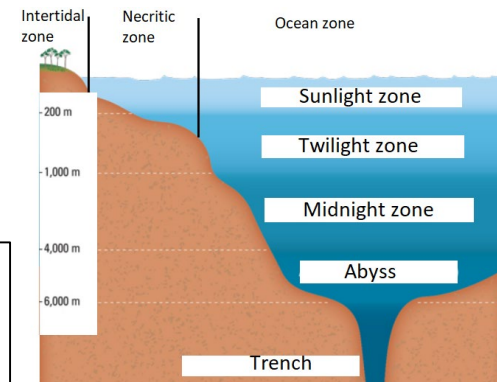


Glue

KNOWLEDGE ORGANISER Y9 - WHY ARE OCEANS IMPORTANT?	Biodiversity The variety of plant and animal life in the world or in a particular habitat.	Ocean Conveyor Belt a constantly moving system of ocean circulation driven by temperature and salinity (amount of salt in the water)	
Intertidal zone The area where the ocean meets the land between high and low tides.	Mangrove Salt tolerant trees that grow along the coast in the tropics	Overfishing To deplete the stock of fish in a body of water by excessive fishing.	Ecosystem a community of interacting organisms and their physical environment.
Coral Bleaching When the coral begins to die turning white as if it has been bleached.	Natural resources: Materials that are not man made and found naturally on earth e.g. oil, coal, timber.	Neritic zone the zone of ocean where sunlight reaches the floor.	Ocean a continuous body of salt water that is contained in an enormous basin on earth.

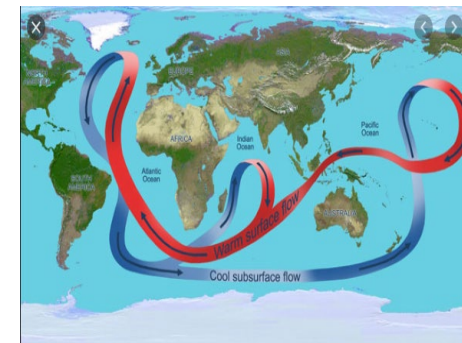
What is the structure of the ocean?

- Oceans are made up of many zones.
- Each zone is a different depth and receives different amounts of sunlight.
- The plants and animals that live in each zone will differ.



THE OCEAN CONVEYOR BELT

- The ocean conveyor belt moves water around our planet.
- Winds blow warm surface water from the equator to the poles.
- Deep ocean currents move colder, saltier water from the poles to the equator.
- The ocean conveyor belt affects climate.
- Places near warm current can be warmer than places on the same latitude – eg UK is warmer than east coast of Canada.



WHY ARE OCEANS IMPORTANT?

Healthy oceans serve as a natural resource bank for current and future generations.

LIVELIHOODS

350
MILLION

90%

AND

jobs are linked to oceans

Oceans provide jobs 90% of people earning living from the ocean live in LICs

CLIMATE

5x more carbon is stored in the ocean than on land.

Oceans absorb heat and carbon dioxide. They generate oxygen and help regulate weather patterns.

1 billion people in LICs depend on fish for protein.

What are ocean ecosystems?

Ocean ecosystems are made up of living and non-living components which interact with each other.

Each ecosystem relies on factors such as water temperature and light for biodiversity.

Coral Reefs



Mangroves



Kelp Forests



They are found in over 100 countries around the world.

They grow in temperate waters from 23-29°C

Home to 25% of all marine life on the planet.

The majority are found between the Tropic of Cancer and Tropic of Capricorn.

They prefer salty and clear water.



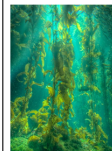
They stabilize the coastline, reducing erosion.

Found in the intertidal zone where the ocean meets the land.

They grow at tropical and subtropical latitudes near the equator.

Grow in areas of slow moving salt-water which allows sediments to build up, creating a soil for roots.

The root of plants in this ecosystem are often exposed at low tide.



Found in cool, nutrient rich waters close to the coastline.

They can grow 30-60cm per day.

They are rarely found deeper than 40 metres.

This plant is actually a type of algae.

Provide food and shelter for many organisms such as fish and marine mammals.

What are coral reefs?

Coral reefs are made up of millions of animals known as polyps. Coral is different colours as a plant called zooxanthellae lies in it. The hard exoskeleton of coral provides shelter and nutrients for the zooxanthellae and in return the zooxanthellae provide energy for the coral. This is a symbiotic relationship.

Protect land from storms and flooding

The tourist industry on coral reefs for income & jobs.

Medicine – used for cancer treatments and bone substitutes.

Store carbon in the zooxanthellae – regulates gases in atmosphere.

Why are coral reefs important?

Coral reefs provide \$375 billion of income per year around the world.

500 million people rely on coral reefs for food, coastal protection, and livelihoods.

Habitat for 25% of all fish species.

Threats to coral reefs

Tourism
Anchors & divers damage reefs.

Pollution
89% of the worlds coral reefs are in contact with plastic pollution – this can kill coral.

Coral bleaching
Changing temperature & climate is killing the zooxanthellae which in turn kills coral.

Overfishing
Large fish are being overfished. This can damage food chains in the coral.

What are mangrove forests and why they important?

Mangrove forests - salt tolerant trees that grow where the sea meets the shore.

Threats to mangroves

Mangroves are being lost to make space for urban development as populations grow rapidly and they are used as a source of fuel.

Ecosystem services provided by mangroves

