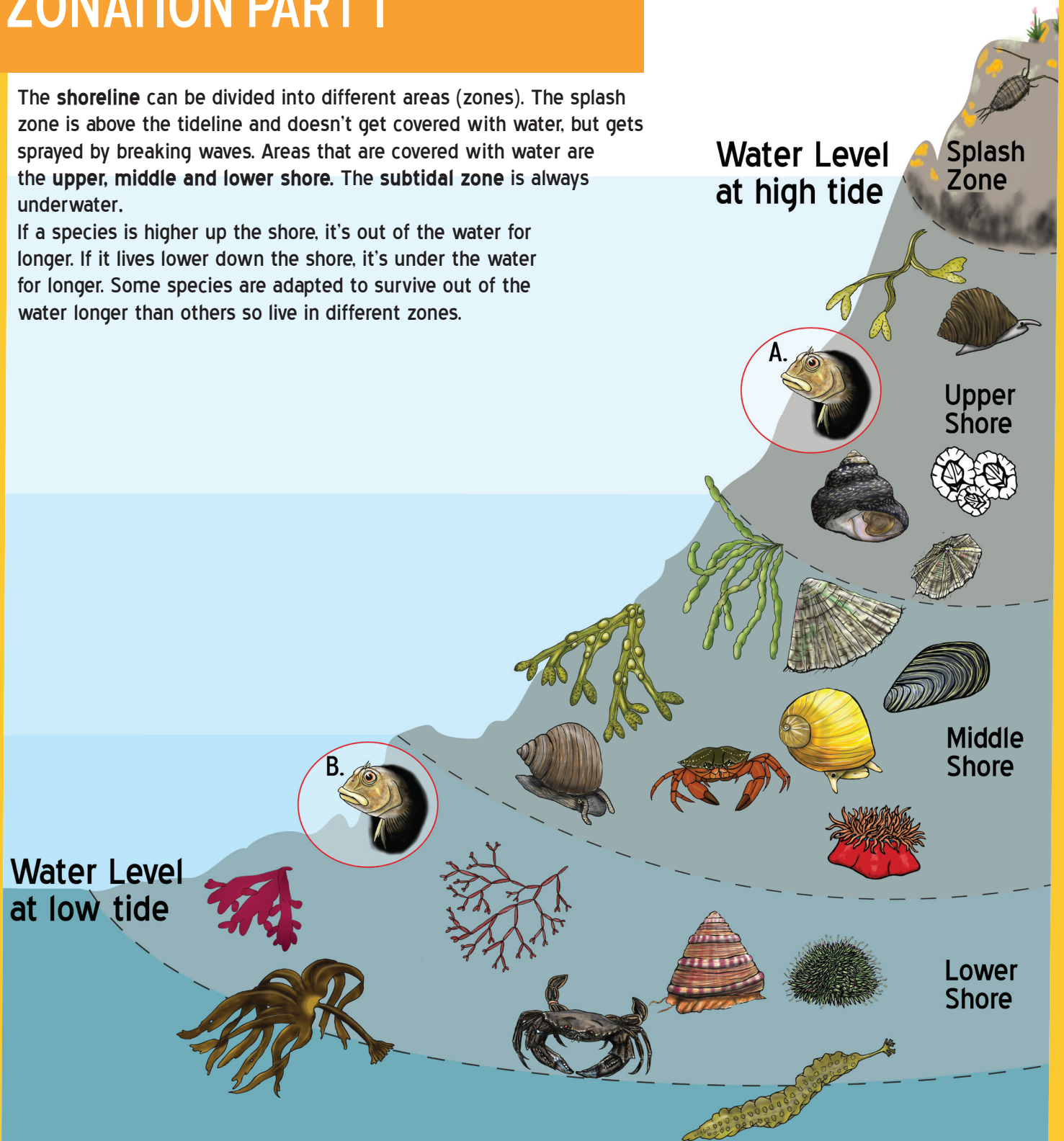


ZONATION PART I

The shoreline can be divided into different areas (zones). The splash zone is above the tideline and doesn't get covered with water, but gets sprayed by breaking waves. Areas that are covered with water are the upper, middle and lower shore. The subtidal zone is always underwater.

If a species is higher up the shore, it's out of the water for longer. If it lives lower down the shore, it's under the water for longer. Some species are adapted to survive out of the water longer than others so live in different zones.



Q1: Circle the blenny who would be out of water for longest in a day? Blenny A or Blenny B?

Q2: What problems might both blennies have to deal with because of where they live?

Q3: Where do you think would be the best place for a blenny to live on the shore? why?

Hint: You may need to read sheet 6 to help you answer these questions

Subtidal Zone

ZONATION PART II

Factors influencing zonation:

Desiccation (drying out) occurs when marine species spend time out of water. Living things die if they dry out too much.

Waves hitting the shore may damage or remove species. Wave action is greatest on the middle shore.

Sunlight is used by seaweeds and plants to grow. Sunlight reduces as it passes through water.

