

# What is “Environmental Studies?”

Environmental studies is not only teaching about the environment. It is also about the people and the effect of their life on the environment.

Environmental education emphasizes the exploration of attitudes and values, and the development of the knowledge and skills so that people will actively participate in decision making in the world around them.

Environmental Studies or rather environmental education need not be a subject specific content area. It should be an educational process of the five important elements:

## **Awareness, Knowledge, Attitude, Skills and Participation.**

The acquisition of these objectives would undoubtedly foster sustainable development of the environment.

## **Aims of Environmental Studies.**

- To help students develop the skills necessary of the investigation and sustainable development of the total environment and for identifying and solving environmental problems.
- To help students acquire cultural and social values and strong feelings of concern for the environment.
- To help students acquire an awareness of and sensitivity to the total environment.
- To help students develop a basic understanding of the total environment and the inter-relationships students acquire the motivation for active participation in environmental improvement and protection.
- To help students identify alternative approaches and make informed decisions about the environment based on ecological, political, economic, social and aesthetic features.
- To provide students with opportunities to be actively involved at all levels in working towards the resolution of environmental problems.

## **Objectives of Environmental Studies.**

Environmental Education is an educational process made up of five elements;

### **Awareness.**

Environmental education seeks to build awareness. It builds not only a sensory awareness of the world around us, but also an awareness of social and cultural issues and problem-solving strategies. It helps students to become aware that there are choices they can make as consumers, and that there are many implications to the choices that they make.

## **Knowledge**

Increased awareness encourages students to improve their knowledge and understanding of natural, social, political and economic processes. Stories could connect past and future. Environmental problems in our own country could be related to similar incidents around the globe. This could illustrate “the interconnectedness of the world.”

## **Attitudes**

Student’s attitudes may change or mature as they develop a deeper appreciation of and respect for the natural world and for individual people and cultures. When they realize that their actions make a difference, they feel a greater responsibility to the environment and would begin to pursue other environmental endeavors.

## **Skills**

The development of process skills involves teaching students “how to think, not what to think.” This enables them to become more effective decision makers. Decision – making skills include: critical thinking and communication skills, analytical and observational skills, negotiation and conflict resolution skills, and the ability to identify and clarify values. Environmental education is a way to teach students analytic skills, and to the students opportunities to investigate real issues that effect them personally.

## **Participation**

Ultimately, the goal of environmental education is to encourage students to apply their knowledge, skills and commitment outside the classroom, in every aspect of their life – for students to participate in decisions.

Participation can mean personal behavior, or involving oneself in decisions affecting the school, neighbourhood or community. Environmental education is a way of “helping students know that they can make a difference.”

Environmental education (studies) is distinct from previous educational strategies. It stresses the combination of values, exploration, knowledge, and skill development, sustainable development and a commitment to be an active participant. By including both the natural and human –built environment, and by encouraging people to develop a sense of responsibility for their total environment.

Environmental education (studies) addresses the heart of the environmental problems and solutions – that is, human behaviour.

# THE STRUCTURE OF THE LEARNING AREA

Environmental Studies is a diverse part of the National Curriculum. To assist schools to plan the teaching / learning activities effectively, this syllabus is divided into five units.

<b>UNIT 1</b>	<b>THE PEOPLE</b>
<b>UNIT 2</b>	<b>THE EARTH</b>
<b>UNIT 3</b>	<b>LIVING THINGS</b>
<b>UNIT 4</b>	<b>THE CHANGING WORLD</b>
<b>UNIT 5</b>	<b>INTERDEPENDENCE</b>

These units are sub divided into various topics which include student centered activities. The activities are designed in such a way that the students will play a very active role in collecting information, analyzing, presenting and in some cases even in self evaluating.

We recommend that teachers should only guide the students, and hope that teachers will not over-assist them. Skill development and real experience, which is the center of the activities in the syllabus should be emphasized.

