oceanarium
THE BOURNEMOUTH AQUARIUM

Key stage 2

Activity Pack

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Introduction

This pack will provide you with some activities and suggestions to use before and during your visit to the Oceanarium. Please feel free to change the resources and use them as you wish. If you have any suggestions of things to add then please let us know your thoughts.

There are a number of zones to visit which will allow you to look at the amazing variety of species at the Oceanarium, how they are adapted to survive and the features of their habitats.

Science and Geography

Coastal Conservation

Teacher notes

This activity will allow students to read, research and use the information to look at how changes to the way we can protect our seas can support biodiversity and help wildlife to recover.

Along the coastline south of Bournemouth are a number of protected areas, this task will allow students to look at those Marine Protected Areas and the wildlife they support.

Supporting information:

Poole Rocks

The rocky seabed of this shallow-water site is cloaked in animal turf which includes sponges, bryozoans and hydroids. The rarely recorded Couch's goby has been spotted here and fish, such as pouting and pollack, often shoal over the rocks.

Southbourne Rough became the Marine Conservation Zone in 2019.

An important area for the black sea bream. Males dig shallow nests in sand or gravel on the seabed, guarding the eggs until they hatch.

Studland Bay

The seagrass beds of Studland Bay provide breeding grounds for the long-snouted seahorse as well as habitat for pipefishes, wrasses and juveniles of commercial species such as bass, bream and flatfish.

Purbeck Coast (A new MCZ)

This area includes a critical black sea bream nesting ground, rare beds of maerl (a hardened seaweed) and vital habitat for threatened species such as stalked jellyfish and peacock's tail seaweed.

Albert Field

This area includes a range of different habitats, from gravelly sands to boulders, providing a home for a diversity of species, including starfish and tube-building worms.

South Dorset

The area includes rare chalk reef - one of the few places where this habitat is found in the South-West. In deeper water, the chalk environment is important for marine life, particularly when it forms reefs and sea caves, where it can support rare species of sponge.

Coastal Conservation

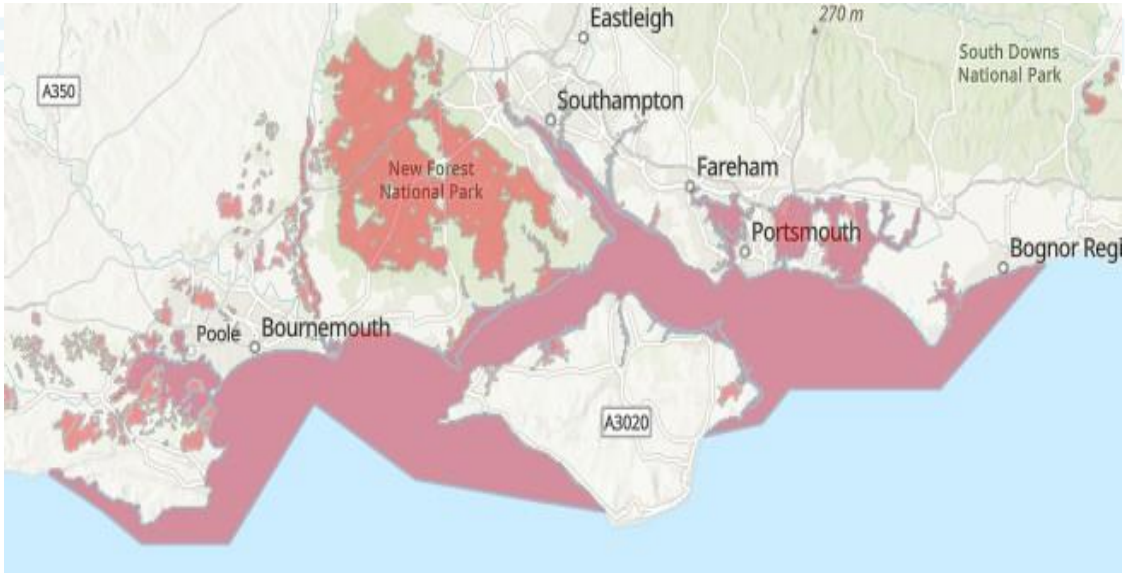
Did you know that along the south coast there are a number of areas called Marine Protected Areas (MPA).

