

Zones of the Marine Environment

Objective:

To become more familiar with the zones of the marine environment. To consider the conditions in each zone and some problems that are faced by organisms that live there.

Procedure:

Use the background information and diagram to label each of the zones that are numbered. Write the name of the zone on the correct line on the next page. After identifying each zone, you will consider the conditions there and come up with a problems faced by the inhabitants of the zone due to the physical conditions there. Then you will consider an adaptation which helps an organism survive in that zone.

Background information:

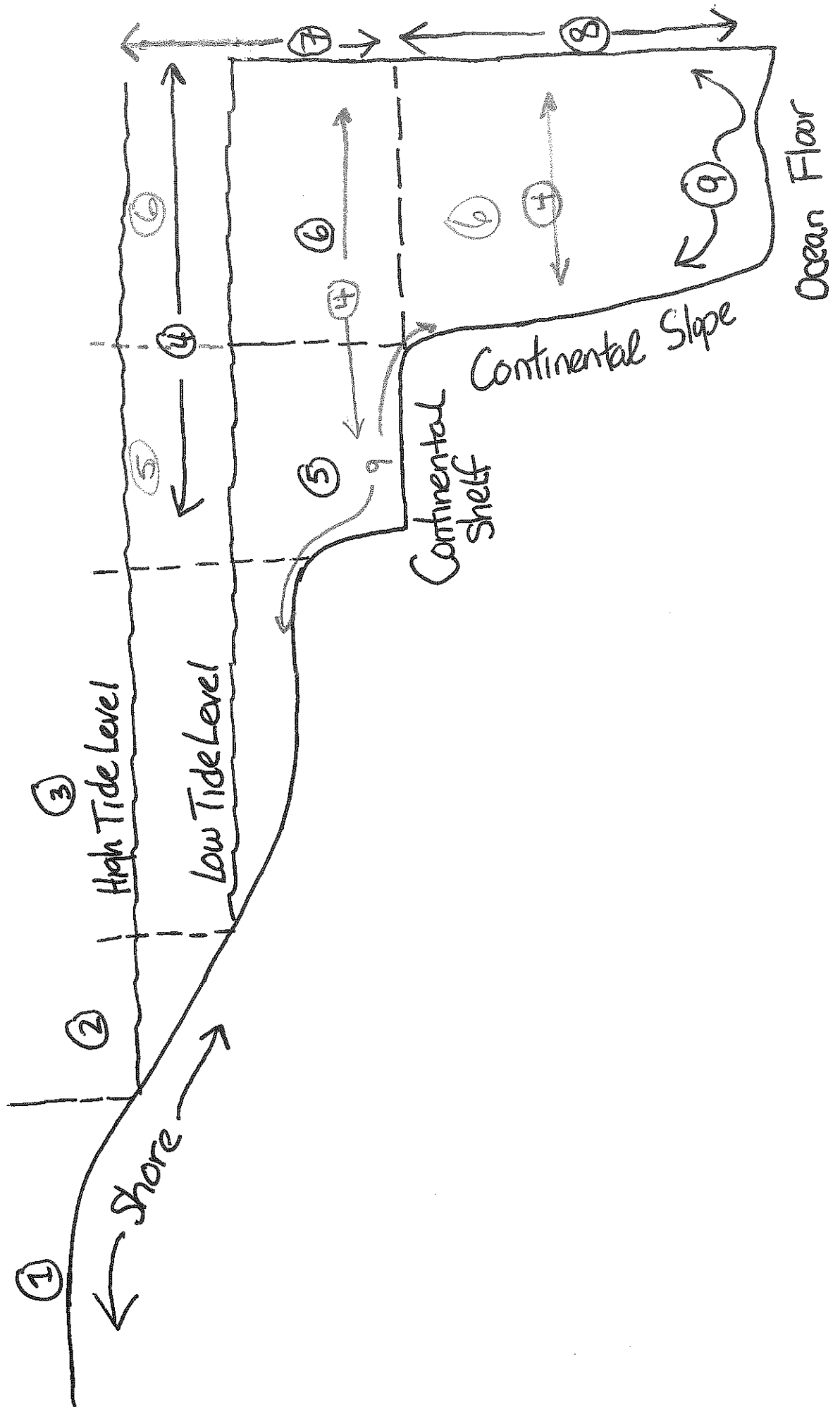
The marine environment is generally divided into two major zones. One is the **pelagic** zone, which consists of the waters of the ocean, and the **benthic** zone which is the ocean bottom. These two zones are further divided into many smaller zones which will be discussed.

The ocean waters, or **pelagic** zone, contain different types of waters. The coastal waters make up the **neritic** zone, clear and deep water of the open ocean are the **oceanic** zone. The **pelagic** zone is also divided into zones based on the penetration of light. The **photic** zone is the topmost, well lit water surface where photosynthesis occurs. The **aphotic** zone contains the darker, deeper waters of the ocean where there is little or no light penetration. The **aphotic** zone cannot support photosynthesis.

Tide action in the ocean also helps divide the shore into different zones. During the tides, parts of the shore are alternately submerged and then exposed. The **intertidal** zone is the part of the shore that is covered and uncovered during the tides. Above the **intertidal** zone is the **supratidal** zone. This zone is wet by ocean spray but is rarely, if ever actually covered with water. The salt concentrations in sand of the **supratidal** zone can be very high because of salt deposited by wind. Below the **intertidal** zone is the **subtidal** zone. This zone is continuously submerged, although the depth of water covering it varies considerably with the tides.

Each zone discussed presents unique problems and situations for the organisms that live there. Some must survive without sunlight, in very cold temperatures, out of water for hours every day and extreme salt concentrations. Specific adaptations to some of the situations presented will be discussed later.

ZONES OF THE MARINE ENVIRONMENT



NAME OF ZONE:

1. Problem face by Inhabitants:

Adaptation

2. Problem face by Inhabitants:

Adaptation

3. Problem face by Inhabitants:

Adaptation

4. Problem face by Inhabitants:

Adaptation

5. Problem face by Inhabitants:

Adaptation

6.

Problem face by Inhabitants:

Adaptation

7.

Problem face by Inhabitants:

Adaptation

8.

Problem face by Inhabitants:

Adaptation

9.

Problem face by Inhabitants:

Adaptation