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SAMPLE PAGE

# Chapter 1 Questions

## Page 15 Questions

1. Explain the principle of the echo sounder used to determine the depth of water in an area.
2. Draw a labelled diagram of the ocean floor. Suggest a reason why the continental shelf is normally flat.
3. Distinguish between the terms asthenosphere and lithosphere. Draw up a table to define the terms and illustrate them with a diagram.
4. How much of the earth's surface is made up of deep ocean basin floor? What are the two main regions of the deep ocean basin?
5. Compare the slope of the continental slope and the continental rise.
6. Describe the submarine canyon appearance. Where are they found and how may they have been formed?
7. Explain how the bathyscape, Trieste was able to descend into the depths of the ocean.
8. Draw a diagram of a cross-section through the earth showing its composition and structure.
9. Compare sial and sima. Why will sial float on sima?
10. Discuss the link between of the Law of the Sea 1982, plate tectonics and what Australia can claim as its own territory.

## Page 29 Questions

1. Describe what happened in this article.
2. Explain the terms *Gondwana*, *abyssal plain*, *metamorphic rock*, *hydrocarbon deposit*, *seismic profile*.
3. Examine illustration 13.1B on page 13. Now redraw the illustration and shade in where the *RV Franklin* probably was when seismic profiling was done.
4. How far does the eastern offshore margin of Tasmania extend?
5. Explain what type of data could be derived from the deployment of a one-tonne piston corer with a ten metre long sampling pipe.

## Page 31 Questions

1. How could knowledge of the variations in the earth's magnetic and gravitational fields help our understanding of the formation of the sea floor?
2. In what way will these studies increase scientific understanding of Australia's offshore environment?
3. Define the terms bathymetric data and sedimentary strata.
4. To what depth can multi-beam sonar systems map? How much of the sea floor has been mapped by the methods described here so far?
5. Who should pay for this research if it is made public and commercial enterprises can be developed to this baseline research? Where has most of the exploration of the marine environment occurred?
6. Redraw Figure 30.2 and explain how each of the various pieces of equipment work.
7. What do you understand by the term — sea bed habitat map and why are such maps important?
8. What would a typical habitat description include?
9. Calculate the number of square kilometres that could be mapped in a month using the methods described in this article.

## Page 32 Chapter questions

1. Who proposed the theory of continental drift? List some of the evidence to support the idea of continental drift.
2. What was the name given to the super continent when it was believed all continents were joined together?
3. When and where did ancient large marine reptiles inhabit Australia?
4. List the world leading techniques being developed by the CSIRO to rapidly assess sea bed environments.
5. What happens when the plate has a weak spot on it?
6. How fast is the Australia plate moving and in which direction are we moving?
7. Define the following terms: subduction, earthquakes, transverse faults.
8. What are land bridges and how have they affected the distribution of animal species? Why did they not affect the distribution of plant species?
9. Draw a diagram of Australia 220 mya showing its nearest neighbours.
10. Describe the dust cloud hypothesis.
11. There are many marine fossils and coal deposits in Queensland. Suggest an explanation to account for their presence.