Temperature of the air soars in the summer and drops to freezing in the winter. Sea temperature is more constant, so change is less extreme underwater.

Salinity (saltiness) increases when water evaporates and salt remains, whilst rain reduces salinity. Too much or too little salt can damage some species.

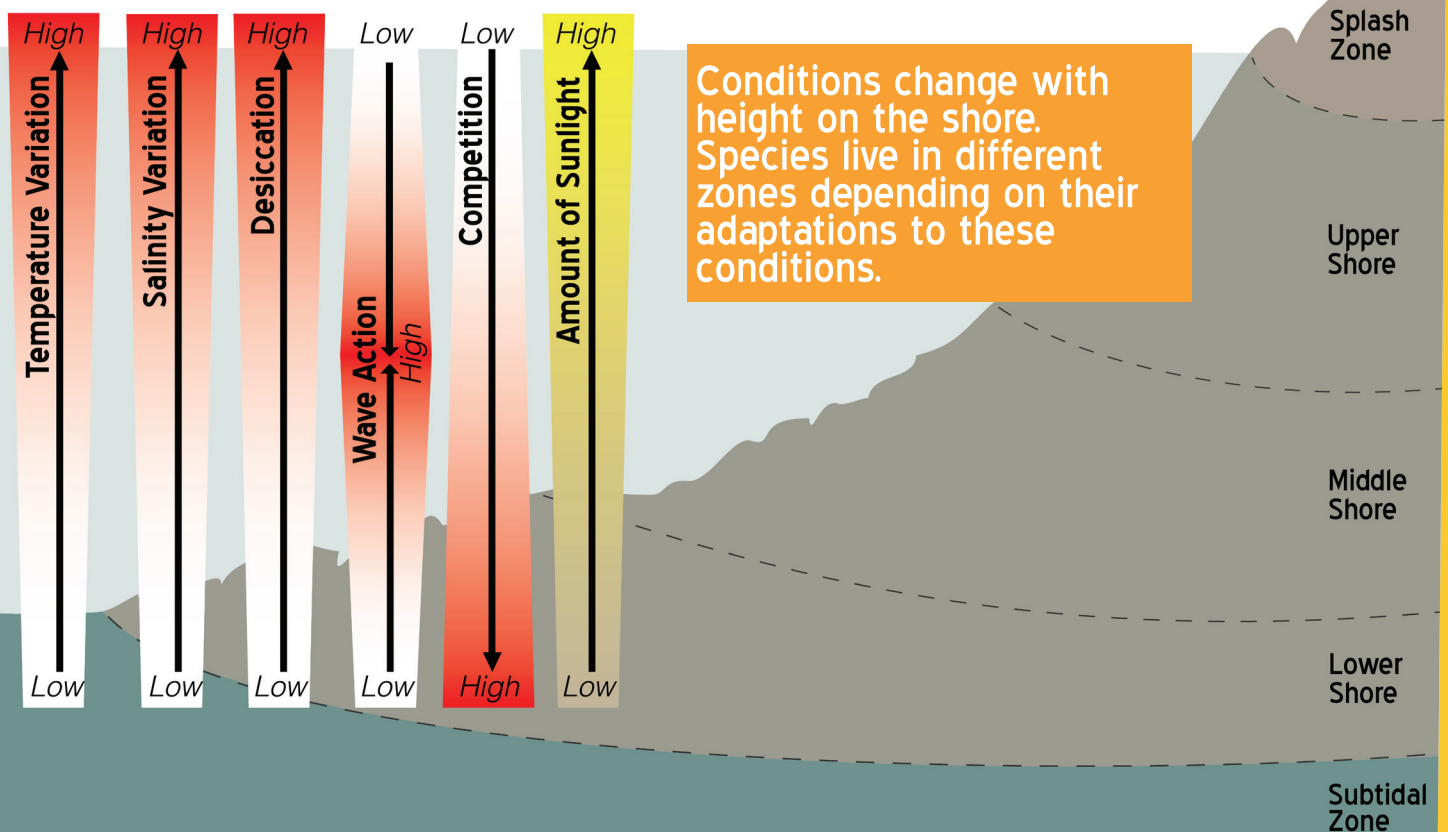
Competition for space, light, food and oxygen occurs when several species inhabit an area. When conditions favour more species, competition is higher. Harsher conditions favour fewer species and reduce competition.

Other factors:

Aspect means what direction the shore faces. One that faces south will get more sunshine and so might be hotter. Ones that face north will get less sun and so will be cooler and won't have as much desiccation.

Rock features such as the hardness and the size of the rocks and boulders affect what can and cannot live there. Large rocks and boulders are hard to move and so can provide shelter for species. If stones and pebbles are small they move and so it may be difficult for species to live there.

Some species like to "burrow" into rocks to make a safe place to live. Only softer rocks can be burrowed into. Other features such as rockpools and overhangs can provide more stable conditions for species.



ZONATION PART III

Label the zones and draw lines to match where each factor below is most commonly a problem.

