field trip to study rocks in the local area. Divide the students into groups. Instruct how to record observations in the form of photographs, videos, sketches, notes, etc. Each group to present its findings in the form of short videos (1-2 minutes).
- Show a geological map of the world and Pakistan in an atlas or online: <https://mrdata.usgs.gov/geology/world/map-us.html>. Instruct students to gather, organize, and interpret data/information.
- Engage students in independent as well as collaborative research and projects related to the importance of rocks for the economic development of a region. The teacher will provide extra reading material, books, or Internet links for research.

## **Unit 2. Mountains, Plateaus and Valleys**

**DOMAIN 1: Physical Geography**

**DOMAIN 2: Human Geography**

**DOMAIN 3: Environmental Geography**

**Student Learning Outcomes:**

- Describe Earth's processes and patterns and how landscapes have changed over time. (formation of mountains)
- Identify similarities and differences between the geographical places of the world. (differences & similarities between mountains & valleys)
- Compare settlements to understand adaptation according to human needs. (people living in mountains and valleys)
- Discover differences of lifestyles of two different settlements to appreciate and respect diversity. (living in mountains & valleys)
- Use appropriate vocabulary to describe physical, human, and environmental geography and the economy related to them.
- Use a range of multiple sources such as Google Maps, satellite images, photographs, diagrams, GPS, GIS, newspaper articles, thematic maps, and field trips to derive information of the physical, human, and environmental geography of Pakistan and of the world to reach and support conclusions.
- Gather information using maps and the globe to inquire about geographical changes of a selected region or a landform.

**Knowledge:**

*Students will:*

- Identify different types of mountains.
- Explain the formation of different types of mountains.
- Discover the major types of mountains in Pakistan.
- Describe the importance of the Himalayas, Karakoram, and Hindu Kush mountains.
- Explain the reasons for frequent earthquakes in Pakistan.
- Differentiate between a plateau and a mountain.
- Differentiate between V-shaped valleys and U-shaped Valleys and their formation.
- Describe rift valley and explore where it is located.
- Identify some major valleys in Pakistan.
- Compare the lifestyles of people living in mountains, plateaus, and valleys.

**Skills:**

*Students will be able to:*

- Use maps, GIS, or Google Maps to identify mountains, plateaus, and valleys of the world.
- Use coordinates to read six figures grid reference to locate a place.
- Gather, organize, and interpret data to analyze the importance of valleys.
- Analyze information about mountains to conclude which types of mountains are common in Pakistan.
- Investigate the importance of major valleys in Pakistan.

- *Explain that mountains in the Himalayas are known to be still growing.*
- *Describe the importance of the Himalayas in the geography of Pakistan.*

## **Assessments**

### **Formative Assessments**

The teacher will ask students to:

- Name at least two types of mountains.
- Tell the difference between the mountains, valleys, and plateaus.
- Name the famous mountains of Pakistan.
- Give reasons for the frequent occurrence of earthquakes in Pakistan.
- Tell the difference between a mountain and a plateau.
- Name at least two types of valleys.

### **Summative Assessments**

Students will:

- Write in their notebooks about the formation of at least two types of mountains.
- Draw and label dome and volcanic mountains. Draw a comparison between both types of mountains.
- Write a report about the mountains of Pakistan. Include information about their geographical location, elevation, weather, lifestyles, etc.
- Draw and label U-shaped and V-shaped valleys. Draw a comparison between both types of valleys.
- Describe how a rift valley is formed. Name some rift valleys in the world.
- Write a paragraph on a famous valley in Pakistan. Include its prominent features, geographical location, weather, lifestyles, etc.

### **Learning Activities**

The teacher will:

- Show photographs or videos of different types of mountains and valleys. Students will identify the respective types of mountains and valleys and give reasons for their answers.

- Organize a field trip to a nearby mountain, valley, or plateau. Divide the students into groups. Instruct how to record observations about the physical features, the lifestyle of people of that area in the form of photographs, videos, sketches, notes, etc. Each group to present its findings in the form of short videos (1-2 minutes).
- Divide the class into groups. They will collect information about mountains, plateaus, and valleys of Pakistan in the form of pictures, videos, reviews from the Internet, etc. They will organize the data to create PowerPoint presentations/charts or travel brochures to attract tourists to Pakistan. Students to present their work in class.
- Instruct students to write a report on the importance of mountains, plateaus, and valleys towards the economic development of Pakistan. Students may choose to write about tourism, mining, the building of dams, etc.
- Show a map of the physical features of Pakistan. Instruct students to locate mountains, plateaus, and valleys and write the name of the province in which these are located.
- Engage students in individual as well as collaborative / group research and projects related to the occurrence of earthquakes in Pakistan. The teacher will provide extra reading material, books, or Internet links for research.

### Unit 3. Climatic Regions of the World

**DOMAIN 1: Physical Geography**

**DOMAIN 2: Human Geography**

**DOMAIN 3: Environmental Geography**

#### **Student Learning Outcomes:**

- Inquire Earth's processes & patterns and how landscapes have changed over time.
- Compare similarities and differences between patterns of distribution and consumption of resources of some selected geographical regions of the world.
- Inquire and describe the interaction between physical and human geography.
- Use appropriate vocabulary to describe physical, human, and environmental geography and the economy related to them.
- Use a range of multiple sources such as Google Maps, satellite images, photographs, diagrams, GPS, GIS, newspaper articles, thematic maps, and field trips to derive information of the physical, human, and environmental geography of Pakistan and of the world to reach and support conclusions.
- Gather information using maps and the globe to inquire about geographical changes of a selected region or a landform.
- Suggest ways to improve the quality of their own and global environment.

#### **Knowledge:**

*Students will:*

- Define weather and climate.
- Describe elements of weather.
- Identify factors that affect the climate of a region.
- Name and describe climatic zones of the world.
- Identify plants that grow in different climatic regions.
- Describe climatic zones of Pakistan.

#### **Skills:**

*Students will be able to:*

- Use physical maps, or Google Maps/ GIS to locate climatic zones of the world and Pakistan.
- Use climate-related vocabulary in context
- Analyze factors that affect the climate of a region.
- Use Venn diagrams to compare features of different climatic zones of the world.
- Make diagrams to show how changing winds cause monsoons.
- Gather facts (monsoon, dust storms, floods, fog) related to the climate of Pakistan.
- Analyze the effect of climatic zones of Pakistan on lifestyle and economy.
- Suggest ways to improve the quality of global weather.

<p><b>Assessments</b></p> <p><b>Formative Assessments</b></p> <p>The teacher will ask students to:</p> <ul style="list-style-type: none"><li>• Name at least three factors that affect the climate of a place.</li><li>• Name the climatic zone of the place where they live.</li><li>• Give at least two features of each of the different climatic zones of the world.</li><li>• Name at least two types of plants that grow in each of the climatic zones of the world.</li><li>• Talk about the climatic zones of Pakistan and give examples of the types of plants that grow here.</li></ul> <p><b>Summative Assessments</b></p> <p>Students will:</p> <ul style="list-style-type: none"><li>• Analyze the factors that affect the climate of a place.</li><li>• Label a given diagram of the climatic zones of the world.</li><li>• Write a paragraph on each of the climatic zones of the world.</li><li>• Draw and label the plants that grow in each climatic zone of the world.</li><li>• Write a report about the effect of climatic zones of Pakistan on the economy, agriculture and people's lifestyles.</li><li>• Discuss the factors that are affecting global weather.</li><li>• Suggest ways to improve the quality of global weather.</li></ul>	

### **Learning Activities**

The teacher will:

- Show photographs or videos about the climatic zones of the world. Instruct students to draw Venn diagrams and make notes about different features of each of climatic zones for comparison.
- Divide the class into groups to collect information about the different climatic zones of the world. Students will present their findings to other groups. The teacher can guide how to take notes while one group is presenting.
- Show the map of climatic zones of the world in an atlas or online. Guide students to locate countries in different climatic zones. Instruct students to gather, organize, and interpret data about the variation in temperatures, longitudes, and latitudes of their selected countries in the form of a report.
- Engage students in individual and group research and projects related to the climatic zones of Pakistan. Ask students to find out the average temperatures, rainfall, crops and the lifestyle of people to write a report. The teacher will provide extra reading material, books, or Internet links for research.

## **Unit 4. Forests of the World**

**DOMAIN 1: Physical Geography**

**DOMAIN 2: Human Geography**

**DOMAIN 3: Environmental Geography**

### **Student Learning Outcomes:**

- Describe Earth's processes and patterns and how landscapes have changed over time (major types of forests of world).
- Investigate how climate is important for different vegetation (vegetation of different climatic zones).
- Explore economic activities related to natural, capital, and human resources (forestry).
- Find ways to improve the quality of their own and global environment (deforestation, global warming).
- Analyze how scarcity of resources compels people to wisely use resources (deforestation).
- Explore ways in which forests of the world and Pakistan contribute to the economy of the region they belong to.
- Understand that exports generate revenue for a country which is necessary for a country to operate and progress (Goods made from the raw material provided by forests).
- Analyze the interdependence of resources within the global economy (benefits of forests).
- Use appropriate vocabulary to describe physical, human, and environmental geography and the economy related to them.

- Use a range of multiple sources such as Google Maps, satellite images, photographs, diagrams, GPS, GIS, newspaper articles, thematic maps, and field trips to derive information of the physical, human, and environmental geography of Pakistan and of the world to reach and support conclusions.
- Gather information using maps and the globe to inquire about geographical changes of a selected region or a landform.

**Knowledge:**

*Students will:*

- Differentiate between natural vegetation and agriculture.
- Explain the link between climate and natural vegetation.
- Compare and contrast rainforests with other types of forests.
- Explore different shapes and functions of the three layers of the rainforests.
- Describe the importance of the Amazon rainforest.
- Evaluate how forests play an important role in the economy of the region.
- Identify the four major types of forests in Pakistan.
- Discover different types of trees in the particular areas of Pakistan.
- Explore why the forests of the various regions across Pakistan differ.
- Describe ways in which forests are helping the environment of a place.
- Suggest ways to control deforestation.
- Discuss importance of exports made from forest materials.

**Skills:**

*Students will be able to:*

- Use maps, GIS, and Google Maps to identify different forests of the world.
- Find the reasons behind the fast disappearance of the Amazon rainforest and suggest ways to save it.
- Investigate reasons why urban forests are becoming so common in major cities of the world.
- Explore Changa Manga's contribution to the environment of the region.
- *Debate whether planted forests are sustainable in the long run or not.*

**Assessments**

**Formative Assessments**

The teacher will ask students to:

- Tell the difference between natural vegetation and agriculture.
- Give two differences between coniferous and deciduous forests.



- Tell the difference between rainforest and other forests.
- Name the layers of rainforest.
- Tell in which continent is Amazon rainforest located.
- Name any two types of forests in Pakistan.
- Give any two benefits of forests for the environment.
- Tell the meaning of deforestation.
- Suggest at least two ways to control deforestation.

