



Supplement of

How do we make a scan of Earth's oceanic crust?

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Supplementary material - Quizzes

Quiz 1- Age: ≥9-12:

Multiple Choice Questions

1. If someone asked you what geology was, you could say it is the study of _____.
 - ☐ the interior of planet Earth
 - ☐ communications network on our planet
 - ☐ distribution of populations and resources on Earth
 - ☐ astronomical objects and phenomena
2. A marine geologist can discover clues about the formation of the Earth's crust by studying _____.
(more answers are possible)
 - ☐ waves
 - ☐ marine animals
 - ☐ rocks
 - ☐ ocean currents
3. Imagine you have to organize a sea expedition. What are the main elements to consider: (more answers are possible)
 - ☐ the ship
 - ☐ the instruments
 - ☐ the research team
 - ☐ money
4. Do you think there is life at the bottom of the ocean?
 - ☐ Yes
 - ☐ No
5. We know more about the surface of Mars than Earth:
 - ☐ True
 - ☐ False

Quiz 2 – Age: 13-15 years

1. What are the two types of tectonic plates:

- ☐ Oceanic and continental
- ☐ Granitic and sandy
- ☐ Terrestrial and maritime
- ☐ Eastern and western

2. The oceanic plate: (more answers are possible)

- ☐ Forms at accretion zones
- ☐ Disappears at subduction zones
- ☐ Forms at subduction zones
- ☐ Disappears at accretion zones
- ☐ Has a limited lifespan

3. More than 80% of terrestrial volcanism is underwater.

- ☐ True
- ☐ False

4. Seismic waves:

- ☐ are acoustic waves
- ☐ propagate unchanged in all media
- ☐ their propagation is modified by the media they travel through

5. What is the temperature at the bottom of the ocean?

- ☐ 0-3°C
- ☐ 23-25°C
- ☐ -10°C

Quiz 3 – Age: >15-18 years

1. Ocean ridges:

- ☐ are deeper than abyssal plains
- ☐ are shallower than abyssal plains
- ☐ have a geothermal flow equal to the average
- ☐ have a geothermal flow above the average
- ☐ are roughly symmetrical

2. There are two main types of seismic waves: compressional waves (P waves) and shear waves (S waves). P waves travel through all materials, while S waves only travel through the following materials:

- ☐ solids
- ☐ liquids
- ☐ gases

3. The speed of light in a vacuum is 300,000 km/s. What is the propagation speed of compression waves in water:

- ☐ 1500 m/s
- ☐ 1500 km/s
- ☐ 150 m/s

4. What is an incident ray divided into?

- ☐ a refracted ray and a reflected ray
- ☐ a reflected ray and a refracted ray
- ☐ a reflected ray and a reflected ray

5. To define the depth (d) of a reflector underground, we need to know the round-trip time (t) taken by the wave and its propagation speed (v). Which of the following formulas would you use to calculate the depth:

- ☐ $d = (v \times t) / 2$
- ☐ $d = (v \div t) / 2$
- ☐ $d = (t \div v) / 2$
- ☐ $d = v \times t$