These are areas that have been set aside to help with long-term conservation of nature and their sustainable use.

These protected areas can also be split into different groups:

1. Special Areas of Conservation (SAC):- Areas to protect habitats and species around 94
2. Special Protection Areas (SPA):- Areas to protect birds
3. Marine Conservation Zones (MCZ):- Areas that have been set aside because they have important species and geology for the U.K.
4. Highly Protected Marine Areas (HPMA):- These are there to help protect the whole ecosystem.
5. Sites of Special Scientific Interest (SSSI):- These are usually based on land by the coastal areas, but can also help protect some features in the seas.

The map below shows the protected area along the South Coast of England



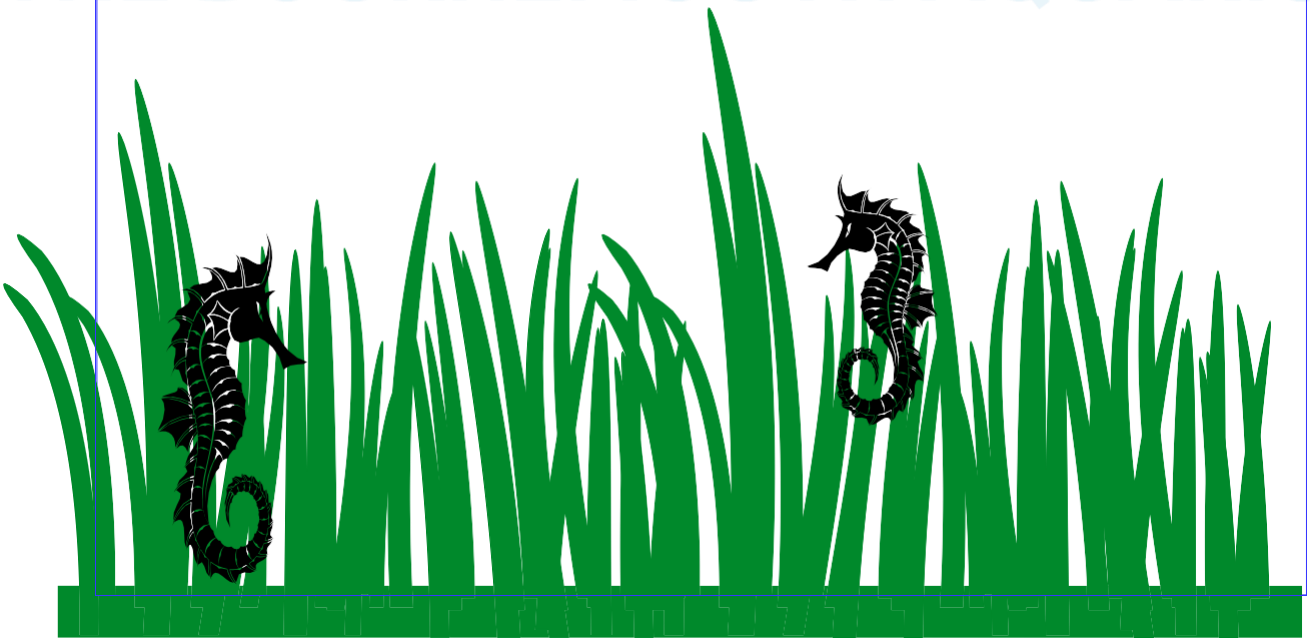
Abbreviation station

Do you know the different types of protected areas?

S.S.S.I. _____

M.P.A. _____

M.C.Z _____



Seagrass Task

Seagrass is one of the most important habitats on the south coast.

Your task is to carry out some research to find out what can seagrass do for us?

