

## EFFICIENT USE OF RESOURCES

### 1. Introduction

The efficient use of resources is an essential part of sustainable development and environmental protection. Natural resources such as water, energy, forests, and minerals are limited, and their excessive consumption can lead to environmental degradation and climate change. For this reason, it is important for individuals, communities, and institutions to learn how to use resources responsibly and efficiently.

Efficient resource use means reducing waste, improving efficiency, and using natural resources in a way that minimizes environmental impact while meeting human needs. Schools play a key role in educating students about sustainable resource management and encouraging environmentally responsible behaviour.

### 2. What Are Natural Resources?

Natural resources are materials and energy sources that occur naturally in the environment and are used by humans to support life and economic activities.

Examples of natural resources include:

- water
- forests
- minerals
- fossil fuels
- sunlight
- wind
- soil

Natural resources can be classified into two main categories:

**Renewable resources** – resources that can naturally replenish over time, such as solar energy, wind energy, and forests.

**Non-renewable resources** – resources that exist in limited quantities and take millions of years to form, such as coal, oil, and natural gas.

Understanding the difference between these types of resources helps people make more sustainable choices.

### 3. Why Efficient Resource Use Is Important

Using resources efficiently is important for several reasons.

First, it helps protect the environment. Excessive consumption of natural resources can lead to deforestation, pollution, and loss of biodiversity.

Second, efficient resource use helps reduce waste and pollution. When fewer resources are used, fewer materials end up in landfills or in the natural environment.

Third, responsible resource management helps reduce greenhouse gas emissions, which contribute to climate change.

Finally, using resources wisely helps ensure that future generations will also have access to these resources.

## 4. Efficient Use of Energy

Energy efficiency means using less energy to perform the same tasks while maintaining comfort and productivity.

Examples of energy-efficient practices include:

- turning off lights and electronic devices when they are not in use
- using energy-efficient appliances
- using LED lighting instead of traditional bulbs
- reducing unnecessary electricity consumption
- using renewable energy sources such as solar or wind power

Schools can also implement energy-saving policies by encouraging students and teachers to monitor energy use in classrooms and reduce unnecessary consumption.

## 5. Efficient Use of Water

Water is one of the most important natural resources, but it is not unlimited. Freshwater resources are under increasing pressure due to population growth, agriculture, and industrial activities.

Students and communities can help conserve water by:

- turning off taps when water is not needed
- fixing leaking taps and pipes
- using water responsibly in daily activities
- collecting rainwater for gardening
- reducing unnecessary water consumption

Water conservation is especially important in regions that experience water shortages or drought.

## 6. Efficient Use of Materials and Waste Reduction

Efficient use of resources also includes reducing the amount of waste produced. One of the most effective approaches to waste management is the **3R principle**:

**Reduce** – minimize the amount of waste produced.

**Reuse** – use products multiple times before discarding them.

**Recycle** – convert waste materials into new products.

Examples of responsible resource use include:

- using reusable water bottles and containers
- recycling paper, plastic, and glass
- repairing products instead of replacing them
- avoiding single-use plastic products

Reducing waste helps conserve natural resources and decreases pollution.

## 7. The Role of Schools in Promoting Efficient Resource Use

Schools can play an important role in promoting sustainable behaviour and efficient resource use.

Educational institutions can:

- implement recycling systems
- encourage energy-saving practices
- promote sustainable transportation such as walking or cycling

- organize environmental awareness campaigns
- involve students in sustainability projects

Through these initiatives, students learn practical ways to contribute to environmental protection.

## 8. Efficient Habits Students Can Practice

Developing eco-friendly habits is one of the most effective ways students can contribute to protecting the environment. Even small actions in everyday life can help reduce waste, save energy, and conserve natural resources. When students practice sustainable habits both at school and at home, they become more responsible consumers and active participants in environmental protection.

Students spend a large part of their day at school, which means schools are important places to practice sustainable behaviour. By adopting eco-friendly habits at school, students can help reduce the environmental impact of their educational environment.

Some practical habits **at school** include:

- Turning off lights and electronic devices when leaving the classroom to reduce unnecessary energy consumption.
- Using digital documents instead of printing, when possible, to reduce paper waste.
- Recycling paper, plastic, and other materials using the appropriate recycling bins available at school.
- Using reusable water bottles and lunch containers instead of disposable plastic packaging.
- Reducing food waste in the school cafeteria by taking only the amount of food that will be eaten.
- Participating in school environmental initiatives, such as recycling campaigns or sustainability projects.
- Walking or cycling to school when possible, or using public transportation to reduce carbon emissions.

