

Answer ALL questions.

- 1 Read the passage below. Use the information in the passage and your own knowledge to answer the questions that follow.

Plastic pollution

A mass of 12.7 million tonnes of plastic is dumped into our oceans every year. This is equivalent to the mass of 1.8 million adult elephants. This plastic pollution is a concern because of its harmful effect on living organisms.

- 5 Turtles eat plastic bags, mistaking them for jellyfish, and sea birds have been found with stomachs full of plastic. Researchers have reported 800 kg of plastic found in the carcass of a stranded whale in France. The stomach of another whale in Australia contained six square metres of plastic sheeting and 30 plastic carrier bags. Plastic items can block the tubes leading from the mouth to the stomach and to the lungs in some animals. This can cause death
10 because it affects digestion and gas exchange.

- Whale sharks are the largest fish in the world, yet feed on microscopic plankton that photosynthesise. The plankton is also eaten by crustaceans, which are then eaten by fish. These fish are eaten by humans. Many whales are filter feeders. They swallow hundreds of cubic metres of water a day
15 to capture plankton and may take in microplastics during the process. The microplastics are produced from the breakdown of larger pieces of plastic. Microplastics are similar in size and mass to many types of plankton. These microplastics are not biodegradable and build up in the bodies of organisms that occupy higher trophic levels in food chains. This is called
20 bioaccumulation.

Plastic pollution may be responsible for putting filter feeding whale sharks and other filter feeders at risk of extinction. The whale shark, for example, is listed as being endangered.

- 25 Studies have found toxic chemicals associated with plastics in the bodies of large filter feeders. Scientists think these chemicals might reduce the population sizes of the large filter feeders. This is because the toxins might affect many biological processes involving hormones that regulate the body's growth and development, metabolism, and reproduction.

- 30 Whale sharks feeding in the Sea of Cortez near Mexico, an important breeding ground, ingest 200 microplastic particles per day. Fin whales in the Mediterranean Sea ingest 2000 microplastic particles per day. Any reduction in the reproduction of these species will have consequences for biodiversity.

- 35 Attempts are being made to reduce the use of plastic. Coffee companies are being encouraged to use wooden spoons and straws rather than plastic ones. Also, shoppers are being given biodegradable plastic bags, or paper bags.

