Oceans 11

Outcomes

NOVA SCOTIA
NOUVELLE-ÉCOSSE

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Oceans 11

Prepared by the Department of Education and Early Childhood Development

This is the most recent version of the current curriculum materials as used by teachers in Nova Scotia.

Oceans 11

Specific Curriculum Outcomes

Students will be expected to

Structure and Motion (25%)

Oceans, Seas, Gulfs, and Straits

- identify oceans and related water areas in the world and describe related science- and technology-based careers (OSM-1)

The Ocean Bottom: Origins and Bathymetry

- analyze the basic structure of Earth's waters using evidence and information to support your findings (OSM-2)

The Properties of Seawater

- identify, collect data, and describe the unique properties of water (OSM-3)

Ocean Currents

- identify, explain, and show how ocean currents' Coriolis effect, and thermohaline currents are related (OSM-4)

Ocean Currents (extension)

- identify and describe wave motion found in the marine environment and in everyday situations (OSM-5)

Tides

- identify and describe tide theory and types of tides (OSM-6)

Marine Biome (25%)

Life in the Oceans

- explain the marine biome and describe the biodiversity of ocean life and determine interconnections that exist within the marine biome (MBIO-1)

HABITATS

- compare representative marine organisms and communities (MBIO-2)

OPEN OCEAN VERSUS COASTAL AREAS

- compare characteristics of the open ocean and coastal zones referencing terms and impact on local ecosystems (MBIO-3)

THE FIELD TRIP

- develop and report appropriate sampling procedures to obtain quantitative data on the abundance of marine organisms at a local coastal area and describe and apply classification systems and nomenclatures to organisms found in the marine biome (MBIO-4)

ORGANISMS AND HABITATS

- explain how a particular organism functions in its habitat (MBIO-5)

Coastal Zones (compulsory, 25%)

IDENTIFYING COASTAL ZONES

- discuss the concept of coastal zones and how these vary around the world (CZON-1)

VARIATIONS IN COASTAL ZONE STRUCTURE AND PROPERTIES

- describe and explain the causes and characteristics of major types of coastal zones (CZON-2)

THE IMPORTANCE OF COASTAL ZONES TO HUMANS

- identify and explain sustainability and human use of an environment, including populations and resources, locally and globally (CZON-3)

KEEPING OUR COASTAL ZONES

- list and discuss human interactions with the processes involved in the coastal zone environment, and describe competing views (CZON-4)
- discuss the purpose and process of integrated coastal zone management and analyze a coastal zone management structure and the interrelationships found in a local area (CZON-5)

Choose one of either Aquaculture or Fisheries.

Aquaculture (25%)

FARMING, FISHING, AND FOOD

- identify, and compare aquaculture locations and species grown in Nova Scotia, in the rest of Canada, and globally (AQUA-1)

What Species? Where? Why?

- describe and identify groups of organisms raised through aquaculture and their geographic locations, referring to anatomy and physiology of a major species and ecology of cultured species (AQUA-2)

Water Quality

- describe, measure, and analyze conditions for aquaculture operations (AQUA-3)

Site Acceptance by the Community

- analyze site planning from various perspectives and report on both the risks and benefits to society and the environment (AQUA-4)

Marketing the Product

- identify, analyze, and evaluate various aquaculture business opportunities (AQUA-5)

Aquaculture-Related Issues

- explain aquaculture-related issues (AQUA-6)

Fisheries (25%)

Fisheries Are a Unique Resource

- explain the importance of a sustainable fishery as a resource to global and local food supply and employment with reference to terminology (FISH-1)

Life Cycle

- describe, identify, and analyze the external and internal anatomy of a major finfish or shellfish species that is part of the commercial fishery (FISH-2)

Models of Fish Stocks

- construct, interpret, and evaluate various ecological factors (FISH-3)

Fish Population and Management

- compile and organize fish population data and explain the dynamic interrelationships among the physical environment, the biological environment, and the health and distribution of a fish stock (FISH-4)

Technology in the Fisheries

- compare the risks and benefits to society and the environment of applying scientific knowledge or introducing a technology to the fisheries (FISH-5)

What Does Management Mean?

- identify, describe, and analyze multiple perspectives of the main organizations in research and decision making in fisheries management in Canada (FISH-6)