It is hoped that students will develop basic skills and information required to protect, sustain and improve quality of the environment. Positive thinking and action in this regard should be achieved through the syllabus.

These five units are described and the main objectives of the units are given below.

## **APPROACHES TO TEACHING AND LEARNING IN ENVIRONMENTAL STUDIES**

The lessons and activities suggested in Environmental Studies teaching / learning materials is based in the inquiry method of learning. This syllabus encourages students to ask questions and to actively search for their answers. This method also enables teachers to design an extensive range of teaching strategies to address the needs of the students in the classroom.

Inquiry-based method of learning is based on the following activities.

### **INVESTIGATION**

This develops students' skills in researching, processing and interpreting data. It is the foundation for predicting possible solutions to problems, constructing hypotheses, considering different approaches, and designing methods for gathering, organizing and processing information.

### **COMMUNICATION**

This develops students' skills in using all forms of communication – spoken, written, graphic and statistical. Students learn to collect, process, analyse and present information using a range of formats and a variety of media.

### **PARTICIPATION**

This develops students' skills and confidence in collaborative work and decision-making. Students are encouraged to value the relevance of these skills to their own lives and futures.

Application of the inquiry method should include:

- teacher assistance from dependence to independence
- progressive development of students' skills.
- use of a range of scales
- increasing complexity of materials and product.

## SUMMARY OF INQUIRY STRATEGIES

Grade	Investigate	Communicate	Participate
1	Gather and record information from direct experiences.	Prepare information for an audience by describing, drawing and role-playing.	Join in a group activity.
2	Identify, compare and categories data. Relevant information.	Express a personal view on the meaning of	Contribute to a class activity
3	Ask questions and use a variety of sources of information.	Present information to examine a key idea. for a role in a class activity.	Assume responsibility
4	Use different types of data to gain information. achieve	Translate information from one from to another; for example, explain in speech and writing information from a graph.	Apply suitable strategies to a purpose.
5	Recognise significant issues in an area of investigation.	Use supporting evidence to acknowledge different viewpoints.	Work cooperatively to achieve a common goal.

## **UNIT 1**

### ***THE PEOPLE***

This unit focuses on the people and the society. It involves the interpretation and explanation of the significant issues, events and patterns of change in people's life, the biological and social influences, the development of individuals and families. It also includes the significance of food and the study of health and their relationship between people and the environment.

It examines the interaction of people and change over time across space. It develops an understanding of spatial context, enabling students to describe and explain the location, pattern and processes associated with natural, cultural and man-made phenomena.

## **OBJECTIVES**

At the end of unit 1, students will:

- develop a knowledge and understanding of significant events, issues and patterns of change in people's life.
- Use evidence to formulate hypothesis,
- Understand and analyse viewpoints on physical and mental well-being and their influence on people,
- Discuss problems which occur due to patterns of change in people's life,
- Identify rules that influence their lives and make connections,
- Collect, present and communicate information about places between their own rights and responsibilities and those of other people in a variety of ways including field work, maps, graphs, pictures and models,
- Develop knowledge, skills and values associated with responsible social action, including proposal for ecologically sustainable development,
- Investigate how communities involve belief systems in the search for meaning and purpose in life and use them to regulate behaviour.