Use the space below to plan and gather information. You can work in small groups or on your own depending on what your teacher wants you to do. After you have carried out your research create a poster.

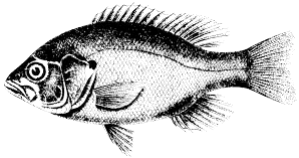
Biodiversity - What animals need seagrass as a habitat?

Storing Carbon - Why is seagrass useful to help control climate change?

Food for Humans - How can seagrass help provide food?

Managing nutrients - How can seagrass help reduce pollution?

Human Happiness and Wellbeing - How can clean seas help our wellbeing?



Land Use

When was the last time you went to the coast?

Can you remember what activities you did or saw while you were there?

Coastal activities

What impact might the activities have on the area?

Activity	Impact
Have an ice cream	Discarded wrapper / stick - pollution on beach or washed into the sea.

Respecting the coast

How do we use our coast? Create a poster to show how we use the coastal areas for recreation (e.g. kayaking, swimming) and industry (e.g. transport, fishing) and what people can do to protect the area. This poster would go up near the Oceanarium to encourage visitors to look after the coastline.

RESEARCH TIME

Top ten facts about our coastline.

Can you find out ten important things about our coastline?

Some useful websites to help you get started

https://kids.britannica.com/kids/article/coast/476241

https://education.nationalgeographic.org/resource/coast/

https://tides.today/en/journal/fun-facts-about-the-uk-coast-you-probably-didnt-know

https://kids.kiddle.co/Coast

https://facts.net/science/geography/10-unbelievable-facts-about-coastline/

Sea Horse – Information for teachers

What is a seahorse?

They are a type of fish! They have gills to get oxygen from out of the water, have a swim bladder to keep them buoyant and have fins for swimming.

In the UK we have 2 species which are the Spiny Seahorse (*Hippocampus guttulatus)* and the Short Snouted Seahorse (*Hippocampus hippocampus*) - the species at the Oceanarium Common Seahorses – *Hippocampus kuda*

Etymology of scientific genus – *Hippo* = Horse *Campus* = Sea monster

https://youtu.be/XqP0xqbnAMU?si=ONbeXk0_JA9wOCna *(1min)*

https://youtu.be/I49g_Xyr_0U?si=bJfbwXHvtwGJOKf4 *(1min)*

https://youtu.be/m7oWvPXz-9c?si=OEcVyhL5_IxaF2tk *(17min)*

https://youtu.be/168YjxXm3AA?si=rMOVf_2PXsffqvV1*(5mins)*

Adaptations

Students can research some different adaptations of the seahorses for their task. Below is some supporting information

Snout – Thin and long snout to help them search for food. They suck their food into their mouth with a lot of force like a vacuum cleaner, they don't have teeth for chewing.

Exoskeleton – not scales like other fish, skin is over the top of a bony armour

Swimming – use dorsal fin to move forwards, pectoral fins, on their head for steering, but mot very good swimmers – slowest of all fish!

Habitat – Seahorses love eel grass and other weedy areas as they can hunt amongst the leaves.

Eyesight – can moves eyes independently – like a chameleon! Useful when hunting food as they can look forwards and backwards at the same time!

Courtship – Not always for life but usually for a season at least (Seahorse trust research)

Pregnant males! – After courtship the female transfers her eggs to the male's pouch and the eggs are fertilised

Gestation 14 days – 4 weeks Birth can take up to 12 hours

Perfect plankton

Plankton comes from the Greek word ‘planktos’ which means drifters or wanderers. Which is exactly what these tiny plants and animals are.

Why are they important? Plankton can be found in freshwater as well as seawater and form the bottom of most food pyramids, which means they are food for many other organisms.

