

Vision Empower & XRCVC
Teacher Instruction KIT
Natural Resources

Syllabus: Karnataka State Board

Subject: Environmental Studies

Grade: 5

Textbook Name: Environmental Studies- Text cum work book-English medium- Fifth standard

Chapter Number & Name: 5.Natural resources

1. OVERVIEW

1.1. OBJECTIVE & PREREQUISITES

Objective

- To understand the needs and significance of natural resources.
- To know different types of resources and their conservation.

Prerequisite Concept

- Things around us (soil, forest)
- Forest- EVS, Grade 4, chapter 3: Go around the forest.

Content Index

*Kindly Note: Activities marked with * are mandatory*

1. OVERVIEW

1.1. OBJECTIVE & PREREQUISITES

2. LEARN

2.1 KEY POINTS

2.2 LEARN MORE

3 ENGAGE

3.1 INTEREST GENERATION ACTIVITY

Things around us

Activity 1: Things around us

3.2 CONCEPT INTRODUCTION ACTIVITIES

Natural Resources

Activity 2: Natural resources

Renewable Resources

Activity 3: Renewable resources

Non- renewable Resources

Activity 4: non- renewable resources

3.3 LET'S DISCUSS: RELATE TO DAILY LIFE*

4 EXERCISES & REINFORCEMENT

4.1 EXERCISES & REINFORCEMENT

Classify things as natural or man-made

Activity 5: Classify things as natural or man-made

4.2 IMPORTANT GUIDELINES*

Exercise Reading

Perform Textbook Activity

Provide Homework

2. LEARN

2.1 KEY POINTS

Natural Resources: Natural resources are materials provided by the Earth (they occur naturally) that humans use and modify to make other (human-made) products. For example: air, sunlight, water, etc.

Renewable Resources: those resources that can be replenished or renewed naturally over time. For example: Air, water, wind, solar energy, etc. These can be easily renewed by nature.

Non Renewable Resources: those natural resources that are available in limited quantity. These resources cannot be renewed or replenished in short duration. Therefore they are also known as exhaustible resources. Examples- coal, natural gas, petroleum, etc.

Fossil Fuel: These are formed by the remains of extinct plants and animals which are buried under the earth's crust over millions of years. Example: coal, natural gas and petroleum.

Minerals: Minerals are naturally-occurring inorganic substances with a definite and predictable chemical composition and physical properties. They are extracted in the form of ore and then refined in industries to separate metal from its ore.

2.2 LEARN MORE

None

3 ENGAGE

3.1 INTEREST GENERATION ACTIVITY

Things around us

Activity 1: Things around us

Materials Required: None

Prerequisites: None

Activity Flow

- Begin the lesson by simply discussing/exploring the things all around.
- Take a walk outside the classroom and stop to explore everything that's there.
- For example; guide the students to touch and observe/notice the school building/structure, the staircase, the doors, the cars and bikes parked outside, the breeze once you step outdoors, the nearby trees/plants, the soil, etc.
- When discussing the things in the surroundings apart from tactually exploring the things, also guide the student to observe and identify things based on their sounds, touch etc. For example; the sound of birds chirping, sounds cars and bikes make, etc.
- Ask the student to classify the things they see as natural or artificially made.

3.2 CONCEPT INTRODUCTION ACTIVITIES

Natural Resources

Activity 2: Natural resources

Materials Required: available natural resources

Prerequisites: None

Activity Flow

- Introduce natural resources to the students and ask them to list down the Earth's natural resources.
- The teacher can also bring a few materials with her like soil, plants, oil, water, etc and let children see some of the natural resources.
- Teachers can also take children outside and then give them more exposure to natural resources which are available in their surroundings.

Renewable and non renewable resources:

- Explain both with examples and then ask the children to classify below mentioned resources into renewable and non-renewable resources.
- Resources: coal, iron, petrol, diesel, cooking gas, water, oxygen, forests, gold, soil, wild animals, solar energy.

Renewable Resources

Activity 3: Renewable resources

Materials Required: None

Prerequisites: None

Activity Flow

Renewable resources

- After introducing renewable resources, divide the class into three groups and give one renewable resource to each group.
 1. Group 1: solar energy (Solar energy is the energy obtained from the sun. Sun is the main source of heat and light to the earth. We get light and heat from the sun. You know that plants prepare their food using solar energy).
 2. Group 2: soil (we walk on soil. We live on soil. Soil is also a renewable resource like water. Soil is necessary for the growth of plants. Plants get water and minerals required to prepare their food from soil).
 3. Group 3: forest (Forests are the natural habitat of wild animals and birds. They provide the necessary food to the animals and many useful materials to man) (Things we get from the forest e.g., wood, spices, honey, gum etc. Wood comes from the bark and branches of trees)
- Ask them to sit in their groups and discuss that natural resource, where it is being used and its importance.
- After that, ask each group to share their discussed points with the whole class and then the teacher can add more to it if there is any point missed out by students.

Non- renewable Resources

Activity 4: non- renewable resources

Materials Required: sample of coal, petrol, diesel

Prerequisites: None

Activity Flow

- *Fuel:* Fuels are substances which release heat and energy on burning. We use fuel for many purposes. Example: running vehicles, cooking food.
- Fossil fuels are formed by the remains of extinct plants and animals which were buried under the earth's crust over millions of years. The main fossil fuels are petroleum, natural gas and coal

Petroleum:

- Taking samples of petrol and diesel orient the student to its texture and smell. Let the students' hands be completely cleaned after touching.
- As per the content explain the concepts of petroleum, petrol, diesel and natural gas.

Coal:

- Using pieces of real coal explain the student how it is black in color and let the student feel the texture. Explain how coal pieces are never the same size. Let the student feel mixed size coal pieces

Mineral resources:

- Minerals are formed in the earth as a result of prolonged natural process. They are available along with rocks on the surface of the earth. Minerals are extracted in the form of ore, refined in factories and metals are separated from them. Example: Separation of iron from iron ore. Metals like aluminium, copper, silver etc., are extracted from their ores.

3.3 LET'S DISCUSS: RELATE TO DAILY LIFE*

- Have the student experience how clay pots are made, or how wood is carved into furniture. Organize a workshop to actually build these things, if possible.
- Visit a few industries/factories.
- Nature trip to explore natural things like air (that is cooler on mountain tops), water bodies, plants, animals, rocks, soil etc. that are not made by man.
- What do the cars run on? What do aircrafts run on?
- Forest and its conservation.

4 EXERCISES & REINFORCEMENT

4.1 EXERCISES & REINFORCEMENT

Classify things as natural or man-made

Activity 5: Classify things as natural or man-made

Materials Required: None

Prerequisites: natural and man-made resources

Activity Flow

- Repeatedly ask the student to classify things they come across while travelling, on picnics, field trips etc.
- Have the student recognize new things they've heard about in media (Books, TV, Movies etc.) as either man-made or natural.

4.2 IMPORTANT GUIDELINES*

Exercise Reading

It is very important that the children practice their learnings as well as their reading. Hence have the children read out the newly learned concepts from their textbooks or other available resources.

Perform Textbook Activity

It is good practice to have the children perform the textbook activities. Your textbook activities might not be accessible hence go through this resource to learn how to make textbook content accessible

Provide Homework

To evaluate their understanding and to help the student revise and implement the new learnt concept ensure to provide them with homework. Students should perform one or two of the questions mentioned above or from the textbook exercises with the teacher in Class and the remaining may be given for homework. Also, ensure that the student knows their special skills linked to independently using their accessible books as it will be critical to doing homework independently

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