NATIONAL MARINE AQUARIUM

Science Overview

KEY STAGE 3

INTRODUCTION

Downloadable material on the NMA Distance Learning Project has been designed specifically to support science teaching. Consistent with the educational remit of the Aquarium, the material sets out to inform about issues in the marine environment. However, at the same time, we have ensured that material is consistent with the National Curriculum, and that it can be used in teaching core elements of the science syllabus.

The material on the project consists of 'front-of-class' teaching materials and activities for students. The teaching materials are all in the form of PowerPoint™ slide sets, using high quality photographs and graphics along with explanatory text. You can find out more about the slides, and other parts of the material, in a separate *Users' Guide*.

Activities for students consist of on-screen quizzes, printable worksheets. All of these are designed to complement the slides, although some of the activities could be used on their own. Quizzes are interactive, using animation techniques to reinforce knowledge.

All of these resources are provided free for educational use. Finally, please note that the NMA Distance Learning Project has a place for your ideas and resources. The Reference Material section is there to receive input from schools, in the form of new material, web-links, or anything else (within reason!)

WHAT'S IN THE DLP MATERIAL FOR KEY STAGE 3?

The science content on the DLP site is divided into three modules. There is a detailed description of what is presented in each module in separate Teachers' Notes for each module. What follows is simply an overview and provides an opportunity to identify the cross-linkage between modules.

Throughout the design of this material, we have sought to challenge students. This means that we often work close to the edges of Key Stages in the National Curriculum, providing material that takes ideas a little bit further than you might find in textbooks and other resources. The material contains information on both marine and terrestrial environments. This enables the resources to be used at the core of curriculum teaching. Throughout the material, we try to highlight both similarities and differences between the land and ocean. It is often the differences that help us to understand both environments.

Module 1: Biodiversity & Adaptations

This module is concerned with the variety of living things in the oceans, and how they are fitted to their environment. It presents detailed information on the way in which animals are classified, including description of the body plans of different animals groups and how they are related on a 'family tree'. It also includes a focus on coral reefs and the interrelationships between reef animals.

Module 2: Ecosystems & Food Webs

This module is concerned with the structure and dynamics of ecosystems. It contains material on the growth of plants, but concentrates on how food webs are built up, what happens when food passes from one level in a food chain to another, and the implications of the distinctive properties of ocean- and land-ecosystems.

Module 3: Exploitation & Conservation

This module is concerned with the uses of the marine environment and the effects of marine exploitation. At Key Stage 3, we have concentrated on the input of toxic materials to marine food webs, and how these materials accumulate. We also provide material about coral reefs as habitats at risk from several different threats. This could be used in conjunction with the material on coral reef ecology in Module 1. A relatively simple treatment of fisheries addresses aspects of sustainability.

Version 1.0 13 September 2003