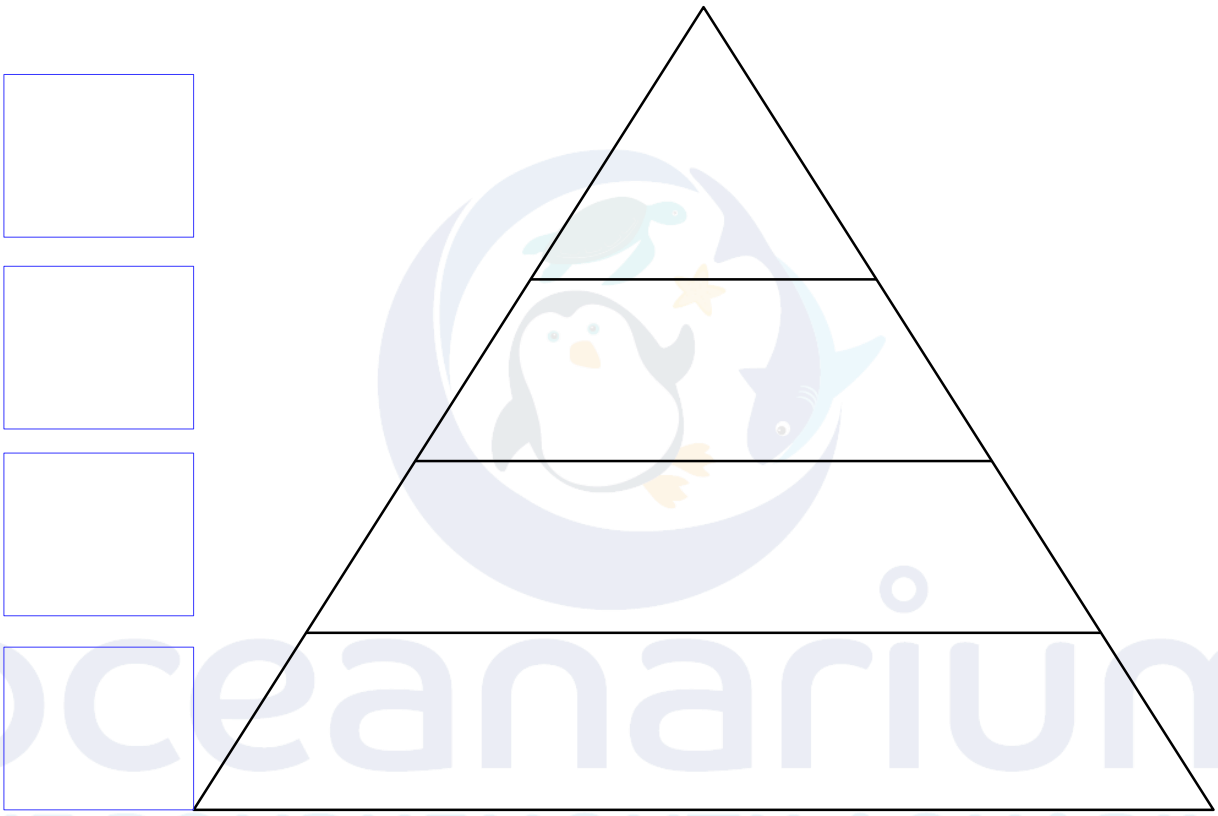
There are two groups of plankton, phytoplankton and zooplankton.

Find out a little bit of information about the two different groups and add a picture.

Phytoplankton	Zooplankton

Pyramids

Can you draw a marine food pyramid? Add the correct labels for each group on the left (called trophic levels) and add some plants / animals into the pyramid