### **Summative Assessments**

Students will:

- Write a paragraph on the impact of climate on natural vegetation
- Draw and label coniferous and deciduous forests. Compare the features of both types of forests.
- Draw and label the layers of a rainforest.
- Write a paragraph about the functions of each layer of a rainforest.
- Write a report about the importance of the Amazon rainforest. Watch documentaries, news, etc. about its fast disappearance and suggest ways to save it.
- Explain the importance of forests/rainforests in the economy of a region.
- Locate the four types of forests on a given map of Pakistan. Write about their unique features in paragraphs.
- Find out from books and the Internet about the factors due to which the forests in different parts of Pakistan are different from each other.
- Write a report about the importance of forests for the environment.
- Develop a list of actions to control deforestation.

### **Learning Activities**

The teacher will:

- Bring photographs, show videos, etc. of natural vegetation and agriculture to explain the difference between the two.
- Bring photographs, show videos, etc. about different types of forests/rainforests in the world. Guide students on how to take notes of the different features and types of forests.
- Divide the class into groups to collect information about the different types of forests in the world. Students will present their findings to other groups. The teacher can guide how to take notes while one group is presenting.

- Show the map of forests/vegetation of the world in an atlas or online. Guide students to locate countries that have rainforests, coniferous forests, deciduous forests and mangroves. Instruct students to gather, organize, and interpret data about the types of forests in their selected countries in the form of a report.
- Engage students in individual and group research and projects related to the importance of forests for the economy of a region. The teacher will provide extra reading material, books, or Internet links for research.
- Organize online interviews with people that are engaged in planting urban forests. Divide the class into groups. Guide each group to think of questions for the interview, e.g. How many trees have been planted in the past six months? What challenges were faced while planting trees? What type of trees are grown? How many years does it normally take to grow an urban forest? How will the urban forest help the environment of the surrounding areas?
- Organize a field trip to a local forest/urban forest. Divide the students into groups. Instruct how to record observations about the forest in the form of photographs, videos, sketches and notes. Instruct students to note if deforestation or planting of new forests in that area has taken place and record their observations. Each group to presents its findings in the form of short videos (1-2 minutes) or on a chart.
- Organize a debate in class on 'Planted forests are not sustainable in the long run.' Divide the class into two groups; one group will speak in favor while the other group will speak against this statement.

## **Unit 5. Natural Disasters**

**DOMAIN 1: Physical Geography**

**DOMAIN 2: Human Geography**

**DOMAIN 3: Environmental Geography**

### **Student Learning Outcomes:**

- Construct arguments and provide evidence for their understanding of Earth's processes & patterns and how landscapes are changing constantly (Natural disasters).
- Investigate how and why our climate is changing (global warming and natural disasters).
- Examine how weather and climate affect the processes of the Earth (impacts of natural disasters).

- Identify how places are interdependent on each other and how human activity in one place affects other (global warming).
- Inquire about the impact of overusing natural and other resources on the environment (human activities).
- Describe the effects of excess land use (agriculture, deforestation, urbanization).
- Find ways to improve the quality of their own and global environment (reducing greenhouse gases & carbon footprint).
- Use appropriate vocabulary to describe physical, human, and environmental geography and the economy related to them.
- Use a range of multiple sources such as Google Maps, satellite images, photographs, diagrams, GPS, GIS, newspaper articles, thematic maps, and field trips to derive information of physical, human, and environmental geography of Pakistan and of the world to reach and support conclusions.
- Gather information using maps and the globe to inquire about geographical changes of a selected region or a landform.

**Knowledge:**

*Students will:*

- Describe the impact of natural disasters on human beings.
- Identify the primary and secondary impacts of natural disasters.
- List down the reasons why developing countries are particularly more vulnerable to natural disasters.
- Explore how global warming (the rising surface temperature of the Earth) can change the frequency and intensity of natural disasters.
- Explain the consequences of human activities, e.g. deforestation, agriculture, urbanization, etc. that result in natural disasters.
- Suggest ways that can help to deal with natural disasters.
- Identify the most common natural disaster in Pakistan.
- Sort out multiple ways to preserve natural resources for future generations, including the three Rs (Reduce, Recycle, Reuse)

**Skills:**

*Students will be able to:*

- Collect and interpret data related to the various natural disasters suffered by Pakistan.
- Apply their knowledge about developing countries, e.g. Pakistan, to deduce why they are more susceptible to natural disasters.
- Pose questions about how rising temperatures can have a domino effect.
- Reflect on the various activities they may be doing that can cause pollution.
- Inquire about the possible alternatives that may counter pollution.
- Analyze how technology can help in mitigating the effects of natural disasters.
- Evaluate the main goals of sustainable development with examples.

**Assessments**

**Formative Assessments**

The teacher will ask students to:

- Tell what they understand about the word natural disasters.
- Talk about how natural disasters affect people.
- Name at least three human activities that can cause natural disasters.
- Suggest at least three ways to deal with natural disasters.
- Name at least three natural resources of the world.
- Give reasons for preserving natural resources.
- Tell what they understand by the three Rs: Reduce, Recycle, Reuse.

### **Summative Assessments**

Students will:

- Write in their notebooks about the impact of natural disasters (floods, earthquakes, tsunamis, volcanoes, landsliding etc.) on human beings.
- List at least three primary and three secondary impacts of natural disasters.
- Write a report about why developing countries are particularly more vulnerable to natural disasters. Give examples of developing countries that have recently faced natural disasters.
- Explain the relationship between the rising temperature of the Earth and the occurrence of natural disasters.
- Write a detailed note about the human activities that may lead to natural disasters.
- Write a set of instructions to deal with natural disasters (earthquakes, floods, etc.).
- List the most common disasters in Pakistan. Also, write about the damage caused by each of these natural disasters.
- Write a report about ways of preserving natural resources for future generations.
- Develop a plan to incorporate the three Rs: Reduce, Recycle, and Reuse in their daily lives to preserve natural resources.

### **Learning Activities**

The teacher will:

- Show photographs or videos of natural disasters and how they cause damage to life and property.
- Show photographs or videos about ways to deal with natural disasters. Guide students to take notes of the different methods of protection from natural disasters.
- Divide the class into groups to collect information about human activities that can cause natural disasters. Students will present their findings to other groups. The teacher can guide how to take notes while one group is presenting.

- Show the map of natural disasters of the world in an atlas or online. Guide students to locate countries that face frequent landslides, avalanches, earthquakes, floods, tsunamis, volcano eruptions and cyclones. Instruct students to gather, organize, and interpret data about natural disasters in their selected countries in the form of a report.
- Engage students in independent as well as collaborative research and projects related to the importance of preserving natural resources for future generations. The teacher will provide extra reading material, books, or Internet links for research.
- Organize online interviews with people that have faced a natural disaster. Divide the class into groups. Guide each group to think of questions for the interview, such as: When did this natural disaster occur? Were people, animals, or property affected? What precautions did they take before/after the natural disaster?
- Show a documentary about a natural disaster in Pakistan. Divide the students into groups. Instruct how to take notes. Each group to present its findings in the form of short videos (1-2 minutes) or on chart.
- Organize a class discussion on Sustainable Development Goals. Divide the class into groups and assign goals to each group. Provide reference materials, website links and books to students to prepare for the discussion and the teacher will moderate the session.

## **Unit 6: Changing Earth and Human Activities**

**DOMAIN 1: Physical Geography**

**DOMAIN 2: Human Geography**

**DOMAIN 3: Environmental Geography**

**Student Learning Outcomes:**

- Inquire Earth's processes & patterns and how landscapes have changed over time.
- Inquire and describe the interaction between physical and human geography (urbanization, migration, agriculture, deforestation).
- Inquire why landforms are changing due to human activity (desertification).
- Describe the effects of excess land use (effects of population increase, excessive urbanization, and agriculture).
- Find ways to improve the quality of their own and global environment (afforestation, recycling & reusing).
- Use appropriate vocabulary to describe physical, human, and environmental geography and the economy related to them.
- Use a range of multiple sources such as Google Maps, satellite images, photographs, diagrams, GPS, GIS, newspaper articles, thematic maps, and field trips to derive information of the physical, human, and environmental geography of Pakistan and of the world to reach and support conclusions.
- Gather information using maps and the globe to inquire about geographical changes of a selected region or a landform.

**Knowledge:**

*Students will:*

- Describe the processes of weathering and erosion.
- Identify the types of erosion (wind and water).
- Explain the four processes of coastal erosion.
- Explain the effect of coastal erosion on landforms.
- Explain erosion caused by the human activities on the Earth.

**Skills:**

*Students will be able to:*

- Use maps, Google Maps, GIS to understand the process of weathering and soil erosion.
- Gather, organize, and interpret data to conclude how humans use land.
- Differentiate between weathering and erosion.
- Analyze factors that cause rock weathering.
- Analyze weathering and erosion as constructive or destructive processes.
- Analyze the effects of excessive land use to accommodate the growing population.
- Evaluate the impact of land clearing for agriculture extension.
- Evaluate land as a scarce resource.
- Investigate human activities that change landforms.
- Analyze how human activities like infrastructure and housing contribute to land scarcity.
- Evaluate if land use in Pakistan is sustainable or not.

## **Assessments**

### **Formative Assessments**

The teacher will ask students to:

- Tell the meaning of weathering and erosion.
- Tell the difference between weathering and erosion.
- Name the types of erosion
- Tell what they understand by the term coastal erosion.
- Give at least two examples of how humans cause erosion on land.
- Tell what they understand by excessive land use.

### **Summative Assessments**

Students will:

- Write in their notebooks the definition of weathering and erosion with examples.
- Describe the erosion by wind and water.
- Explain the four processes of coastal erosion with the help of a flow chart.
- Draw and label landforms caused by coastal erosion. Write a paragraph about the effects of coastal erosion on landforms.
- Write a report on erosion caused by a large population. Include examples of a densely populated region.
- Analyze the consequences of clearing land for housing, agriculture, building roads, etc.

### **Learning Activities**

The teacher will:

- Show photographs or videos of landforms caused by wind and water erosion. Ask students to identify the type of erosion in the pictures / videos.
- Divide the class into groups to collect information in the form of pictures, videos, etc. about the processes of coastal erosion. Students will present their findings to other groups. The teacher can guide how to take notes while one group is presenting.
- Show water erosion vulnerability map of the world:  
[https://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/use/maps/?cid=nrcs142p2\\_054006](https://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/use/maps/?cid=nrcs142p2_054006) . Guide students to locate countries whose coastlines are at risk of water erosion. Instruct students to gather, organize, and interpret data about coastal erosion in their selected countries in the form of a report.
- Engage students in independent as well as collaborative research and projects related to excessive land use in Pakistan. The teacher will provide extra reading material, books, or Internet links for research.