Environmental responsibility should not be limited to school. Students can also practice sustainable habits at home and encourage family members to adopt environmentally friendly behaviours.

Examples of eco-friendly habits **at home** include:

- Turning off lights, televisions, and other electronic devices when they are not in use.
- Saving water by turning off the tap while brushing teeth or washing dishes.
- Separating waste for recycling, including paper, plastic, glass, and organic waste.
- Reducing plastic use by choosing reusable bags, containers, and bottles.
- Avoiding food waste by planning meals and using leftovers.
- Supporting environmentally responsible consumption, such as buying products with less packaging or choosing locally produced goods.
- Using energy efficiently, for example by adjusting heating or air conditioning and avoiding unnecessary energy use.

## 9. Key Terms / Glossary

**Natural resources** – materials and energy that occur naturally in the environment and are used by humans, such as water, forests, minerals, sunlight, and fossil fuels.

**Renewable resources** – natural resources that can be replenished naturally over time, such as solar energy, wind energy, and water.

**Non-renewable resources** – resources that exist in limited amounts and take millions of years to form, such as coal, oil, and natural gas.

**Water conservation** – the practice of using water carefully and reducing unnecessary water consumption.

**Sustainability** – meeting the needs of the present without compromising the ability of future generations to meet their own needs.

**Waste reduction** – actions that aim to decrease the amount of waste produced.

**Recycling** – the process of collecting and transforming waste materials into new products.

**Reuse** – using an item again instead of throwing it away after one use.

**Composting** – a natural process that converts organic waste, such as food scraps and leaves, into nutrient-rich soil.

**Carbon footprint** – the total amount of greenhouse gas emissions produced by an individual, organization, or activity.

**Sustainable consumption** – using products and resources in a responsible way that minimizes environmental impact.

## EVERCISES

### True / False.

Read the statements and decide whether they are **True (T)** or **False (F)**.

1. Renewable resources can naturally replenish over time.
2. Oil and coal are examples of renewable resources.
3. Turning off unused lights helps save energy.
4. Recycling helps reduce the amount of waste in landfills.
5. Water conservation means using more water in daily activities.
6. Sustainable development considers the needs of future generations.
7. Walking or cycling instead of using a car can reduce pollution.
8. Composting can be used for plastic waste.
9. Efficient use of resources helps protect the environment.
10. Energy efficiency means using more electricity to perform tasks.

**Multiple Choice.** Choose the correct answer (A, B, C or D).

1. Which of the following is a renewable resource?  
A. Coal  
B. Oil  
C. Wind  
D. Natural gas
2. Resource efficiency means:  
A. Using more resources  
B. Reducing waste and using resources wisely  
C. Ignoring environmental problems  
D. Increasing pollution
3. Which activity helps save energy?  
A. Leaving lights on all day  
B. Turning off unused devices  
C. Charging devices continuously  
D. Using more electrical appliances
4. Which practice helps conserve water?  
A. Leaving the tap running  
B. Fixing leaking pipes  
C. Using more water than necessary  
D. Ignoring water waste
5. Composting is mainly used for:  
A. Plastic waste  
B. Organic waste  
C. Metal waste  
D. Electronic waste
6. Recycling helps:  
A. Increase waste  
B. Save natural resources  
C. Damage ecosystems  
D. Increase pollution

7. Which action reduces carbon emissions?
  - A. Driving everywhere
  - B. Walking short distances
  - C. Burning waste
  - D. Using more electricity
8. Sustainable consumption means:
  - A. Buying unnecessary products
  - B. Using resources responsibly
  - C. Ignoring environmental impact
  - D. Wasting resources
9. Which item is easiest to reuse?
  - A. Plastic bag
  - B. Disposable cup
  - C. Reusable bottle
  - D. Paper towel
10. Efficient use of resources helps:
  - A. Protect natural resources
  - B. Increase waste
  - C. Harm ecosystems
  - D. Increase pollution

**Gap Filling.** Complete the sentences using the words below.

(sustainability, renewable, recycling, energy, resources, composting, water, efficiency, waste, environment)

