TIDAL ZONE INFORMATION

I. Upper Zone

- A. Barnacle animal
 - 1. Most numerous animals in upper zone
 - 2. Attach to rocks
 - 3. Only able to eat, breathe, and get rid of waste when covered by water
 - 4. Only under water for short periods of time during the highest high tides
 - 5. When not covered by water, are in resting stage
- B. Limpet animal
 - 1. Shape reduces wave impact
 - 2. Cling tightly to rocks
 - 3. Often found in cracks and holes in rocks, or between other tightly attached animals
- C. Rockweed plant
 - 1. Flexibility helps withstand pounding of waves
 - 2. Provides a hiding spot for animals

II. Middle Zone

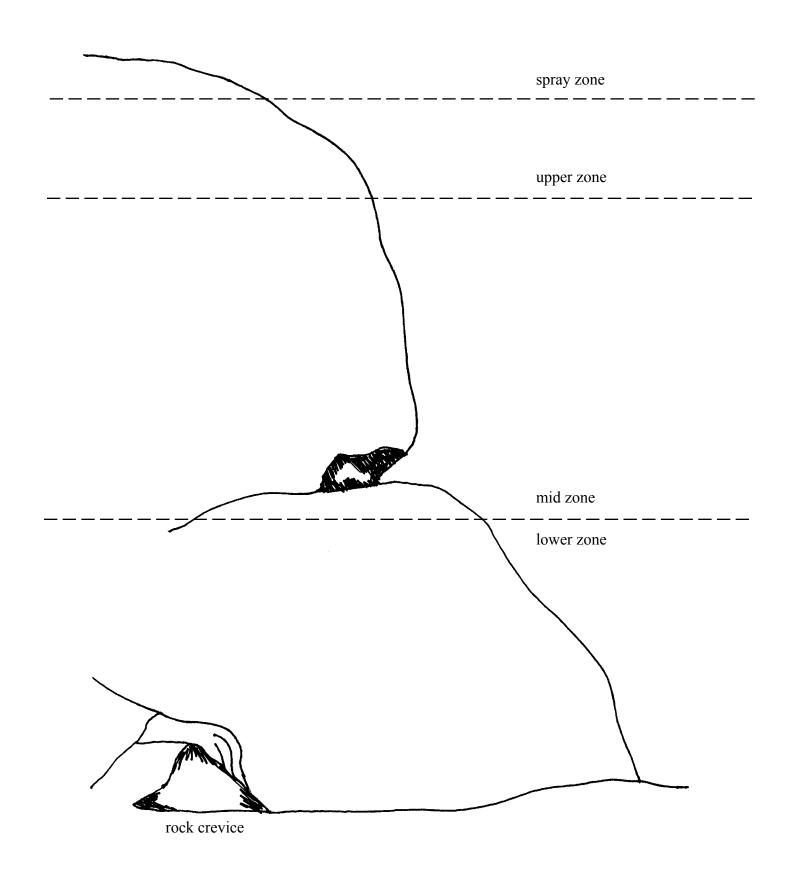
- A. Mussel animal
 - 1. Most numerous animal found in the middle zone
 - 2. Attach themselves to rocks and to each other by long threads
 - a. This "mat" of mussels forms a protected area for many animals
- B. Goose-necked barnacle animal
 - 1. Often live near or with the mussels
- C. Crab animal
 - 1. Can crawl into a cooler or wetter spot during low tide
- D. Anemone animal
 - 1. Attach to rocks
 - 2. Cover body with shell fragments and small rocks to reflect sunlight
 - 3. Hold water in body to help them survive until high tide
 - 4. Also found in Lower Zone
- E. Animals found in pools and cracks in rocks
 - 1. Chiton
 - 2. Sculpin camouflaged fish
 - 3. Black turban snail
 - 4. Hermit crab
 - a. Often live in empty black turban snail shells

The boundary between the Middle and Lower Zone is not always clear.

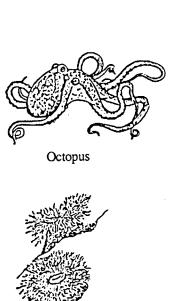
III. Lower Zone

- A. Sea palm plant
 - 1. Requires water, but can survive out of water for a short period of time during lowest low tide
- B. Sea hare animal
 - 1. Requires water, but can survive out of water for a short period of time during lowest low tide
- C. Other animals
 - 1. Urchin
 - 2. Sea star
 - 3. Brittle star (if sandy bottom)
 - 4. Octopus (usually found in deep water)

TIDAL ZONES



TIDAL ORGANISMS





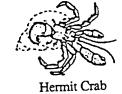
Sea Star



Brittle Star



Sea Anemone





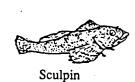






















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