- Organize a field trip to a beach, mountain, or an area eroded by wind, water, or a large population. Divide the students into groups. Instruct how to record observations about the eroded landforms in the form of photographs, videos, sketches and notes. Each group to present its findings in the form of short videos (1-2 minutes) or on chart.
- Guide students to develop a plan for sustainable land use. Provide reference materials, articles, documentaries for students to learn how other countries have invested in sustainable development.



## SNC - Geography Suggested Guidelines (Grade 7)

### Unit 1. Plains and Rivers

**DOMAIN 1: Physical Geography**

**DOMAIN 2: Human Geography**

**DOMAIN 3: Environmental Geography**

#### **Student Learning Outcomes:**

- Describe Earth's processes and patterns and how landscapes have changed over time (types of plains features of the river).
- Explore similarities and differences between the geographical places of the world (plains & rivers).
- Compare settlements to describe adaptation according to human needs (people living near rivers and on plains).
- Discover differences in lifestyles of two different settlements to explore diversity (people living near rivers and on plains).
- Use extended vocabulary to describe physical, human, and environmental geography and economy related to them.
- Gather information using maps, globes, photographs, aerial photographs, satellite images, and graphs to inquire about geographical changes of a selected region or a landform.
- Use a range of multiple sources like Google Maps, satellite images, photographs, diagrams, GPS, GIS, newspaper articles, thematic maps, and field trips to derive information of the physical, human, and environmental geography of Pakistan and of the world to develop and support conclusions.

#### **Knowledge:**

*Students will:*

- Describe the physical features of plains
- Differentiate plains from the other landforms.
- Identify some major types of plains of the world.
- Describe the river plains.
- Explain a river system.
- Describe the importance of the middle course of the river.

#### **Skills:**

*Students will be able to:*

- Use maps, GIS or Google Maps to identify different types of plains and their features.
- Inquire about the working of a river system.
- Investigate reasons why Arctic plain is known as barren plain.
- Investigate the living conditions in a Desert or the Arctic Tundra Plain.

- Discover why delta is found on the lower course of the river.
- List different features of the upper, middle and lower courses of a river.
- Explain how rivers are important in the biodiversity and economy of the region.

- Gather, organize, and interpret data to analyze the impact of rivers on the biodiversity of the region.

## **Assessments**

### **Formative Assessments**

The teacher will ask students to:

- Name various landforms.
- Define plains.
- Tell the names of some plains of Pakistan.
- Tell the difference between the mountains and plains.
- Give at least two features of mountains, plains, and deserts.
- Locate different landforms on a relief map, or on Google Maps.
- Tell their understanding of the word biodiversity.

### **Summative Assessments**

Students will:

- Write in their notebooks at least two features of plains and rivers.
- Draw a diagram to show the processes of the formation of different types of plains.
- Briefly write to explain the formation of rivers and plains.
- Label the features of the three courses of a river on the given diagram.
- Write reasons for the importance of rivers for biodiversity.
- Draw a diagram or a digital poster to show the impacts of human activities on landforms.
- Write in their notebooks the difference between the upper, middle, and lower courses of the river.
- Draw the Delta of a river and write its importance.
- Suggest ways of using rivers for economic activities.
- *Write a report on why the Indus delta is called the dying delta and how can it be conserved.*
- *Create projects using Google Maps to share information about the mountains and plains of Pakistan in classroom.*

### **Learning Activities**

The teacher will :

- Use relevant maps, or Google Maps, or GIS to explain the location and the features of rivers and plains.
- Collaborate face to face or online with at least one school in any other region (people living near rivers or on plains) of Pakistan and have interactive sessions with the students to share their notes on biodiversity, economy, and lifestyle.
- Help students make a 2-3 minutes video or chart to explain which landform they would like to live in and why so many people prefer to live on plains.
- Divide the class into three groups to collect the information about each course of the river. Present their findings to the rest of the groups. The teacher can guide other groups to take notes while one group is presenting.
- Help students to make diagrams or a presentation to explain different aspects of the unit like the upper course of a river to develop their understanding.
- Engage students in independent as well as collaborative research and projects related to economic activities related to the selected plains by providing them the extra reading material or by enabling them to use the Internet or by answering their questions.
- Demonstrate their knowledge to build students' understanding to use water and land resources wisely.

## Unit 2: Water Sources and Management

### DOMAIN 1: Physical Geography

### DOMAIN 2: Human Geography

### DOMAIN 3: Environmental Geography

#### Student Learning Outcomes:

- Inquire and describe the interaction between physical and human geography.
- Explain similarities and differences between patterns of distribution and consumption of water resources of some selected geographical regions of the world.
- Inquire why landforms are changing due to human activity with respect to water.
- Analyze that scarcity of resources compels people to wisely use and modify resources.
- Suggest ways to utilize and conserve water resources.
- Use extensive vocabulary to describe physical, human, and environmental geography and economy related to them.
- Gather information using maps, globes, photographs, aerial photographs, satellite images, and graphs to inquire about geographical changes of a selected region or a landform.
- Use a range of multiple sources like Google Maps, satellite images, photographs, diagrams, GPS, GIS, newspaper articles, thematic maps, and field trips to derive information of the physical, human, and environmental geography of Pakistan and of the world to develop and support conclusions.

#### Knowledge:

*Students will:*

- Identify the major sources of water on the Earth and in Pakistan.
- Explain different types of precipitation.
- Describe the process of Water Cycle in maintaining water supply of the Earth.
- Identify different uses of sewage waste.
- Identify biogas as a source of energy.
- Explore various water purification methods before supplying it to cities and villages.

#### Skills:

*Students will be able to:*

- Draw and label Water Cycle.
- Evaluate the reasons for low groundwater in Pakistan.
- Devise ways to solve the shortage of water in Pakistan.
- Evaluate ways of using wastewater.
- Analyze methods of sewage treatment.
- Organize information about water purification methods into flow charts.
- Explore ways to turn sewage into a useful gas.
- Analyze the reasons for the scarcity of drinking water in cities.
- *Conduct, record and draw conclusions from an investigation about water purification method.*

<p><b>Assessments</b></p> <p><b>Formative Assessments</b></p> <p>The teacher will ask students to:</p> <ul style="list-style-type: none"><li>● Name major sources of water on the Earth.</li><li>● Distinguish ground and surface water sources.</li><li>● Name the major sources of water supply to big cities of Pakistan.</li><li>● Identify water sources generally used to obtain water in the villages of Pakistan.</li><li>● Recall their prior knowledge about Water Cycle.</li><li>● Recall the different stages of the Water Cycle.</li><li>● Name different types of precipitation.</li><li>● Tell the importance of precipitation in the Water Cycle.</li><li>● State the importance of Water Cycle for the planet Earth.</li><li>● Describe the disposal of waste water.</li><li>● Tell the reuse and recycling of waste water.</li><li>● Tell different ways of using sewage waste.</li><li>● Define biogas.</li><li>● Identify different uses of biogas.</li><li>● Define water purification.</li><li>● State the need of purifying water before supplying it to the cities.</li></ul>	

### **Summative Assessments**

Students will:

- Draw and label the water cycle in their notebooks.
- Write how the water cycle renews the Earth's freshwater supply?
- Write about different types of precipitation in their notebooks.
- Explain how human activities interfere with the water cycle.
- Describe what might happen if the water stops recycling?
- Briefly explain the reasons for low groundwater table in Pakistan in their notebooks.
- Make mind maps showing the impact of scarcity of water on people and the environment.
- Carry on an investigation about scarcity of clean drinking water in their (or any other) area of Pakistan. Gather facts, figures, and evidence, prepare a report and present it in the morning assembly or any other forum.
- Prepare and present role plays on causes of scarcity of drinking water and their possible solutions.
- Explain methods of sewage treatment and water purification with the help of diagrams in their notebooks.

### **Learning Activities**

The teacher will:

- Use different sources of information like books, e-books, and internet search to prepare and use topic-related information to be shared with the students.
- Show students photographs/ videos of areas affected by scarcity of water. Ask them to discuss the impacts on life in general (lifestyle, economy, weather, environment, flora, and fauna) in pairs/ groups.
- Discuss different uses of sewage waste with the students.
- Develop mini-water treatment projects and raise awareness among the school community.
- Create digital/manual posters showing ways to solve the problem of water shortage in Pakistan.
- Show videos or arrange student study tours to biogas plants and water treatment units. Encourage students to maintain logs and write notes during the tours or while watching the videos.
- Divide the class into groups and assign one method of water treatment to each group. Each group to make mini-projects/ presentations and share their knowledge with other groups.
- Use diagrams or presentations to explain different aspects of the unit like water sources, water cycle, and water treatment to develop their understanding.

- Engage students in independent as well as collaborative research and projects related to water conservation and its value for sustainable development by providing them the extra reading material or by enabling them to use the Internet or by answering their questions.
- Demonstrate their knowledge to build students' understanding to use water resources wisely.

### **Unit 3. Settlements and Land Use**

**DOMAIN 1: Physical Geography**

**DOMAIN 2: Human Geography**

**DOMAIN 3: Environmental Geography**

#### **Student Learning Outcomes:**

- Discuss similarities and differences between patterns of distribution and consumption of resources of some selected geographical regions of the world (feasibility of human settlement).
- Inquire and describe the interaction between physical and human geography (types of settlements).
- Explain that the economic progress of a region relies upon the advancement in science and technology (modern infrastructure and transport).
- Describe the effects of excess land use (effects of excessive agriculture).
- Use extensive vocabulary to describe physical, human, and environmental geography and economy related to them.

- Gather information using maps, globes, photographs, aerial photographs, satellite images, and graphs to inquire about geographical changes of a selected region or a landform.
- Use a range of multiple sources like Google Maps, satellite images, photographs, diagrams, GPS, GIS, newspaper articles, thematic maps, and field trips to derive information of physical, human, and environmental geography of Pakistan and of the world to develop and support conclusions.

**Knowledge:**

*Students will:*

- Classify different types of settlements.
- Identify the functions of a settlement.
- Describe how towns are different from cities
- Explain the conditions that are suitable for a settlement.
- Identify the major types of settlements in Pakistan.
- Identify the advantages and disadvantages that people of urban and rural settlements face.
- Describe the difference between conurbations and megapolis.

**Skills:**

*Students will be able to:*

- Use maps, GIS or Google Maps to identify different types of settlements of the world.
- Gather, organize, and interpret data to investigate the different patterns of settlements and their impact on the lifestyle of people living in them.
- Inquire how commercial land use is different than residential land use.
- Find the time zone of a major city in each continent on a map.
- Use maps to identify International Date Line.
- *Reflect on why few cities in Pakistan are growing bigger every year.*
- *Predict that there will be no land left on the Earth if settlements will keep growing at the current pace.*

**Assessments**

**Formative Assessments**

The teacher will ask students to:

- Share their prior knowledge and understanding of settlements.
- Identify different types of settlements.
- Give examples of different types of settlements in Pakistan.
- Tell how settlements are similar and different.
- Locate some settlements on a map, or Google Maps.
- Identify some natural and physical features of the selected settlements on Google Maps.
- Relate natural and physical features with the functions of the settlements.



