Year 3	Ocean Literacy Principle	Concepts
Biological sciences: Living things can be grouped on the basis of observable features and can be distinguished from non-living things (ACSSU044)	The ocean supports a great diversity of life and ecosystems.	Ocean life ranges in size from the smallest living things, microbes, to the largest animal on Earth, blue whales. Most of the organisms and biomass in the ocean are microbes, which are the basis of all ocean food webs. Microbes are the most important primary producers in the ocean. 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.
Chemical sciences: A change of state between solid and liquid can be caused by adding or removing heat (ACSSU046)	The Earth has one big ocean with many features.	Sea level changes as ice caps on land melt or grow. It also changes as sea water expands and contracts when ocean water warms and cools. Seawater freezing point is slightly lower than fresh water.
Earth and space sciences: Earth's rotation on its axis causes regular changes, including night and day (ACSSU048)	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.
Physical sciences: Heat can be produced in many ways and can move from one object to another (ACSSU049)	The ocean is a major influence on weather and climate.	The ocean moderates global weather and climate by absorbing most of the solar radiation reaching Earth. Heat exchange between the ocean and atmosphere drives the water cycle and oceanic and atmospheric circulation. Heat exchange between the ocean and atmosphere can result in dramatic global and regional weather phenomena, impacting patterns of rain and drought. Significant examples include the El Niño Southern Oscillation and La Niña, which cause important changes in global weather patterns because they alter the sea surface temperature patterns in the Pacific.
Nature and development of science: Science knowledge helps people to understand the effect of their actions (ACSHE051) & (ACSHE062)	The ocean and humans are inextricably interconnected.	Humans affect the ocean in a variety of ways. Laws, regulations, and resource management affect what is taken out and put into the ocean. Human development and activity leads to pollution (point source, nonpoint source, and noise pollution), changes to ocean chemistry (ocean acidification), and physical modifications (changes to beaches, shores, and rivers). In addition, humans have removed most of the large vertebrates from the ocean. Everyone is responsible for caring for the ocean. The ocean sustains life on Earth and humans must live in ways that sustain the ocean. Individual and collective actions are needed to effectively manage ocean resources for all.
	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.