Grade 1	Grade 2	Grade 3	Grade 4	Grade 5
<p>Identify external body organs.</p> <p>Identify the members of the family, their role and the size of one’s own family.</p> <p>Identify and name various items used for cleanliness.</p> <p>Identify and name four major food types and express the importance of eating clean food.</p>	<p>Use five sense organs (skin, eye, nose, tongue, and ear) to observe the environment</p> <p>Measure and record the rate of growth.</p> <p>Compare the size of one’s own family and those of the parents.</p> <p>Express one’s own responsibility as a member of the family.</p> <p>Practice healthy eating habits.</p> <p>Describe the main components of a balanced diet.</p>	<p>Demonstrate how to take care of the sense organs.</p> <p>Identify the similarities and the differences among human beings.</p> <p>Identify the reasons of migration.</p> <p>State problems that arise due to population increase.</p> <p>Estimate the size and the population of one’s own island and compare the information with that of the Capital, Male’.</p> <p>Name the common diseases and how they spread.</p> <p>Identify what is used as fun-food.</p>	<p>Identify and name some internal organs.</p> <p>Identify some reasons of population increase.</p> <p>Compare the size of the population in one’s island ten years before with present population.</p> <p>Name the diseases and the vaccines given to the children to prevent them.</p> <p>Identify the link between people, animals and plants in their dietary habits.</p>	<p>Express how the internal organs function.</p> <p>Present the family members in a family tree.</p> <p>Discuss the implications of in-migration and come up with some solutions for the problems.</p> <p>Find about the “dangerous” diseases in the country and their causes.</p> <p>List different ways of preserving food given emphasis on the local methods.</p> <p>Survey to find how much the Maldivians smoke in general, and find about the effect of smoking on human being and on the environment.</p>

## **UNIT 2**

### ***THE EARTH***

The earth or the habitat of the living things is the key area of the physical environment. The destruction caused to the earth and its components effect directly to the degradation of the environment.

This unit helps students to be aware of the main components of the earth and the solar system. It provides students basic facts and information on these areas.

The skills and values acquired through various activities in this unit would also contribute to the effective use and sustainability of the natural resources available on earth.

## **OBJECTIVES**

At the end of unit 2, the students will:

- collect, present and communicate information about the earth and its components in various ways including field work, maps, graphs, pictures, models and other forms of geographical media,
- learn about the solar system and how the system effects the earth,
- understand and appreciate the values of natural resources available on earth,
- experiment, analyse, investigate and present individual and group activities and projects,
- develop and understanding and appreciate the need for the conservation of the natural resources on earth,
- understand the structure of the earth and its components such as soil, air and water,
- develop an understanding of the importance of the main components of the earth to human life,

Grade 1	Grade 2	Grade 3	Grade 4	Grade 5
<p>Identify different types of soil found in different parts of the island.</p> <p>Describe different uses of the soil.</p> <p>Experiment to show that air is all around us.</p> <p>Experiment to show that air moves.</p> <p>Recognise objects that float.</p> <p>Demonstrate to show that fresh water lies on top of salt water.</p> <p>Identify uses of water.</p> <p>Describe ways to minimize wastage of water.</p> <p>Describe various weather conditions in the Maldives.</p> <p>Identify day and night and the changes in people's behaviour.</p>	<p>Identify and name the components of soil.</p> <p>Experiment to show how soil is formed.</p> <p>Demonstrate that air takes up space.</p> <p>Identify different methods of purifying water.</p> <p>Describe why some objects float on water.</p> <p>Describe the basic principles of desalination.</p> <p>Describe the basic principles of evaporation.</p> <p>Demonstrate the differences between day and night.</p> <p>Identify the seasons in the Maldives.</p>	<p>Observe and describe the soil profile.</p> <p>Demonstrate the porosity rate of various types of soil.</p> <p>Describe the characteristics of air.</p> <p>Experiment to show greenhouse effect.</p> <p>Describe the rate of evaporation of different liquids.</p> <p>Describe the process of water cycle.</p> <p>Experiment to find out how water vapour changes to water.</p> <p>Identify the patterns of the climate in the Maldives.</p> <p>Describe the occupations related to the two main seasons in the country.</p> <p>Identify and describe the main causes of the sea-level rise.</p> <p>Sun and Moon!!!!???</p>	<p>Identify the causes of soil erosion and demonstrate the effects of it.</p> <p>Experiment to show that air expands when heated.</p> <p>Demonstrate simple experiments to show air pressure.</p> <p>Identify the sources of greenhouse gases.</p> <p>State how to save energy and fossil fuels.</p> <p>Demonstrate how water changes to its three states and describe the process involved.</p> <p>Discuss and describe what happens to the fresh water aquifer when it is used up.</p> <p>Demonstrate how rainwater is measured.</p> <p>State the reasons of changes in the climate in different parts of the world.</p> <p>Show the location of the planets in the Solar System.</p> <p>State the reasons of changes in tide.</p>	<p>Locate the places where plants grow best and study the soil there to find the reasons.</p> <p>Identify the layers of atmosphere.</p> <p>Describe and demonstrate the gases found in air.</p> <p>Identify the causes of air pollution, and explain the effects.</p> <p>Discuss how to prevent air pollution.</p> <p>Identify the causes of water pollution and demonstrate ways of purifying it.</p> <p>Present the weather using a beau fort scale and forecast the weather.</p> <p>Compare the four main seasons of the world with the two main seasons in the Maldives.</p>