- State suitable conditions for developing a place into a settlement.
- Explain the pros and cons of living in small settlements.
- Explain the pros and cons of living in big settlements.
- Tell how commercial land use is different than residential land use.

### **Summative Assessments**

Students will:

- Compare and contrast urban and rural settlements making Venn diagrams in their notebooks.
- Explain which type of settlement they would prefer to live in and why?
- Write in their notebooks at least two differences between conurbations and megapolis using an organogram.
- Use maps, GIS or Google Maps to identify different types of settlements of the world. Select any one unique or different settlements of the world in small groups and investigate more about its physical, human and environmental aspects. Prepare PowerPoint presentations/charts or interactive videos and present the study with the rest of the groups in the class.
- Gather, organize, and interpret data to investigate the different patterns of settlements and their impact on the lifestyle of people living in them.
- Visit a small settlement near their hometown (with teachers or parents), interview people living there, find out about their lifestyle and economic conditions. Suggest ways of improving the living conditions (sanitary conditions, education and economic wellbeing) of the people belonging to the small settlement.
- Describe what might happen if cities like Karachi will keep growing at the current pace.

### **Learning Activities**

The teacher will :

- Use related maps, or Google Maps, or GIS to explain the location and the features of various settlements.
- Divide the class into small groups to explore unique settlements of the world and investigate more about their physical, human and environmental aspects. Support and guide students by providing handouts, safe web links (like National Geographic) or by answering their questions.
- Guide other groups to take notes while one group is presenting.
- Use diagrams or presentations to explain different aspects of the unit like commercial and residential land use to develop their understanding.
- Demonstrate their knowledge to build students' understanding of the unit.
- Create projects using Google Map to share information about the settlements of Pakistan and the rest of the world.
- Make a 2-3 minutes video to explain which settlement they would like to live in and why so many people prefer to live in big cities.



## Unit 4: Agriculture

### DOMAIN 1: Physical Geography

### DOMAIN 2: Human Geography

### DOMAIN 3: Environmental Geography

#### Student Learning Outcomes:

- Explain similarities and differences between patterns of distribution and consumption of resources of some selected geographical regions of the world (Pakistan as an agricultural country).
- Inquire the interaction between physical and human geography (types of agriculture).
- Explain that the economic progress of a region relies upon the advancement in science and technology (modern methods of farming).
- Deduce that high revenues can be generated by exporting finished goods as per current demand (raw materials from farming and fishery to other countries).
- Explain the basic role of the global economic system and interdependence within the global economy.
- Describe the effects of excess land use (effects of excessive agriculture).
- Use extensive vocabulary to describe physical, human, and environmental geography and economy related to them.
- Gather information using maps, globes, photographs, aerial photographs, satellite images, and graphs to inquire about geographical changes of a selected region or a landform.
- Use a range of multiple sources like Google Maps, satellite images, photographs, diagrams, GPS, GIS, newspaper articles, thematic maps, and field trips to derive information of physical, human, and environmental geography of Pakistan and of the world to develop and support conclusions.

#### Knowledge:

*Students will:*

- Explore the broader meaning and types of agriculture.
- Recognize that Pakistan is an agricultural country.
- Recognize the value of agriculture in terms of Pakistan's economy.
- Name main crops of Pakistan.
- Describe different methods of agriculture.

#### Skills:

*Students will be able to:*

- Compare and contrast different methods of farming.
- Differentiate between cash and staple crops.
- Use maps to locate agricultural areas and products.
- Develop links between population growth and agricultural automation.
- Differentiate between subsistence and livestock farming.
- Analyze the factors that affect agricultural yield.

- Identify a few impacts of livestock (cattle) farming on the environment.
- Describe that raw materials from farming and fishery help to generate revenues.
- Relate export of raw materials from farming and fishery to the global economy.
- Identify the role of international economic institutions in agricultural development.

- Analyze challenges related to livestock farming in Pakistan.
- Predict changes in the structure of agricultural production in the future.
- Evaluate the impact of agriculture on the environment.
- Evaluate the effectiveness of the concept of 3Rs (Reuse, Recycle and Reduce) for farmers.
- Evaluate the importance of agriculture for Pakistan in terms of information and technology.
- Evaluate the importance of agriculture for Pakistan in terms of Pakistan's economy.
- *Suggest ways for agricultural improvements in Pakistan.*
- *Conduct surveys and interviews to gather data about the agricultural products and their utilization.*

## **Assessments**

### **Formative Assessments**

The teacher will ask students to:

- Express the meaning of agriculture.
- Name the branches/ types of agriculture.
- Enlist different methods of agriculture.
- Name various agricultural products.
- Locate agricultural land on the map of Pakistan.
- Name the factors that influence agriculture.
- Use maps in order to find out agricultural products and by-products.
- List economic activities / jobs linked with agriculture.
- Relate agricultural development with the local and global economy.
- Tell how the export of raw materials helps improve the economic conditions of an area.
- Explain the impact of cattle farming on the environment.
- List the advantages and disadvantages of agriculture and excessive land use.

### **Summative Assessment**

Students will:

- Analyze different methods of farming and draw comparisons in their notebooks.
- Describe how cash and staple crops differ in terms of the amount of hard work, economic output, and consumption.
- Use blank templates of the map of Pakistan to show agricultural areas and main products including wheat, rice, sugarcane, and cotton.
- Draw a table showing the main crops, areas of cultivation, products, and uses of the main crops of Pakistan.
- List the products obtained from major types of livestock, poultry, and fishery. Also, write their uses.
- Explain the impact of soil type, weather, and irrigation on crops/agricultural products.
- ‘Although Pakistan is an agricultural country, agriculture, especially cotton growth has declined.’ Identify and explain the challenges farmers face in Pakistan.
- Conduct surveys and interviews to gather data about the agricultural products and their utilization. Present the findings in the class.
- Write a report on why agricultural land in Pakistan is now being used for the construction of housing societies and commercial buildings.
- Suggest practical ways to encourage farmers to improve yield.
- Describe the positive and negative impacts of agriculture on the environment. Suggest ways of subsiding negative effects.
- Write an essay on how Pakistan can enhance its economy through the agriculture sector.

### **Learning Activities**

The teacher will:

- Use related maps to show main areas where major crops (cash and staple) are grown.
- Use pictures, videos, etc. to explain types and methods of agriculture.
- Collaborate face to face or (if possible) online with at least one school in rural areas of Pakistan and have a question-answer session with the students (and their families) to find out the challenges they face in terms of agriculture production, their sale, and distribution.
- Divide the class into two large groups to collect some information about cash and staple crops. Present their findings to the other group. The teacher can guide groups to take notes while one group is presenting.
- Engage students in independent as well as collaborative research and projects related to economic activities linked with agriculture by providing them the extra reading material or by enabling them to use the Internet or by answering their questions.
- Demonstrate their knowledge to build students’ understanding to use water resources wisely.

- Use sources of information like the Internet, newspapers, news channels and radio. To explain how the government is supporting farmers through different schemes to face the challenges in Pakistan.

## Unit 5: Climate Change

### DOMAIN 1: Physical Geography

### DOMAIN 2: Human Geography

### DOMAIN 3: Environmental Geography

#### Student Learning Outcomes:

- Construct arguments with sound evidence to describe the interaction between physical and human geography.
- Investigate how and why our climate is changing.
- Inquire why landforms are changing due to human activity.
- Find ways to improve the quality of their own and global environment.
- Use extensive vocabulary to describe physical, human, and environmental geography and economy related to them.
- Gather information using maps, globes, photographs, aerial photographs, satellite images, and graphs to inquire about geographical changes of a selected region or a landform.
- Use a range of multiple sources like Google Maps, satellite images, photographs, diagrams, GPS, GIS, newspaper articles, thematic maps, and field trips to derive information of the physical, human, and environmental geography of Pakistan and of the world to develop and support conclusions.

#### Knowledge:

##### *Students will:*

- Recall the difference between climate and weather.
- Define climate change.
- Explain the greenhouse effect.
- Identify changes caused by the greenhouse effect.
- Describe the importance of the Ozone layer.
- Identify global warming and the greenhouse effect as the main causes of climate change in the world.

#### Skills:

##### *Students will be able to:*

- Investigate how human activity is causing climate change.
- Investigate the effects of global warming on Polar Regions.
- Analyze the effects of climatic change on flora and fauna.
- Analyze the effect of climatic change on people, lifestyle, and economy.
- Analyze the effects of climate change on the Earth.
- Evaluate the health and environmental effects of the Ozone layer depletion.

- Explain the main causes of climate change in the world and some particular areas.

- Investigate and suggest ways to reduce the greenhouse effect.

## **Assessments**

### **Formative Assessments**

The teacher will ask students to:

- Recall the difference between weather and climate.
- State about global warming and its causes.
- Name greenhouse gases.
- Explain the causes of greenhouse gases.
- Define greenhouse effect.
- Identify the causes of the greenhouse effect.
- Describe the Ozone layer.
- Describe the importance of the Ozone layer.

### **Summative Assessments**

Students will:

- Compare the current climate of their regions with its climate 10 -20 years ago and write possible causes of this climatic change after class discussion.
- Probe deeper into the causes of climate change and find out why the Earth, especially the Polar Regions are getting warmer?
- Analyze the effect of climatic change on flora and fauna.
- Write in their notebooks how might Earth's atmosphere, land, and ocean systems respond to global warming over time?
- Discuss and write in their notebooks, 'What does global warming have to do with severe weather, like storms, heat waves, droughts, and hurricanes?'
- Analyze the effect of climatic change on the environment, people, their lifestyle, and economy of a selected region in order to write a report.
- Write in their notebooks the health and environmental effects of the Ozone layer on flora and fauna.
- Work collaboratively, discuss if it is too late to prevent climate change. Do some research, suggest ways to reduce the greenhouse effect, and write in their notebooks.

- Carry out some online research, consult weather channels/websites, prepare, posters, hold topic-specific morning assemblies and make short videos or podcasts to run a campaign 'Save the Earth'.
- Find out about the carbon footprint. Suggest ways to reduce their carbon footprint.

### **Learning Activities**

The teacher will:

- Use weather charts and climatic maps to show main areas where major climatic changes are occurring.
- Use pictures, videos, etc. to explain the consequences of climate change.
- Collaborate online with at least one school in another Climatic zone of Pakistan or the world. Support students to make safe e-pals to discuss opportunities and challenges regarding the climate of the region. Exchange their notes with the rest of the students in the class.
- Use diagrams or a presentation to explain different aspects of the unit like methods to evaluate agricultural projects to develop their understanding.
- Provide web links of weather channels, videos, useful websites, and reading material to the students to run a campaign 'Save the Earth'.
- Demonstrate their knowledge to build students' understanding to use water resources wisely.



