

Year 7	Ocean Literacy Principle	Concepts
Biological sciences: Classification helps organise the diverse group of organisms (ACSSU111)	The ocean supports a great diversity of life and ecosystems.	Most of the major groups that exist on Earth are found exclusively in the ocean and the diversity of major groups of organisms is much greater in the ocean than on land.
Biological sciences: Interactions between organisms, including the effects of human activities can be represented by food chains and food webs (ACSSU112)	The ocean supports a great diversity of life and ecosystems.	Ocean biology provides many unique examples of life cycles, adaptations, and important relationships among organisms (symbiosis, predator-prey dynamics, and energy transfer) that do not occur on land. There are deep ocean ecosystems that are independent of energy from sunlight and photosynthetic organisms. Hydrothermal vents, submarine hot springs, and methane cold seeps, rely only on chemical energy and chemosynthetic organisms to support life.
	The ocean and humans are inextricably interconnected.	Humans have removed most of the large vertebrates from the ocean.
Earth and space sciences: Predictable phenomena on Earth, including seasons and eclipses, are caused by the relative positions of the sun, Earth and the moon (ACSSU115)	The Earth has one big ocean with many features.	Throughout the ocean there is one interconnected circulation system powered by wind, tides, the force of Earth's rotation (Coriolis effect), the Sun and water density differences. The shape of ocean basins and adjacent land masses influence the path of circulation. This "global ocean conveyor belt" moves water throughout all of the ocean basins, transporting energy (heat), matter, and organisms around the ocean. Changes in ocean circulation have a large impact on the climate and cause changes in ecosystems. Sea level is the average height of the ocean relative to the land, taking into account the differences caused by tides. Sea level changes as plate tectonics cause the volume of ocean basins and the height of the land to change. It changes as ice caps on land melt or grow. It also changes as sea water expands and contracts when ocean water warms and cools.
Earth and space sciences: Some of Earth's resources are renewable, including water that cycles through the , but others are nonrenewable (ACSSU116)	The ocean and humans are inextricably interconnected.	The ocean affects every human life. It supplies freshwater (most rain comes from the ocean) and nearly all Earth's oxygen. The ocean moderates the Earth's climate, influences our weather, and affects human health. The ocean provides food, medicines, and mineral and energy resources. It supports jobs and national economies, serves as a highway for transportation of goods and people, and plays a role in national security.
	The ocean is largely unexplored.	Over the last 50 years, use of ocean resources has increased significantly; the future sustainability of ocean resources depends on our understanding of those resources and their potential.
Physical sciences: Change to an object's motion is caused by unbalanced forces, including Earth's gravitational attraction, acting on the object (ACSSU117)	The Earth has one big ocean with many features.	Throughout the ocean there is one interconnected circulation system powered by wind, tides, the force of Earth's rotation (Coriolis effect), the Sun and water density differences. The shape of ocean basins and adjacent land masses influence the path of circulation. This "global ocean conveyor belt" moves water throughout all of the ocean basins, transporting energy (heat), matter, and organisms around the ocean. Changes in ocean circulation have a large impact on the climate and cause changes in ecosystems.
Nature and development of science: Scientific knowledge has changed peoples' understanding of the world and is refined as new becomes available (ACSHE119)	The ocean is largely unexplored.	Understanding the ocean is more than a matter of curiosity. Exploration, experimentation, and discovery are required to better understand ocean systems and processes. Our very survival hinges upon it.
Nature and development of science: Science knowledge can develop through collaboration across the disciplines of science and the contributions of people from a range of cultures (ACSHE223)		Ocean exploration is truly interdisciplinary. It requires close collaboration among biologists, chemists, climatologists, computer programmers, engineers, geologists, meteorologists, physicists, animators, and illustrators. And these interactions foster new ideas and new perspectives for inquiries.
Use and influence of science: Solutions to contemporary issues that are found using science and technology, may impact on other areas of society and may involve ethical considerations (ACSHE120)		Over the last 50 years, use of ocean resources has increased significantly; the future sustainability of ocean resources depends on our understanding of those resources and their potential.
Use and influence of science: People use science understanding and skills in their occupations and these have influenced the development of practices in areas of human activity (ACSHE121)		New technologies, sensors, and tools are expanding our ability to explore the ocean. Scientists are relying more and more on satellites, drifters, buoys, subsea observatories, and unmanned submersibles. Use of mathematical models is an essential part of understanding the ocean system. Models help us understand the complexity of the ocean and its interactions with Earth's interior, atmosphere, climate, and land masses.