Terms to remember

Autotroph is _____

Heterotroph is _____

Carnivore is _____

Herbivore is _____

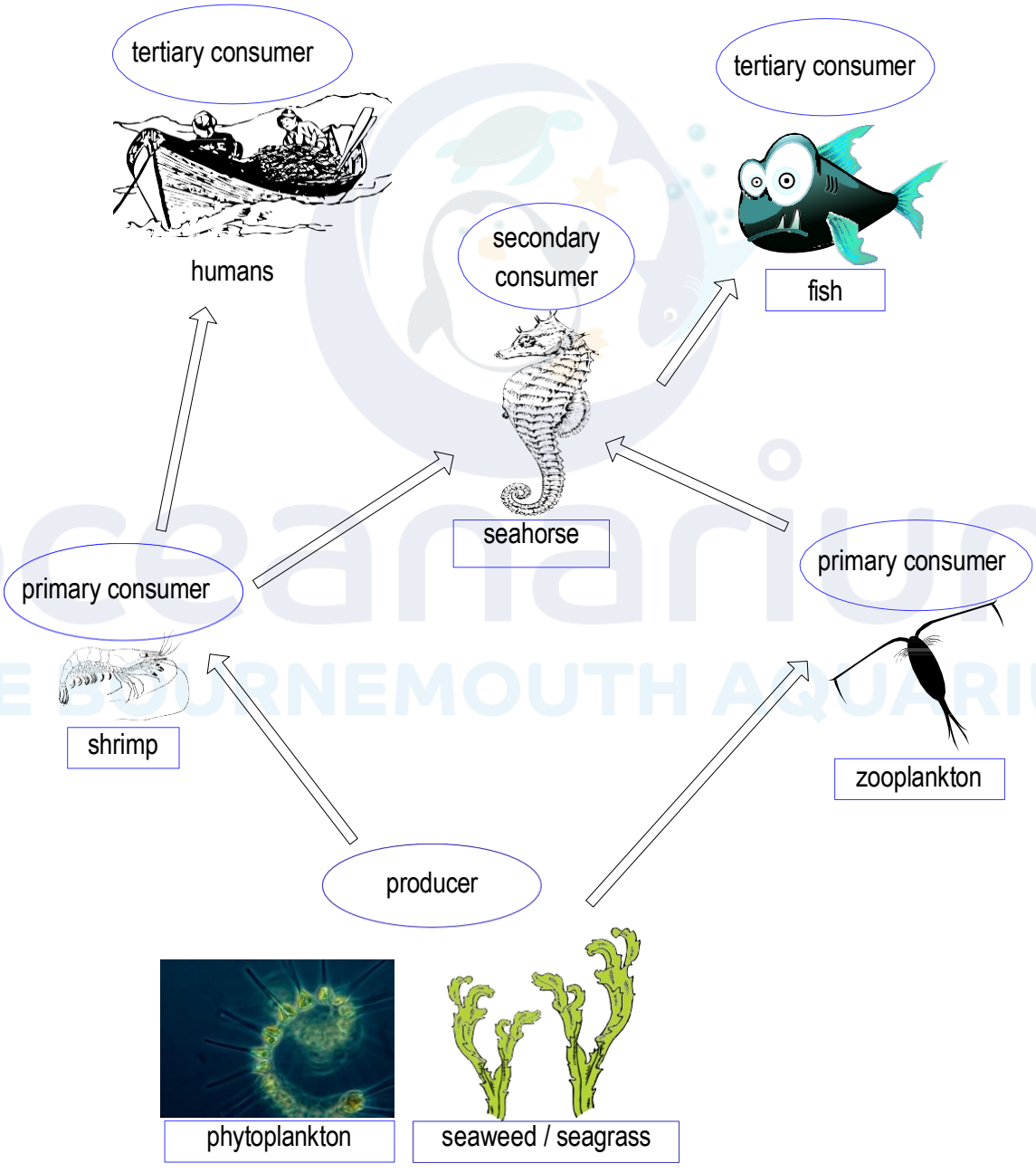
Omnivore is _____

Simple food web

Students can look at some different types of predators of seahorses, including humans and how we are a threat.

A further discussion on the importance of plankton – phytoplankton and zooplankton would be worthwhile as a reminder that an ocean ecosystem while still has plants as produces, also has phytoplankton.

The example below is a simple food web



Seahorse search

Adaptations – What are some key adaptations of the seahorse?

How do the adaptations help it in its habitat?

This means you also need to look at the habitats of seahorses!