## **UNIT 3**

### ***LIVING THINGS***

Living things make up the environment. An effective environmental programme should focus its activities on living things and their interaction between the environment, for it is the human activities that brings turbulence to the nature.

The inter related network of relationship between living things and the environment is the main focus of this unit. The unit is sub divided into three topics: plants, animals, birds and insects. Starting from various types of these species, the unit goes on to the point where students will study the life cycle of some living things. They will also discuss about extinction of some living things and try to come up with practical solutions for some of these problems.

This unit would definitely alert the students to be more cautious about living things and care them, believing that they are an important component in the natural cycle of the environment.

## **OBJECTIVES**

At the end of the unit, the students will:

- learn the characteristics, behaviour and the habitat of living things such as animals, birds and insects,
- understand the types and uses of plant kingdom and its implications on the environment,
- be aware of the effects of human behaviour on living things and the natural ecosystem,

Grade 1	Grade 2	Grade 3	Grade 4	Grade 5
<p>Identify and name the most common trees in the island.</p> <p>Identify and different parts of a tree.</p> <p>Identify few common animals and state some differences among land and sea animals.</p> <p>Identify some animals from other countries.</p> <p>Express how to take care of animals.</p> <p>Identify, draw and name the common local birds and some birds from other countries.</p> <p>Identify and name the insects found on the island.</p> <p>Observe the life cycle of an insect.</p> <p>State how to take care of birds and insects.</p>	<p>Identify and name inland and seaside trees.</p> <p>Describe two common flowers.</p> <p>Identify and name the main parts of a leaf.</p> <p>Describe the uses of a tree (eg. Wood, shade, food and beauty).</p> <p>Identify four animals that live on land and in the sea and describe where they live (habitat).</p> <p>Describe how some sea creatures defend themselves and explain what they feed on.</p> <p>Describe the common features of an insect (butterfly).</p> <p>Observe and explain the different stages of the life cycle of an insect (butterfly).</p>	<p>State the elements necessary for healthy growth of plants.</p> <p>Describe the main parts of a flower.</p> <p>Survey to find out which trees are extinct or are about to extinct in the country and explain the reasons.</p> <p>Identify useful and harmful animals.</p> <p>Explain how to take care of animals.</p> <p>Identify the types of corals and explain their importance to under sea life.</p> <p>State the reasons of coral mining and discuss the advantages, the disadvantages and its implications on the environment</p> <p>Identify the external features of a bird.</p> <p>Describe the stages of life cycle of a bird.</p> <p>Describe the useful and harmful animals and state the reasons.</p>	<p>Explain how seeds survive in different conditions.</p> <p>Experiment to show that seeds germinate without light but light is essential for normal growth.</p> <p>Make a comparison of different plants in the island.</p> <p>State the characteristics of the animals in the island.</p> <p>Describe the stages of the life cycle of some animals.</p> <p>Survey to find the changes that occur due to coral mining.</p> <p>State the damage caused by garbage to the reef.</p> <p>Make a broody and help rise chicken ??</p> <p>Describe the individual and social behaviour of an ant colony.</p>	<p>Make a graphical presentation to illustrate the no of different types of trees found in the island and categories according to use.</p> <p>Compare the status of plant kingdom about 10 years before and now.</p> <p>Describe the stages of the life cycle of an animal such as a rabbit or a cat.</p> <p>Record and report the characteristic of sea creatures such as how they feed, living together, camourflaging and defending.</p> <p>Describe the animals or animal products you eat.</p> <p>Survey and report about the status of turtles, sea cucumbers, snappers and other sea creatures in danger, emphasigins the steps to conserve them.</p> <p>Describe the stages of the life cycle of a turtle.</p> <p>Make a report of how to run a poultry farm successfully.</p> <p>Explain the stages of the life cycle of a mosquito.</p>

