KILLER WAVES

They're monsters of the open ocean, a series of giant waves that travel for thousands of kilometres and have enough power to destroy anything and drown anyone in their way: *tsunamis*! *Tsunami* is a Japanese word which means 'harbour wave'. In the past, tsunamis were sometimes referred to as 'tidal waves' or 'seismic sea waves'.

Tsunamis are not like normal waves caused by strong winds. They are caused by earthquakes or volcanic eruptions under the ocean. It's a bit like when you jump into a swimming pool or throw a stone in a pond: you create a series of small waves. A tsunami is just like those ripples, only bigger because the ocean is no swimming pool or pond—and volcanoes are no pebbles!

Out in the ocean where the water is deep, tsunamis are not dangerous: the waves are small, and they can pass under a ship and not be felt or seen. However, as a tsunami approaches land, it can become very dangerous. The waves that reach the coast can be as high as 30 metres, and they can travel up to 950 kilometres per hour—as fast as a passenger jet! They sweep away anything in their path, damaging buildings and other structures. Most people who get caught in a tsunami will find it almost impossible to swim and stay in control. The only way they can survive is by holding onto something like a standing tree but, even then, the force of the water can be so strong that they won't be able to hold on for long.

The only way to minimise damage and loss of life is to have sufficient warning. Many countries have the technology to know when a tsunami is about to happen. For example, Australia uses earthquake monitors to detect events that might cause tsunamis around its coast and in the south-west Pacific Ocean. In places like Japan and Hawaii, where tsunamis occur frequently, there are official tsunami warning systems. However, these are not perfect: local tsunamis can reach the shore within minutes, almost before warning can be given; and with distant tsunamis, scientists can tell when they will arrive, but they cannot tell how big they will be.

POINTS FOR DISCUSSION

- What natural disasters can you think of?
- Which do you consider to be the worst? Why?
- How can we minimise the effects of natural disasters?

1. What is true about tsunamis?
   A. They can destroy thousands of kilometres of land.
   B. They occur frequently in harbours in Japan.
   C. They are a recent phenomenon.
   D. They consist of more than one wave.

2. What are tsunamis?
   A. underwater earthquakes
   B. waves caused by seismic movements
   C. underwater volcanic eruptions
   D. waves caused by strong winds

3. Which is **NOT** true about tsunamis in the open ocean?
   A. They are easy to detect.
   B. They are not very high.
   C. They are not very dangerous.
   D. They are very fast.

4. According to the text, what is the best course of action to take in the event of a tsunami?
   A. stay calm and in control
   B. swim in the same direction as the tsunami
   C. grab hold of anything that is fixed to the ground
   D. wait until the tsunami loses its force

5. How is it possible to reduce the loss caused by tsunamis?
   A. by providing a warning in advance
   B. by finding out what causes them
   C. by determing how frequently they take place
   D. by developing new technologies

LIVEWORKSHEETS