Adaptations

Some things to help you research. Snout / Eyesight / Swimming / Pregnant males / exoskeleton

Habitat and food

Additional adaptations

When you are walking round the Oceanarium discover 4 different species that you find interesting.

Make notes on their key features. What do they eat? What helps them to hunt / hide?

When you return to school prepare a booklet or presentation to show the animals you have chosen and how they adapt to their environment.

Species 1	Species 2
Species 3	**Species 4**

Seahorse life cycle

Life cycle of a seahorse – cut out and add pictures and information to show the life cycle of seahorses

What happens during courtship that is special to seahorses?

How long is gestation? (you may need to look up the term gestation) Where does it happen?

How long can labour take and how many babies might there be?

Some seahorse juveniles are pelagic. What does that mean? But settle if they survive after a couple of weeks

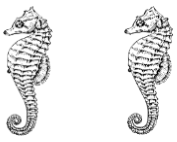
Cut out the images and add them to the life cycle

Adult

Pregnant

Birth

Juveniles



Food chain

Create a simple food chain for the seahorse

Now it is time to create a food web which will help look at other species interactions with seahorses?

You could include some different predators, impact of humans, what they eat (prey) and what their food eats! (producers) - create your own or use the pictures to cut out and place on your own food web.

Use the labels below to help when organising your food web. Think about each label and what examples there might be.

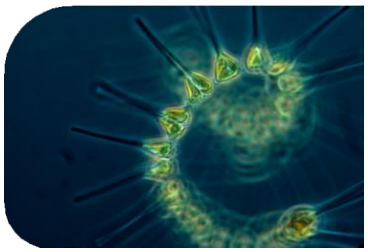
Tertiary consumer

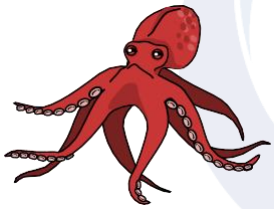
Secondary consumer

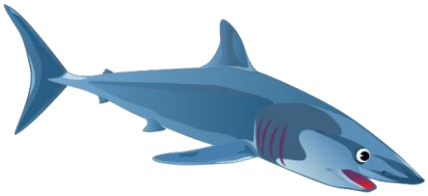
Primary consumer

Producer

Food chain / Food web examples cut out and place in your own food web







Biomes - Pre-visit activity

Animals and plants live all over the world in different conditions.

There are many different areas of the world that have similar climates and landscapes. A biome tells us some similar features such as how warm or cold, how dry or wet and how fertile the soil is

In small groups gather find some information about the following biomes, you should say where they are, some examples of what might live there, temperature etc.

Biome	Information		
Desert			
Forests	Tropical	Deciduous	Coniferous
Savanna			
Tundra			
Polar			
Others?			

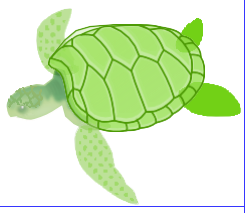
Biome spotting

When you are visiting Bournemouth Oceanarium can you spot some different biomes and identify some of the animals that live there? Write down some key features on your visit, and you can do more research when you get back to school.

Shark Wreck Reef

What biome would this be and what are your reasons?

What different species could you see and identify?



Key West

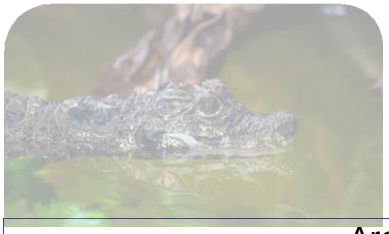
What biome would this be and what are your reasons?

What different species could you see and identify?

Amazon

What biome would this be and what are your reasons?

What different species could you see and identify?



Biome spotting - add your own

Area: -

What biome would this be and what are your reasons?

What different species could you see and identify?

Area: -

What biome would this be and what are your reasons?

What different species could you see and identify?

Area: -

What biome would this be and what are your reasons?