## **UNIT 4**

### ***THE CHANGING WORLD***

The world is constantly changing and will continue to change till its end. Change is the basis for all development: human, social, economic and so on. This unit interprets and explains significant local and global events, issues and patterns of change, from the remote to more recent times. It also brings into attention the impact of change on the environment, considering resources both renewable and non-renewable, and its management.

## **OBJECTIVES**

At the end of the unit, the students will:

- develop knowledge and understanding of the relationship between change and development,
- link past experiences with the present situation to predict future,
- understand the stages of development of the resources, energy, transport and technology in the Maldives, and the impact of these stages on the standard of Maldivian life,
- investigate the use of the resources in terms of efficiency, distribution, productivity, competing uses and ecological sustainability,
- discuss the problems of development on environment,
- understand and analyse the changes in attitudes of the people due to change and development.

Grade 1	Grade 2	Grade 3	Grade 4	Grade 5
<p>Identify and name the different products used and where they are made.</p> <p>Classify goods into different groups, according to the material it's made from (plastic, wood, metal and glass).</p> <p>Explain food as a source of energy, and food is needed to be strong, healthy and to</p> <p>Identify and name different modes of transport used in Maldives and explain why.</p> <p>Identify and name environmental friendly and 'unfriendly' places and products.</p> <p>Describe the basic food of the Maldivians.</p>	<p>Classify local and imported goods and the materials they are made of.</p> <p>Observe and explain the effect of burning fuel and other things on the environment.</p> <p>Classify food into local be imported group and find out where we get them.</p> <p>Explain the importance of energy to work and how people get energy.</p> <p>Identify the sources of energy such as magnetic, sound and wind.</p> <p>Find out and follow road rules and signs.</p> <p>Find the rules and signs used at sea.</p> <p>Identify vehicles which do use and do not use fuel.</p>	<p>State the changes the traditional Dhoni has undergone.</p> <p>Explain the stages of building a Dhoni.</p> <p>Explain how wind and water become sources of energy.</p> <p>Describe stored energy and manual energy.</p> <p>State the developmental stages of vessels and vehicles used in the Maldives.</p> <p>Identify the uses of different vessels and vehicles.</p>	<p>Explore the relationship between behaviour of natural resources and its environmental cost.</p> <p>Discuss and identify renewable and non-renewable resources.</p> <p>State how people use energy in the daily life.</p> <p>Describe the developments in the materials and equipments used in various fields of work.</p> <p>Make a comparison of the type and amounts of vehicles and vessels used locally and globally.</p> <p>Explore the development stages of transport globally and make a time line for it.</p> <p>Design an imaginary model of a vessel / vehicle and advertise as an environmental friendly mode.</p>	<p>Make a model and describe how Maldivians build their houses in the past and explain the changes in the building industry.</p> <p>Make a chart to show various tools and materials used in building houses.</p> <p>Explain the processes of changing forms of energy use from radio, TV, heater, refrigerator, air cons, bulbs etc.</p> <p>Identify and explain stored energy and moving energy.</p> <p>Make a report on the production and consumption of electricity in your island highlighting on the advantages, disadvantages, and the impact on environment.</p> <p>Make a graphical presentation to illustrate the changes in power consumption in your island for the past, say 10 years.</p> <p>Describe different parts and the equipments of a dhoni and their uses.</p> <p>Survey to find out the environmental impact and the running cost of various modes of transport.</p>

## **UNIT 5**

### ***INTERDEPENDENCE***

In the modern world every one; both individuals and the nations alike, is dependent on another, for political, economical or social factors. National, regional and international organizations have been formed for these purposes.