## Unit 6: Minerals and Power Resources

**DOMAIN 1: Physical Geography**

**DOMAIN 2: Human Geography**

**DOMAIN 3: Environmental Geography**

### **Student Learning Outcomes:**

- Discuss similarities and differences between patterns of distribution and consumption of resources of some selected geographical regions of the world.
- Describe economic activities related to natural, capital, and human resources.
- Explain that the economic progress of a region relies upon the specialization of resources through education, scientific research, and technology.
- Deduce that high revenues can be generated by exporting finished goods as per current demand.
- Suggest ways to utilize and conserve resources. (minerals)
- Explore the use of fossil fuels (coal, oil, and gas) to generate power.
- Explore alternate sources of energy (solar, wind, and water) to generate power.
- Use extensive vocabulary to describe physical, human, and environmental geography and economy related to them.
- Gather information using maps, globes, photographs, aerial photographs, satellite images, and graphs to inquire about geographical changes of a selected region or a landform.
- Use a range of multiple sources like Google Maps, satellite images, photographs, diagrams, GPS, GIS, newspaper articles, thematic maps, and field trips to derive information of the physical, human and environmental geography of Pakistan and of the world to develop and support conclusions.

**Knowledge:**

*Students will:*

- Name minerals found in Pakistan.
- Identify industries related to minerals and power in Pakistan.
- Identify areas of Pakistan that are rich in mineral resources.
- Name some rare minerals found in Pakistan.
- Explore the use of fossil fuels (coal, oil, and gas) to generate power in Pakistan
- *Differentiate between bituminous and lignite coal.*
- *Describe the procedures of long-wall and surface mining.*
- Realize the risk factors associated with coal mining.
- Explore alternate sources of energy (solar, wind, and water) to generate power.
- Describe the importance of alternative energy sources for the environment.

**Skills:**

*Students will be able to:*

- Locate areas of Pakistan that are rich in mineral resources on maps.
- Categorize the minerals found in Pakistan according to their use and importance
- Analyze factors that make gemstone mining difficult in Pakistan.
- Suggest practical ways of getting high-income revenue from Pakistan's gemstones resources.
- Investigate and suggest measures for improving the mining industry.
- Suggest measures to ensure the safety and health of the coal miners in Pakistan.
- *Draw and label the procedures of long-wall and surface mining.*
- Analyze coal usage in Pakistan.
- Evaluate the usefulness of coal against the risk factors associated with it.
- Write an essay on the importance of alternate sources of energy.
- Explore reasons for the scarcity of electricity and gas in Pakistan during the recent years.

**Assessments****Formative Assessments**

The teacher will ask students to:

- Define minerals.
- Tell some uses of minerals.
- Name some minerals they use every day.
- Use maps to identify areas of Pakistan rich in mineral resources.

- Name some industries related to minerals found in Pakistan.
- *List types of coal.*
- Identify uses of coal in Pakistan.
- Tell procedures/types of coal mining.
- Share their understanding of risks involved in coal mining.
- Name main alternate energy sources

### **Summative Assessments**

Students will:

- Use blank templates of maps to show selected minerals found in different areas of Pakistan.
- Draw tables to categorize minerals found in different areas of Pakistan according to their use and importance.
- Briefly write to explain the factors that make gemstone mining difficult in Pakistan. Suggest practical ways of getting high-income revenue from Pakistan's gemstones resources.
- Create V-logs (video blogs) about minerals found in your area and publish them on your school's website.
- Visit a nearby industry/factory/ workshop that processes some or a particular mineral (e.g. marble factory)
- Discuss in groups how coal and its extraction affects the environment and produce mind maps in their notebooks.
- Make a list of safety measures to ensure the well-being of the coal miners in Pakistan.
- *Label the diagrams showing procedures of long-wall and surface mining.*
- Evaluate the usefulness of coal against the risk factors associated with it.
- Write an essay on the importance of modernizing Pakistan's coal mining industry.
- Analyze fossil fuel (coal, natural gas, and oil) usage in Pakistan.
- Have a debate in class: Pakistan should move away from fossil fuel usage to alternate energy sources to generate power why/why not?

### **Learning Activities**

The teacher will:

- Use LCD strategy 'look, cover, draw' whereby the students look at the location of a named feature or place, cover the original map / close the book and then draw it on the blank templates maps to teach minerals found in different areas of Pakistan.
- Use pictures, magazines, books, and videos to explain the importance of minerals in Pakistan.
- *Use PowerPoint presentations, diagrams, and videos to explain the procedures of long-wall and surface mining.*
- Provide resource material e.g. articles, web links, ideas, and assistance in creating v logs and awareness posters.

- Use diagrams or a presentation to explain and discuss different aspects of the unit like risk factors and ways of improving the mining industry.
- Provide newspaper articles, links to websites, regarding the scarcity of natural gas and electricity in Pakistan. Students will suggest their ideas to reduce the dependency on fossil fuels and explore how Pakistan can benefit from using alternate sources of power.
- Demonstrate their knowledge to build students' understanding of the unit. Create awareness through pictorial digital posters regarding safety precautions for miners in Pakistan.

## SNC - Geography Suggested Guidelines (Grade 8)

### Unit 1. Oceans and Seas

**DOMAIN 1: Physical Geography**

**DOMAIN 2: Human Geography**

**DOMAIN 3: Environmental Geography**

#### **Student Learning Outcomes:**

- Construct arguments and provide evidence for the understanding of Earth's processes & patterns and how landscapes are changing constantly (features & movements of oceans).
- Recall and describe some patterns of distribution of water (oceans & seas of the world).
- Construct arguments with evidence to describe the interaction between physical and human geography (pollution in oceans & seas of the world).
- Identify how places are interdependent on each other and how human activity in one place affects others (water pollution in oceans).
- Find ways to improve the quality of their own and global environment (effects of rising of sea level).
- Use sophisticated and appropriate vocabulary to describe growing issues connected to physical, human, and environmental geography and economy related to them.
- Interpret required information using maps, globes, photographs, aerial photographs, satellite images, and graphs to inquire about geographical changes of a selected region or a landform.
- Use a range of multiple sources such as Google Maps, satellite images, photographs, diagrams, GPS, GIS, newspaper articles, thematic maps, and field trips to derive information of physical, human, and environmental geography of Pakistan and of the world to reach and support personal conclusions and critique with credibility.

#### **Knowledge:**

*Students will:*

- Differentiate between seas and oceans.
- Describe the location, total area and marine biodiversity of major oceans of the world.
- Describe the location, total area and importance of Arabian Sea in context of economic activities in Pakistan.

#### **Skills:**

*Students will be able to:*

- Use maps, GIS and Google Maps to identify different seas and oceans of the world.
- Inquire how climate change is affecting seas and oceans. Inquire and gather data about various seas and oceans around the world.

- Describe and differentiate between different sea features such as island, peninsula, isthmus, gulf, bay and strait.
- Explain the movements of ocean water and the role of ocean currents in it.
- Explain the importance of oceans in our lives.
- Identify ways in which oceans act as a source of food for the world.
- Identify the role of marine biodiversity on our environment.
- List down all possible threats the oceans are facing nowadays.

- Gather, organize, and interpret data to investigate reasons for pollution in oceans.
- Discuss and formulate questions about the use of ocean water as a source of food. Evaluate some sustainable ways of that use.
- Evaluate the consequences of the rising of sea level.
- Compare the Indian Ocean with the Pacific Ocean.

## **Assessments**

### **Formative Assessments**

The teacher will ask students to:

- Locate the five oceans of the world.
- Tell at least two differences between oceans and seas.
- Identify island, peninsula, isthmus, gulf, bay, and strait using pictures and photographs.
- Tell the name of the sea and ocean located in the south of Pakistan.
- Give at least two reasons why oceans are important.
- Describe movements of oceans and ocean currents.
- Give at least three examples of marine life.
- Give at least two factors that are causing marine pollution

### **Summative Assessments**

Students will:

- Write in their notebooks about the importance of oceans in our lives.
- Illustrate and label the different sea features e.g. island, peninsula, isthmus, gulf, bay, and strait on given diagrams.
- Describe the features of an island, peninsula, isthmus, gulf, bay, and strait and give examples of each.
- Explain the different types of movements of the ocean water.
- Describe the role of ocean currents in the movement of the oceans.
- Compare the size, temperature, and marine life of different oceans of the world.

- Evaluate the importance of marine biodiversity on the Earth's environment.
- Discuss the threats oceans are facing today and propose ways to minimize these threats.

### **Learning Activities**

The teacher will:

- Help students prepare a debate about the reasons why oceans are important for the environment.
  - Engage students in independent as well as collaborative research and projects related to marine biodiversity in different oceans of the world. The teacher will provide extra reading material, books, articles, or Internet links for research.
  - Show a map online or in an atlas of the seas and oceans of the world. Instruct students to gather, organize, and interpret data about temperature, depth, total area, etc. of different seas and oceans in the form of tables, graphs, etc.
  - Engage students in independent as well as collaborative research and projects to explore how Sustainable Development Goals (SDG) are related to oceans and seas. The teacher will provide extra reading material, books, articles, or Internet links for research, e.g. <https://sustainabledevelopment.un.org/topics/oceanandseas>
  - Divide the class into groups. Instruct each group to read about different threats and solutions to oceans and rising sea levels from different sources, e.g. news articles, websites, etc.: <https://www.nationalgeographic.com/environment/article/ocean-threats>  
<https://www.climate.gov/news-features/understanding-climate/climate-change-global-sea-level>
- Guide students how to interpret data from the given graphs, tables, etc. and prepare a report.

## **Unit 2. Living with the Climate**

**DOMAIN 1: Physical Geography**

**DOMAIN 2: Human Geography**

### DOMAIN 3: Environmental Geography

#### Student Learning Outcomes:

- Study the distribution of climate in the world.
- Investigate how and why our climate is changing (extreme weather).
- Find ways to improve the quality of their own and global environment (global warming & climate Change).
- Discover differences in lifestyles of two different settlements to appreciate and respect diversity (people living in any two different climatic zones).
- Use sophisticated and appropriate vocabulary to describe growing issues connected to physical, human, and environmental geography and economy related to them.
- Interpret required information using maps, globes, photographs, aerial photographs, satellite images, and graphs to inquire about geographical changes of a selected region or a landform.
- Investigate geographical, climatic, political, cultural, and economic aspects of places using geographic representations and geospatial technologies.
- Use a range of multiple sources such as Google Maps, satellite images, photographs, diagrams, GPS, GIS, newspaper articles, thematic maps, and field trips to derive information of physical, human, and environmental geography of Pakistan and of the world to reach and support personal conclusions and critique with credibility.

