Year 1	Ocean Literacy Principle	Concepts
Biological sciences: Living things have a variety of external features (ACSSU017) Living things live in different places where their needs are met (ACSSU211)	The Earth has one big ocean with many features.	The ocean is connected to major lakes, watersheds, and waterways because all major watersheds on Earth drain to the ocean. Rivers and streams transport nutrients, salts, sediments, and pollutants from watersheds to coastal estuaries and to the ocean.
	The ocean supports a great diversity of life and ecosystems.	The ocean provides a vast living space with diverse and unique ecosystems from the surface through the water column and down to, and below, the seafloor. Most of the living space on Earth is in the ocean. Ocean ecosystems are defined by environmental factors and the community of organisms living there. Ocean life is not evenly distributed through time or space due to differences in abiotic factors such as oxygen, salinity, temperature, pH, light, nutrients, pressure, substrate, and circulation. A few regions of the ocean support the most abundant life on Earth, while most of the ocean does not support much life. Estuaries provide important and productive nursery areas for many marine and aquatic species.
Earth and space sciences: Everyday materials can be physically changed in a variety of ways (ACSSU018) Observable changes occur in the sky and landscape (ACSSU019)	The ocean and life in the ocean shape the features of Earth.	Erosion—the wearing away of rock, soil and other biotic and abiotic earth materials—occurs in coastal areas as wind, waves, and currents in rivers and the ocean, and the processes associated with plate tectonics move sediments. Most beach sand (tiny bits of animals, plants, rocks, and minerals) is eroded from land sources and carried to the coast by rivers; sand is also eroded from coastal sources by surf. Sand is redistributed seasonally by waves and coastal currents. Tectonic activity, sea level changes, and the force of waves influence the physical structure and landforms of the coast.
	The ocean is a major influence on weather and climate.	The interaction of oceanic and atmospheric processes controls weather and climate by dominating the Earth's energy, water, and carbon systems. Condensation of water that evaporated from warm seas provides the energy for hurricanes and cyclones. Most rain that falls on land originally evaporated from the tropical ocean.
Physical sciences: Light and sound are produced by a range of sources and can be sensed (ACSSU020)	The ocean supports a great diversity of life and ecosystems.	There are deep ocean ecosystems that are independent of energy from sunlight and photosynthetic organisms.
	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).
Nature and development of science: Science involves observing, asking questions about, and describing changes in, objects and events (ACSHE021) & (ACSHE034)	The ocean is largely unexplored.	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 and influence of science: People use science in their daily lives, including when caring for their environment and living things (ACSHE022) & (ACSHE035)	The ocean and humans are inextricably interconnected.	The ocean is a source of inspiration, recreation, rejuvenation, and discovery. It is also an important element in the heritage of many cultures. 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.