Exchange of ideas and training in various field such as fishing, agriculture and tourism has developed a close relationship among nations and communities. Trade and aid plays a major role between developed and developing world.

All these factors are simplified and supplemented by highly developed communication facilities, readily available around the globe. This unit highlights these topics in detail.

### **OBJECTIVES**

At the end of the unit, the students will:

- develop an understanding of how we are linked to the rest of the world,
- understand the main areas of occupation in the Maldives; fishing, tourism and agriculture, and shipping,
- know regional and international links between Maldives,
- find about the important role of communication in the world today.

Grade 1	Grade 2	Grade 3	Grade 4	Grade 5
<p>Describe who tourists are and what they do as tourist.</p> <p>Identify and name some of important places and historical sites in the Maldives.</p> <p>Identify and explain different methods of communication.</p>	<p>Describe the main types of fish caught in the country.</p> <p>Identify the main tourist markets of the Maldives.</p> <p>Describe tourist resorts, hotels and guesthouses, explaining their role in tourism.</p> <p>Identify the main countries where we import from and countries where we export our products.</p> <p>Compare the modes of communication today with what was used in the past.</p> <p>Describe the modes of communication commonly used within the island and atolls.</p>	<p>Locally the best fishing grounds in the Maldives.</p> <p>Explain how and why a Dhoni is beached.</p> <p>Locate the countries from which most of the tourist come.</p> <p>State reasons of tourist visiting the Maldives.</p> <p>Describe the important places in Male' or in one's own island.</p> <p>Explain the amount of goods we import from abroad.</p> <p>Identify the donor countries, organizations or agencies to the Maldives.</p> <p>Explain how to operate the commonly used communication equipments.</p>	<p>Explain different methods of fishing in the country.</p> <p>State the advantages and disadvantages of fishing for export.</p> <p>Discuss what should be done to minimize importing food items.</p> <p>Carry out a simple project to grow some plants that provide fruits and vegetables.</p> <p>Discuss the major tourist attraction in the country and how to sustain for future generations.</p> <p>Describe the important places and areas of the Maldives, giving reasons for their importance.</p> <p>Identify and name the major airlines operating to Maldives.</p> <p>Make a graphical presentation of the amount of foreign employees working in the country.</p> <p>Discuss about the expenditure to foreign labourers in the country and how to minimize it.</p> <p>Find out the amount of income brought by Maldivian seaman.</p> <p>Create the data bank about the donor countries and organizations to the Maldives.</p> <p>Describe the functions of the regional and international organizations.</p> <p>Demonstrate how to operate the basic modes of communications.</p>	<p>Calculate the amount of fish caught in the past three years and the foreign currency brought in.</p> <p>Analyse the status of agriculture in the country and make a directory of agricultural products.</p> <p>Report on the history of tourism in the country, it's expansion; it's effect on our living standard and living style, culture and awareness of other cultures, opportunities, international relationships, employment and opportunities.</p> <p>Discuss about the environmental issue related to tourism.</p> <p>Analyse the relationship between the Maldives and the donor countries and agencies.</p> <p>Survey to find out how development programmes are managed, the amount of money spent, its development, and the benefits to the society.</p> <p>Analyse and report the technological advancement of the media and its role in promoting awareness.</p> <p>Develop a mechanism disseminate environmental information between schools, islands or atolls.</p>