#### Knowledge:

*Students will:*

- Investigate some examples of the extreme weather on the Earth and its reasons.
- Recall the main causes of climate change.
- Identify the consequences of global warming.
- Explore ways of preventing global warming.
- Explain the relationship between extreme weather and climate change.
- Discuss the main threats of climate change.
- Identify ways in which climate change affects life in general.
- Differentiate the climatic patterns of a national and an international city (Karachi and New York).

#### Skills:

*Students will be able to:*

- Use physical maps or GIS/ Google Maps to identify different climatic regions of the world.
- Inquire how climate change is affecting human life.
- Gather, organize, and interpret data to investigate reasons for climate change and global warming.
- Examine the consequences of climate change in developing countries.
- Explore how people adapt to various climatic conditions drawing examples from Pakistan.
- Examine ways in which climate change is affecting farms and our food supply.



- Describe ways in which the climate of coastal areas and river plains affect the lifestyles of people living there.
- Compare and contrast the lifestyle of people living in Polar Regions with those living in Tropical Regions.

## **Assessments**

### **Formative Assessments**

The teacher will ask students to:

- Give at least two examples of extreme weather on the Earth.
- Give at least two reasons for climate change.
- Give at least two consequences of global warming and climate change.
- Give at least two threats to the people and the Earth by climate change.

### **Summative Assessments**

Students will:

- Explain the elements of weather drawing examples from Pakistan.
- Locate and label the climatic zones of the world on a given map.
- Describe the climate of each climatic zone and name at least three countries located in each climatic zone.
- Write about any two examples of extreme weather in the world and describe the factors causing extreme weather.
- Discuss the relationship between global warming and climate change.
- Explain the effect of climate change on the lives of people, e.g. agriculture, food supply, etc.
- Compare the climate of Karachi and New York. Write the similarities and differences between the two cities.
- Compare the climate of plains and coastal areas.
- Compare the lifestyles of people living in the plains with those living in the coastal areas, using examples from Pakistan.
- Compare the lifestyles of people living in Polar Regions with those living in the Tropical Regions.
- Suggest ways for adapting to climate change.

### **Learning Activities**

The teacher will :

- Show an online map of different climatic zones of the world. Students will identify the countries in the same climatic zone and note the latitudes of each climatic zone.

- Engage students in independent as well as collaborative research and projects related to the impact of climate change in developing countries. The teacher will provide extra reading material, books, articles, or Internet links for research.
- Divide the class into groups. Provide books, articles, website links, etc. related to global warming in Pakistan. Instruct each group to read about global warming from different sources and predict the consequences of global warming on Pakistan in terms of agriculture, melting of glaciers, etc. Guide students on how to interpret data and prepare a report.
- Provide links to documentaries about the lifestyles of people living in different climatic regions of the world. Students will draw comparisons and create their presentations about any two climatic regions of their choice.

### **Unit 3. Environmental Pollution**

**DOMAIN 1: Physical Geography**

**DOMAIN 2: Human Geography**

**DOMAIN 3: Environmental Geography**

#### **Student Learning Outcomes:**

- Construct arguments with evidence to describe the interaction between physical and human geography.
- Investigate how and why our climate is changing (pollution and global warming).
- Examine how weather and climate affect the processes of the Earth (global warming and climate change).
- Identify how places are interdependent on each other and how human activity in one place affects others (pollution & climate change).
- Inquire about the impact of overusing natural and other resources on the environment (global warming and its effects).
- Describe the effects of excess land use (global warming and its effects).
- Find ways to improve the quality of their own and global environment (reducing greenhouse gases & carbon footprint).
- Find ways to utilize and conserve resources (reducing greenhouse gases & carbon footprint).
- Analyze how the scarcity of resources compels people to use resources wisely (reuse & recycle).
- Use sophisticated and appropriate vocabulary to describe growing issues connected to physical, human, and environmental geography and the economy related to them.

- Interpret required information using maps, globes, photographs, aerial photographs, satellite images, and graphs to inquire about geographical changes of a selected region or a landform.
- Investigate geographical, climatic, political, cultural, and economic aspects of places using geographic representations and geospatial technologies.
- Use a range of multiple sources such as Google Maps, satellite images, photographs, diagrams, GPS, GIS, newspaper articles, thematic maps, and field trips to derive information of physical, human, and environmental geography of Pakistan and of the world to reach and support personal conclusions and critique with credibility.

**Knowledge:**

*Students will:*

- Explain the link between pollution and climate change.
- Describe the harmful effects of water, land, air, noise, and light pollution on our environment.
- Compare and contrast the connections between different types of pollutions and suggest ways to reduce them.
- Suggest ways to reduce different types of pollutions.
- Describe the effects of greenhouse gases on our planet and relate them to global warming.
- Suggest ways to prevent the further thinning of the Ozone layer.
- Explore the short-term and long-term effects of global warming on our planet and suggest measures to reduce them.
- Classify the health consequences of air and water pollution on the biodiversity on Earth.
- Explore alternate energy sources that can help reduce pollution.

**Skills:**

*Students will be able to:*

- Gather and interpret some local data related to pollution and climate change.
- Evaluate and discuss how different forms of pollution have affected students' personal lives and draw conclusions.
- Gather and organize data about local campaigns in their respective cities for countering climate change and pollution.

**Assessments**

**Formative Assessments**

The teacher will ask students to:

- Tell an impact of pollution on climate change.

- Give at least two harmful effects of each type of pollution (water, land, air, noise, and light) on our environment.
- Give at least two ways of reducing pollution.
- Recall the meaning of the term 'greenhouse effect'.
- Give at least two ways of preventing the thinning of the Ozone layer.
- Talk about the health consequences of air and water pollution.
- Give at least one short-term and one long-term effect of global warming on planet Earth.

### **Summative Assessments**

Students will:

- Write in their notebooks how pollution is linked with climate change.
- Analyze the harmful effects of different types of pollution on our environment.
- Explain how greenhouse gases cause global warming. Suggest ways to reduce greenhouse gases.
- Analyze the consequences of thinning of the Ozone layer.
- Predict the short and long terms effect of global warming on Planet Earth.

### **Learning Activities**

The teacher will:

- Engage students in independent as well as collaborative research and projects related to pollution and climate change. The teacher will provide extra reading material, books, articles, or Internet links for research.
- Divide the class into groups. Instruct each group to read about different types of pollution and predict what might happen if pollution is not reduced now. Guide students on how to interpret data and prepare a report.
- Provide links to documentaries about how global warming and climate change is affecting the lifestyles of people living in different parts of the world.
- Help students to explore ways of reducing pollution. Students can research from the Internet about the initiatives taken by developed countries to reduce pollution. Using their research, students will draw a plan for the implementation of similar initiatives in Pakistan.

## **Unit 4. Industrialization and International Trade**

**DOMAIN 1: Physical Geography**

**DOMAIN 2: Human Geography**

### DOMAIN 3: Environmental Geography

#### Student Learning Outcomes:

- Study a selected infrastructure to understand adaptation according to human needs (Industrialisation).
- Investigate economic development related to natural, capital, and human resources (textile and cotton industry of Pakistan).
- Describe that the economic progress of a region relies upon the specialization of resources through education, scientific research, and technology (exports of Pakistan).
- Analyze that high revenues can be generated by exporting finished goods through technological advancements, marketing trends, and professional ethics (exports of Pakistan).
- Identify how places are interdependent and how human activity in one place affects others (Industrialization).
- Describe the basic role of global economic institutions and activities (International Trade Organizations).
- Analyze and describe the basics of global economic systems and interdependence of a selected region (international trade).
- Analyze how the scarcity of resources compels people to use resources wisely.
- Use sophisticated and appropriate vocabulary to describe growing issues connected to physical, human, and environmental geography and the economy related to them. (
- Interpret required information using maps, globes, photographs, aerial photographs, satellite images, and graphs to inquire about geographical changes of a selected region or a landform.
- Investigate geographical, climatic, political, cultural, and economic aspects of places using geographic representations and geospatial technologies.
- Use a range of multiple sources such as Google Maps, satellite images, photographs, diagrams, GPS, GIS, newspaper articles, thematic maps, and field trips to derive information of physical, human, and environmental geography of Pakistan and of the world to reach and support personal conclusions and critique with credibility.

#### **Knowledge:**

##### *Students will:*

- Identify the main industries of Pakistan.
- Indicate links between industrialization, immigration, and urbanization.
- Highlight the important industrial products of Pakistan.
- Explore the development of the textile industry of Pakistan with its four stages.

#### **Skills:**

##### *Students will be able to:*

- Evaluate the impact of industrialization on the economy of Pakistan.
- Collect data related to technological advancements, industrialization, urbanization, and immigration and their impact on Pakistan.
- Evaluate the major challenges to the textile industry of Pakistan.

- Describe the significant role of the cottage industry in the lives of the people of Pakistan.
- Explain the importance for a country to establish regulations for carrying import and export smoothly.
- Enlist the top four exports and imports of Pakistan.
- Suggest ways which can help Pakistan to earn more revenue from export.
- Suggest ways to reduce the imports of Pakistan.
- Suggest some ways Pakistan can adopt to compete with its international trade counterparts.
- Explain how bilateral trade between Pakistan and China can contribute to sound economic development for both countries.
- Explore how development in science and technology can help to develop the industrial boom in Pakistan.
- *Justify how Pakistan can succeed in industrial development if import needs are reduced.*
- *Justify how economic stability can help a nation to encounter different foreign challenges.*

- Interpret data related to various industries in Pakistan and suggest their relationships and patterns.
- Apply the understanding of exports and imports by giving a relatable, everyday example.
- Inquire about the role of global economic institutions in economic development.
- Analyze the use of alternate energy for the development of the industrial sector of Pakistan.
- *Analyze the role of geopolitical decisions in the development of a region.*

## **Assessments**

### **Formative Assessments**

The teacher will ask students to:

- Name the main industries of Pakistan.
- Recall the meaning of immigration and urbanization.
- Give at least one reason of immigration to urbanized areas.
- Name at least two industrial products of Pakistan.
- Tell the names of at least two cities where textile industries are located.
- Give at least two examples of cottage industries in Pakistan.
- Name at least three exports and three imports of Pakistan.
- Tell the meaning of bilateral trade.
- Name at least two main trading partner countries of Pakistan.

### **Summative Assessments**

Students will:

- Analyze the interconnection of industrialization, immigration, and urbanization by drawing an example from Pakistan.
- List five industrial products of Pakistan and describe their importance for the economy of Pakistan.
- Trace the development of the textile industry in Pakistan.
- Illustrate the four stages of the textile manufacturing process.
- Write a report about the significance of the cottage industry in the lives of the people and the economy of Pakistan.
- Write a paragraph about the importance of regulations in a country for international trading.
- Explain why China is an important trading partner for bilateral trade.
- Evaluate the need for technological advancement in developing the industries of Pakistan.

