**BC SCIENCE 8 - Chapter 11 Practice Booklet**

**Answer Section**

1 ANS:

The air moving down the mountain at point A will be dry air since it dropped most of its moisture on the other side of the mountain. As it crossed the top of the mountain, the temperature of the air was likely at its lowest point so that it will start to warm up as it goes down the mountain. This means that it can hold more moisture, resulting in drier conditions on that side of the mountain.

2 ANS:

Any two of the following:

- Waves could erode coral reefs.

- Currents could erode landforms under the surface.

- Icebergs could gouge deep grooves in the ocean floor.

- Currents could cause landslides under the water.

3 ANS:

A continental plate has had material eroded and weathered away from it, then had the loose material deposited on it. Since the rock has been broken down so that the particles are farther apart, it is less dense than when it was created. The ocean plate was created with mostly iron and nickel from the magma and it has been compressed by the ocean, making it quite dense.

4 ANS:

3 m = 300 cm

10 cm takes one year

300 cm will take 300 / 10 = 30 years

At that rate of speed you would need 30 years to reach the door to the classroom.

5 ANS:

Take temperature readings of the water every 10 m down to a depth of at least 500 m. If there was a sudden drop in temperature as the depth increased, it would be a good indication that a thermocline existed. It would be best if the temperature readings were taken in the spring before the summer Sun and the water circulation had a chance to warm the deeper waters.

6 ANS:

A spring tide would be higher than a normal high tide since it is affected by the gravitational pull of both the Moon and the Sun. At the end of a fiord the water would be funnelling into a smaller area so the tide would be higher than if the location were on a straight or open coastline. These two factors would cause the tide to be much higher than at a point on the open coast, posing a potential problem for anyone camping right on the shoreline.

7 ANS:

The air temperature would rise above the ocean and blow warmer air over the land. The warmer air would cause more water to evaporate from the ocean and be carried inland. The mountains would still cause the precipitation, but since there would be more water vapour in the air, there would be more precipitation.

8 ANS:

The Bay of Fundy is long, narrow, and shallow so the water is funnelled into a smaller area, making the tidal range greater. Along the coast of Vancouver Island there are very few such long narrow inlets so the tidal range is much less.

9 ANS:

- the distance the area is from the ocean

- how high the area is above sea level

- what type of surface features the area has

10 ANS:

Any three of the following:

- temperature

- salinity

- motion

- life forms

- depth

11 ANS:

- Pacific

- Atlantic

- Indian

- Southern

- Arctic

12 ANS:

1 point each:

- When molten rock rises between the plates to the surface of Earth under the ocean, it cools and turns to solid rock, creating a ridge.

- As more molten material comes up, it pushes the new rock away to either side. This constant process gradually widens the ocean floor.

- The nearer the rock is to the ridge, the younger the rock, and the farther away it is from the ridge, the older the rock.

13 ANS:

A - continental margin

B - submarine canyons

C - continental shelf

D - continental slope

E - continental rise

F - abyssal plain

14 ANS:

Any three of the following:

- water density

- wind

- the spin of Earth

- the shape of the continents

- the gravitational pull of the Moon and the Sun

15 ANS:

- temperature

- wind speed

- wind direction

- air pressure

- moisture in the air (humidity)

- precipitation

- cloud cover

16 ANS:

Any two of the following:

- They help to distribute the Sun’s heat and control the temperature.

- They help to create the weather patterns around the globe.

- They contribute most of the fresh water to the land through precipitation, which is necessary for life as we know it.

17 ANS:

Sediment accumulates along the steep continental slope and over time it builds up. When this buildup of sediment becomes too great, gravity will cause the sediment to suddenly give way and collapse down the slope. The resulting collapse creates an underwater landslide known as a turbidity current.