1. \_\_\_\_\_ energy sources include solar and wind power.
2. \_\_\_\_\_ helps transform organic waste into soil.
3. Turning off lights helps save \_\_\_\_\_.
4. \_\_\_\_\_ means meeting present needs without harming future generations.
5. \_\_\_\_\_ is the process of converting materials into new products.
6. Reducing \_\_\_\_\_ helps protect natural resources.
7. Natural \_\_\_\_\_ include forests, water, and minerals.
8. \_\_\_\_\_ conservation is important for protecting freshwater supplies.
9. Resource \_\_\_\_\_ means using materials wisely.
10. Protecting the \_\_\_\_\_ is essential for sustainable development.

**Matching.** Match the **terms (1–10)** with the correct **definitions (A–J)**.

Terms	Definitions
1. Sustainability	A. Using less energy for the same task
2. Energy efficiency	B. Natural process of turning organic waste into soil
3. Recycling	C. Using materials again instead of throwing them away
4. Reuse	D. Meeting present needs without harming future generations
5. Composting	E. Transforming waste into new products
6. Natural resources	F. Materials obtained from nature
7. Water conservation	G. Responsible use of water
8. Renewable energy	H. Energy from natural sources like wind and sun
9. Waste reduction	I. Reducing the amount of waste produced
10. Sustainable consumption	J. Using products responsibly

### Sentence Completion

Complete the sentences with appropriate words.

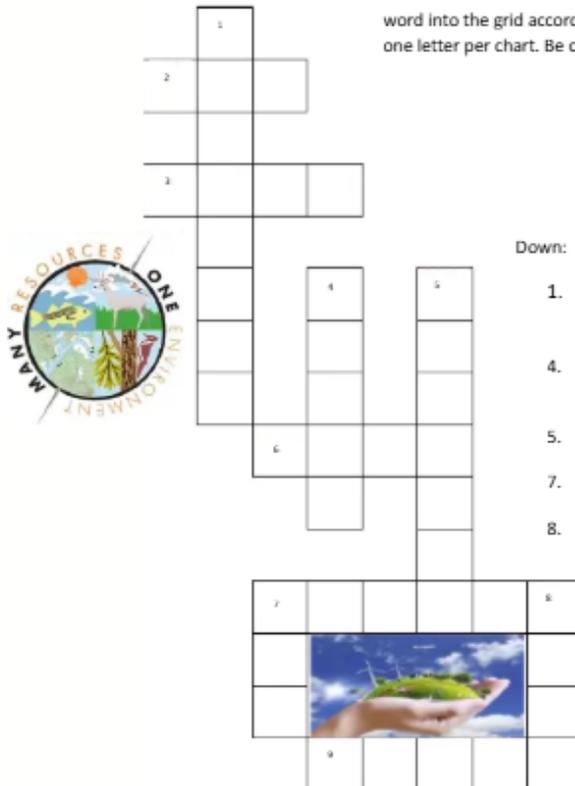
1. Using reusable containers helps reduce \_\_\_\_\_ waste.
2. Solar panels produce \_\_\_\_\_ energy.
3. Recycling paper helps protect \_\_\_\_\_.
4. Efficient use of resources helps reduce \_\_\_\_\_ pollution.
5. Turning off devices when not in use saves \_\_\_\_\_.
6. Sustainable behaviour helps protect the \_\_\_\_\_.
7. Composting reduces \_\_\_\_\_ waste in landfills.

8. Walking or cycling reduces \_\_\_\_\_ emissions.
9. Conserving natural \_\_\_\_\_ is essential for sustainability.
10. Schools can promote \_\_\_\_\_ awareness through environmental education.

## Crossword

# Natural Resources and Materials

**Instructions.** Read the definitions and write the corresponding word into the grid according to the number and the direction. Write one letter per chart. Be careful with your spelling.



Down:

1. We get this material from fossil fuels. We use it to move our vehicles.
4. We get this material from the pulp of trees and plants. We use it in our printers.
5. With this material we produce different accessories like bags and wallets.
7. We take it from animals and we wear it in the cold.
8. With this material we make pottery.

Across:

2. We get this material from fossil fuels and we use it to make candles.
3. We get this material from the rocks. It is shiny and expensive.
6. We get this material from animals and we make many different foods out of it.
7. We get this material from animals and plants as well.
9. Bees produce this special material. We eat it.

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