### **Learning Activities**

The teacher will:

- Debate the reasons why Pakistan's exports are less as compared to other South Asian countries.
- Divide the class into groups to collect information in the form of pictures, videos, etc. about the processes of textile manufacturing. Students will present their findings to other groups. The teacher can guide how to take notes while one group is presenting.
- Engage students in independent as well as collaborative research and projects related to industrialization, immigration, and urbanization. Instruct students to study these patterns and predict what may happen if this trend continues in Pakistan. The teacher will provide extra reading material, books, articles, or Internet links for research.
- Show an online map or in an atlas about the industries/cottage industries of Pakistan. Guide students to locate these industries in different cities. Instruct students to gather, organize, and interpret data about industries in their selected cities in the form of a report.
- Engage students in independent as well as collaborative research and projects related to Pakistan's challenges in increasing its exports. Instruct students to draw conclusions from their research and suggest how to improve revenue from export. Students to suggest some ways Pakistan can adopt to compete with its international trade counterparts. The teacher will provide extra reading material, books, articles, or Internet links for research.
- Organize online interviews with people engaged in international trading. Divide the class into groups. Guide each group to think of questions for the interview, e.g. Which products do they import/export? Which countries do they trade with? What challenges do they face in exporting/importing products?
- Show a documentary about China-Pakistan bilateral trade relations. Divide the students into groups. Instruct them how to take notes. Each group to present its findings in the form of short videos (1-2 minutes).

- Provide the website link of Pakistan Bureau of Statistics: <https://www.pbs.gov.pk/trade-tables> to students. Divide the class into groups. Instruct each group to select two industries/categories and compare their imports/exports over the past few years. Guide students to create graphs/pie charts/ to represent data.

## **Unit 5. Transport and its Importance**

### **DOMAIN 1: Physical Geography**

### **DOMAIN 2: Human Geography**

### **DOMAIN 3: Environmental Geography**

#### **Student Learning Outcomes:**

- Study a selected infrastructure to understand adaptation according to human needs. (development in transport)
- Study reasons for selecting a place to develop settlements (transport in and around Pakistan, international routes of Pakistan).
- Investigate economic activities related to natural, capital, and human resources (transport in and around Pakistan, international routes of Pakistan).
- Describe that the economic progress of a region relies upon the specialization of resources through education, scientific research, and technology (developments in transport and information technology).
- Identify how places are interdependent on each other and how human activity in one place affects others (development in transport and its benefits).
- Use sophisticated and appropriate vocabulary to describe growing issues connected to physical, human, and environmental geography and economy related to them.
- Interpret required information using maps, globes, photographs, aerial photographs, satellite images, and graphs to inquire about geographical changes of a selected region or a landform.
- Investigate geographical, climatic, political, cultural, and economic aspects of places using geographic representations and geospatial technologies.
- Use a range of multiple sources such as Google Maps, satellite images, photographs, diagrams, GPS, GIS, newspaper articles, thematic maps, and field trips to derive information of physical, human, and environmental geography of Pakistan and of the world to reach and support personal conclusions and critique with credibility.



**Knowledge:**

*Students will:*

- Identify different forms of modern transportation and their characteristics.
- Explain some of the reasons for the development of transport systems in urban and rural areas.
- Explain the dependence of international trade on an effective transport system.
- Explain the importance of the transport system in the development of the economic activity.
- Outline the role of the transportation system in internal and international trade
- Identify major modes of transportation and trade routes in Pakistan.
- List some of the major exports and imports transported through CPEC, silk route, Chaman, Torkham, Port Qasim, Karachi Port, and Gwadar Port.
- Explain some of the strengths and weaknesses of the transport infrastructure in Pakistan.

**Skills:**

*Students will be able to:*

- Use Google Maps to observe some major transport routes of the world.
- Formulate questions related to how various means of transportation affects their lives.
- Investigate the differences in transport in rural and urban areas.
- Contrast the usage of different forms of modern transportation.
- Evaluate the importance of transportation for exports and imports.
- Inquire and analyze data based on major exports and imports through CPEC, silk route, Chaman, Torkham, Port Qasim, Karachi Port, and Gwadar Port
- Inquire the role of CPEC, silk route, Chaman, Torkham, Port Qasim, Karachi Port, and Gwadar Port in development of economic activity in Pakistan.
- Analyze the transportation infrastructure in Pakistan.

**Assessments****Formative Assessments**

The teacher will ask students to:

- Name at least four modern types of transportation.
- Give at least two reasons for development of transport systems in urban and rural areas of Pakistan.
- Name at least two economic activities that depend on transport.
- Tell about CPEC, silk route, Chaman, Torkham, Port Qasim, Karachi Port, and Gwadar Port.
- Name at least three major exports and imports transported through the silk route and CPEC.
- Give examples to show at least two strengths and two weaknesses about the transport infrastructure of Pakistan.

**Summative Assessments**

Students will:

- Write in their notebooks about the characteristics of modern means of transportation used in Pakistan.
- Write about the issues due to lack of transport facilities and propose the reasons for its development in rural and urban areas.
- Write a report about the importance of transport in economic activities, by drawing examples from Pakistan.
- Use an atlas to locate the major transport routes of Pakistan including CPEC, silk route, Chaman, Torkham, Port Qasim, Karachi Port, and Gwadar Port.
- Locate important cities on the route of CPEC using a map.

### **Learning Activities**

The teacher will:

- Guide the students to prepare for a debate about the strengths and weaknesses of the transport system of Pakistan.
- Divide the class into groups to collect information in the form of pictures, videos, etc. about the transport infrastructure of Pakistan. Students will present their findings to other groups. The teacher can guide how to take notes while one group is presenting.
- Engage students in independent as well as collaborative research and projects related to trade and transport. Instruct students to explore future plans of transport infrastructure by the government of Pakistan. Students to assess the sustainability of these plans in terms of their impact on the environment and the lives of the people. The teacher will provide extra reading material, books, articles, or Internet links for research.
- Show a map online or in an atlas about the transport routes of Pakistan. Guide students to locate at least five cities on each major route. Instruct students to gather, organize, and interpret data about transport routes in the form of a report.
- Engage students in independent as well as collaborative research and projects related to CPEC. Instruct students to find out the benefits of CPEC and how it will create jobs and business opportunities for the local people. The teacher will provide extra reading material, books, articles, or Internet links for research.
- Organize online interviews with people engaged in transport business/activities. Divide the class into groups. Guide each group to think of questions for the interview, e.g. What is the nature of their transport business/job? What are the challenges they face in terms of transport routes? Do they have suggestions for improvement in the existing transport infrastructure of Pakistan?
- Show a documentary about CPEC, silk route, Chaman, Torkham, Port Qasim, Karachi Port, or Gwadar Port. Divide the students into groups. Instruct them how to take notes about the importance of these routes in the economic development of Pakistan. Each group to present its findings in the form of short videos (1-2 minutes) or charts.
- Provide the National transport Policy of Pakistan 2018: <https://www.pc.gov.pk/uploads/downloads/policy.pdf> to students. Divide the class into groups. Instruct each group to read about the policy. Students to give their feedback (advantages and drawbacks) in the form of a report. Guide students how to represent data in the form of graphs, tables, pie charts, flow charts, etc.



## Unit 6. Social and Economic Development

### DOMAIN 1: Physical Geography

### DOMAIN 2: Human Geography

### DOMAIN 3: Environmental Geography

#### Student Learning Outcomes:

- Inquire and describe some local, regional, and global patterns of distribution and consumption of resources (measuring development).
- Investigate economic activities related to natural, capital, and human resources (economic indicators).
- Describe that the economic progress of a region relies upon the specialization of resources through education, scientific research, and technology (economic and human indicators of development).
- Analyze that high revenues can be generated by exporting finished goods through technological advancements, marketing trends, and professional ethics.
- Study a selected infrastructure to understand adaptation according to human needs (comparison of the development of one developed country and Pakistan).
- Use sophisticated and appropriate vocabulary to describe growing issues connected to physical, human, and environmental geography and economy related to them.
- Interpret required information using maps, globes, photographs, aerial photographs, satellite images, and graphs to inquire about geographical changes of a selected region or a landform.
- Investigate geographical, climatic, political, cultural, and economic aspects of places using geographic representations and geospatial technologies.
- Use a range of multiple sources such as Google Maps, satellite images, photographs, diagrams, GPS, GIS, newspaper articles, thematic maps, and field trips to derive information of physical, human, and environmental geography of Pakistan and of the world to reach and support personal conclusions and critique with credibility.

#### Knowledge:

*Students will:*

- Describe that development includes the social and economic welfare of the people of a region.

#### Skills:

*Students will be able to:*

- Demonstrate a sound understanding of development.
- Initiate discussions that pose multiple questions about the various aspects of development and to what extent it serves humanity.

- Compare and contrast the Economic Development Indicators (EDI) from Human Development Indicators (HDI) of a country.
- Investigate the key economic indicators of development and their importance.
- Enlist a few human indicators that are important for the development of the country.
- Explain the role of inflation and unemployment in the development of a country.
- Evaluate the impacts of technology on the development of a country.
- Evaluate the current position of Pakistan at EDI and HDI indicators.
- Explore the importance of health care in the development of the country.
- *Identify the role of the Organization for Economic Co-operation and Development (OECD) to support development in developing countries.*

- Apply knowledge about EDI and HDI to the Pakistani context.
- Gather and interpret data related to inflation and unemployment rates in Pakistan. Investigate its possible causes.
- Inquire about the inefficacy/need for improvement of the Pakistani healthcare system.

## **Assessments**

### **Formative Assessments**

The teacher will ask students to:

- Define the terms social and economic welfare.
- Give at least two economic development indicators and human development indicators.
- Recall the meaning of inflation.
- Give at least two factors that affect the development of a country.
- Give at least two reasons for the need of technology for the development of the economy of a country.
- Tell why healthcare is an important factor for the development of a country.

### **Summative Assessments**

Students will:

- Write in their notebooks the importance of social and economic welfare in measuring the development of a country.
- Draw a comparison between economic development and human development indicators.

- Enlist key economic development indicators and explain their importance for the development of a country.
- Enlist key Human Development Indicators and explain their importance for the development of a country.
- Analyze the impact of unemployment and inflation on the development of a country.
- Write a report on how technology can aid in the development of a country.
- Write a paragraph on the need for an affordable healthcare system for the development of a country.

### **Learning Activities**

The teacher will:

- Debate that social and economic welfare is crucial for the development of a country.
- Engage students in independent as well as collaborative research and projects related to economic and social development. Instruct students to explore future plans of the government of Pakistan to improve economic and social development. The teacher will provide extra reading material, books, articles, or Internet links for research.
- Show a map online or in an atlas about global economic development. Guide students to locate developing and developed countries of the world. Instruct students to gather, organize, and interpret data about economic development in the form of tables, graphs, etc.
- Engage students in independent as well as collaborative research and projects to explore how Sustainable Development Goals (SDGs) are related to human development. The teacher will provide extra reading material, books, articles, or Internet links for research, e.g. <http://hdr.undp.org/en/content/human-development-and-sdgs>.
- Provide the monthly economic updates published by the Ministry of Finance, Government of Pakistan: <https://www.finance.gov.pk/updates.html> to students. Divide the class into groups. Instruct each group to read about different sections of the updates. Students to note the key points related to inflation, unemployment, economic indicators, etc. Guide students on how to interpret data from the given graphs, tables, etc., and prepare a report.

## Glossary

1. **Adaptation:** the process of change by which a species becomes better suited to its environment.
2. **Advancements:** the process of helping something/somebody to make progress or succeed; the progress that is made. For example, the advancements in the field of science.
3. **Afforestation:** the process of planting areas of land with trees in order to form a forest.
4. **Analyze:** to examine the nature or structure of something, especially by separating it into its parts, to understand or explain it. For example, Researchers analyze the data collected in detail to make conclusions.
5. **Bilateral:** involving two groups of people or two countries.
6. **Biodiversity:** the existence of a large number of different kinds of animals and plants which make a balanced environment.
7. **Characteristics:** typical feature or quality that something/somebody has. For example, all human languages share some common characteristics.
8. **Classify:** to arrange something in groups according to features that they have in common.
9. **Climate:** the regular pattern of weather conditions of a particular place.
10. **Collaborative:** involving, or done by, several people or groups of people working together.
11. **Consequences:** a result of something that has happened, especially an unpleasant result.
12. **Conurbations:** a large area where towns have grown and joined together, often around a city.
13. **Critique:** an act of judging the good and bad qualities of something. For example, to critique a poem.
14. **Deforestation:** the act of cutting down or burning the trees in an area.
15. **Diversity:** a range of many people or things that are very different from each other.
16. **Erosion:** the process by which the surface of something is gradually destroyed through the action of wind, rain, etc.
17. **Evaluate:** to form an opinion of the amount, value or quality of something after thinking about it carefully. For example, to critically evaluate whether a new technology will be useful or not.
18. **Evidence:** the facts, signs or objects that make you believe that something is true. For example, researchers have found clear scientific evidence of a link between exposure to sun and skin cancer.
19. **Explore:** to look at (something) in a careful way to learn more about it: to study or analyze (something). For example, researchers are exploring how language is acquired by children.
20. **Flora and fauna:** a collection of plant and animal species in a given geographic location.
21. **Formative Assessments:** a wide variety of methods that teachers use to conduct in-process evaluations of student comprehension, learning needs, and academic progress during a lesson, unit, or course. The general goal of formative assessment is to collect

detailed information that can be used to improve instruction and student learning while it's happening. For example, exit slips, discussions etc.

22. **Geopolitical:** connected with the political relations between countries and groups of countries in the world, as influenced by their geography.
23. **Geospatial:** relating to information that is associated with a particular location.
24. **GIS:** A spatial system that creates, manages, analyzes, and maps all types of data.
25. **Global Warming:** the increase in temperature of the earth's atmosphere caused by the increase of particular gases, especially carbon dioxide.
26. **GPS:** a system by which signals are sent from satellites to a special device, used to show the position of a person or thing on the surface of the earth very accurately (the abbreviation for 'global positioning system').
27. **Illustrate:** to use pictures, photographs, diagrams, etc. in a book, etc.
28. **Immigration:** the process of coming to live permanently in a different country from the one you were born in; the number of people who do this.
29. **Industrialization:** the process of developing industries in a country or an area.
30. **Inflation:** a general rise in the prices of services and goods in a particular country, resulting in a fall in the value of money; the rate at which this happens.
31. **Inquire:** to investigate, look into. For example, students will inquire the effects of global warming.
32. **Interconnection:** connection to or with similar things.
33. **Interdependent:** that depend on each other; consisting of parts that depend on each other.
34. **Interpret:** the particular way in which something is understood or explained. An explanation or way of explaining.
35. **Investigate:** to find out information and facts about a subject or problem by study or research.
36. **Landscape:** everything you can see when you look across a large area of land, especially in the country.
37. **Megapolis:** a megalopolis sometimes called a megapolis; also megaregion, city cluster or supercity, is a group of two or more roughly adjacent metropolitan areas, which may be somewhat separated or may merge into a continuous urban region.
38. **Mind Map:** a diagram that presents information with a central idea in the middle and connected ideas arranged around it
39. **Organogram:** a diagram of the structure of an organization, especially a large business, showing the relationships between all the jobs in it
40. **Plate tectonics:** the movements of the large sheets of rock (called plates) that form the earth's surface; the scientific study of these movements.
41. **Predict:** to say that something will happen in the future. For example, economists predict a bright future for the businesses in the next financial year.
42. **Scarcity:** shortage of resources.
43. **Settlements:** a place where people have come to live and make their homes, especially where few or no people lived before.
44. **Summative Assessments:** are used to evaluate student learning, skill acquisition, and academic achievement at the conclusion of a defined instructional period—typically at the



end of a project, unit, course, semester, program, or school year. For example, end of unit exam or final term exam.

- 45. Sustainability:** the use of natural products and energy in a way that does not harm the environment.
- 46. Urbanization:** the process in which more and more people start to live and work in towns and cities rather than in the country.
- 47. Venn Diagram:** a picture showing sets (= groups of things that have a shared quality) as circles that cross over each other, to show which qualities the different sets have in common.
- 48. Weather:** the condition of the atmosphere at a particular place and time, such as the temperature, and if there is wind, rain, sun, etc.
- 49. Weathering:** the action of sun, rain, or wind on rocks, making them change shape or colour.

## **Guidelines for Textbook Authors (Grades 6-8)**

### **GUIDELINES FOR THE TEXTBOOK AUTHORS**

A textbook is an important teaching and learning tool and a standard source of information for the formal study of a subject. Writing a textbook is an extremely important and technical task in the sense that it requires the translation of curriculum learning outcomes at the proper cognitive level of the learners. The textbook authors are required to understand the curriculum in letter and spirit. In this regard, the following key points are of fundamental importance:

- Complete understanding of the content of the curriculum
- Background knowledge of the development of the Single National Curriculum (SNC)
- Realization of the thoughts of the ones who developed the curriculum
- Realization of the responsibility of a Textbook Author

Keeping the above key points in mind, the textbook authors are recommended to follow the following, but not limited to these, guidelines:

- The first and foremost responsibility of a textbook author is to translate the spirit of the curriculum SLOs into content and activities/exercises of the textbook. Therefore, the textbook author needs to go through the curriculum by time and again in order to have an in-depth understanding.
- Prepare a mind map of themes and learning outcomes, that is, chapter-wise distribution/ presentation of the scheme of the SLOs.
- The textbook should be written in such a manner that it should carry a thorough continuation among the contents presented in a different chapter.
- Retain and limit the textual material to the learning outcomes details. Consider the time allocated to the subject in the scheme of studies. This will help to decide the length, width, and depth of chapters/topics and concepts.
- Select accurate, authentic, and up-to-date text, and real-life examples.
- Present the concepts in interesting and easy way to be understandable for the children through relevant activities, information boxes, and pictures etc.
- The material must help to enhance the knowledge of learners, develop inquiry skills, and engage them in higher-order thinking.
- The content should be interactive and appealing for further learning of the learners.
- The content should help the child make connections between the different concepts.

- The material should help learners to understand the world in which they live and grow as lifelong learners.
- The material must be relevant and error-free.
- The maps included in the textbook must be approved by the Survey of Pakistan.
- The material must be free from gender, ethnic, regional, and other sorts of biases.
- Use attractive and engaging text, maps, tables, graphs etc. along with clear and appropriate illustrations which must be properly labeled and captioned.
- The textbook should have a variety of practical and thought-provoking activities to develop long-lasting learning of the learners.
- Exercises should encourage learners to think, develop skills, and use the information for a variety of purposes. The exercises should include the questions of every type in the order they are introduced in the text.
- Authors should consider introducing structural questions (involving a gradually increasing level of difficulty i.e., from easy to moderate, and then to difficult)
- The textbook must contain a table of contents, a list of abbreviations/symbols and a glossary.
- The textbook must be contextually relevant and applicable in the normal classroom environment.
- The maps, illustrations, and pictures should be from the local/Pakistani environment.
- Include an appropriately developed assessment after a few concepts/themes, topics/subtopics in each chapter.
- The textbook should contain material that could make the learners to think beyond the textbook.

### **Guidelines for Writing a Chapter**

In order to make the learning interesting and exciting and to provide a strong foundation for higher-order learning, each chapter in the textbooks must have the following, but not limited to these, features:

- Chapter opener to introduce the chapter with title, full page-colored photographs, and Students Learning Outcomes.
- Student Learning Outcomes SLOs at the beginning of each chapter clearly describe the objectives and the tasks that are to be achieved in the chapter.

- Keywords, terms and definitions to be highlighted in the text.
- Headings and subheadings with specific colors and font size to show different levels of contents and activities.
- *Tidbits* be added to provide snippets of interesting and useful knowledge.
- Attractive and colorful illustrations to stimulate learning.
- Questions like “*Do you know?*” to recall, think, and apply what they have learned as well as to reinforce the learning of key concepts and principles.
- Relevant everyday experiences and contexts are used.
- *Hands-on activities to encourage the learners to make their own inquiries.*
- *Skills and processes to infuse values, ethics and attitude.*
- *Mini-exercise* to provide questions involving scientific investigations and relating contents with the technology, society, and environment.
- Authors are encouraged to introduce the activities/exercises to be done in groups to make the students interact and share their concepts with each other. This will indirectly refine their concepts and will contribute to leading them towards collaborative studies.
- *Awareness beyond the classroom* to widen the horizon of the learners by providing interesting information and introducing, more advanced relevant concepts according to grade level in an understandable way.
- *Key Points* to provide a summary of the concepts and principles studied in a chapter should be included at the end of that chapter.
- knowledge and skills at the end of each chapter to:
  - recall and integrate previous learning
  - engage and develop their creativity
  - move from lower to higher-order thinking
- Include open-ended questions to provoke learners' thinking, creativity and investigation skills.
- Addresses of relevant websites and online learning centers/resources should be mentioned so that the learners and teachers can get up-to-date information about the concepts. The material should reflect the role of technology to promote learning with understanding. Beware that the referred websites or centers should not include material contrary to our religious, moral, ethical, cultural, and social values.
- Teacher Guide should include tips to teachers at relevant places in chapters to explain different concepts and to use a variety of tools/materials, and activities.

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