What different species could you see and identify?

Classification

How can we make things easier to group? At home how do you know where to find a fork or a spoon?

We like to be able to group certain types of things together to make our lives a little easier.

Classification is a way we can see how all living things fit together, based on their **shared characteristics**. This can help us work out similarities and differences between different living things and their habitats.

You have probably done some classification before, so we will start off with a refresher!

How would you group the following? - Fill in the boxes

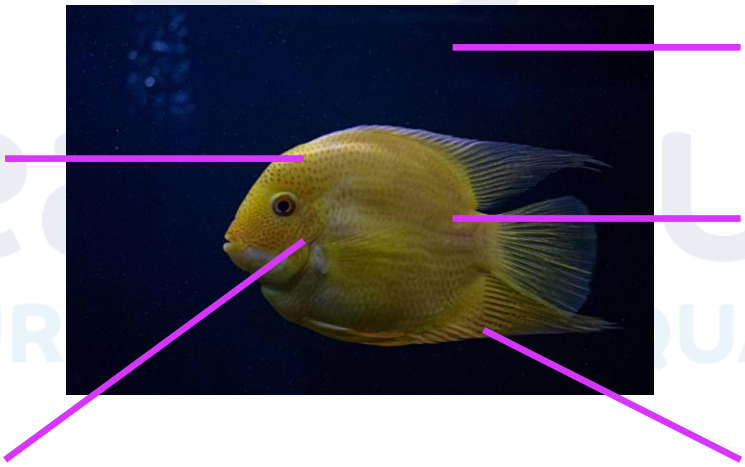
How do we know which of the 5 groups we should add new species to?

Add some lines and labels some key features of this fish - What makes a fish a fish?

How do we know which of the 5 groups we should add new species to?

Add some lines and labels some key features of this fish. What makes a fish a fish?

This version has some helper lines and some key phrases if you need some help.



Lives in water / Cold blooded / breathes using gills / has fins / has scales

Are all fish the same?

We can classify animals even more to help us. Fish can be split into two main groups.

Look at the two pictures below of the fish, are they the same?

One of them is a bony fish (osteichthyes - *Oss - tee - ik - thees*) and the other is a cartilaginous fish (chondrichthyes - *Con - drik - thees*). Which is which?

Can you tell just by looking at it? Well, sort of…

You can usually tell the difference between sharks/rays and fish often by looking at the teeth, or what they eat. But to really tell the difference we need to know what their skeleton looks like and what it is made of.

Bone is, well, it's bony! It is hard and includes things like calcium.

Cartilage is softer and more flexible, and less dense - so they can move quicker through the water to hunt their prey

Classification

How we group things together was first proposed by a Swedish scientist in the 18th Century.

Carl Linnaeus was a naturalist and explorer. He found that the way of grouping organisms together was not very useful, and there were some really long names and often had lots of different common names based on where they were seen and were very descriptive.

For example, in Latin - Plantago foliis ovato-lanceolatus pubescentibus, spica cylindrica, scapo tereti. Which is certainly quite long!

Which translates to - plantain with pubescent ovate-lanceolate leaves, a cylindric spike and a terete scape. Which is still not easy to remember!

Because of Linnaeus and his classification system, which groups organisms based on characteristics, we can simplify this by just using what we call the genus and species names.

This is called the binomial naming system. So that long named plant would have the scientific name of Plantago media. Which is much easier.

We still use common names though this would be a Hoary plantain.

Classification

KINGDOM	**King**	This how living creatures are organised.
PHYLUM	**Phillip**	
CLASS	**Came**	The last two are the names we used in science.
ORDER	**Over**	You could use a mnemonic to help you remember, like the one on the left.
FAMILY	**For**	
GENUS	**Giant**	Although you will also do this in secondary school.
SPECIES	**Sausages**	

Classifying a black tipped reef shark

The example below is how we would classify the black tipped reef shark.

What would the scientific name for the black tipped reef shark be? Use the information below to help you.

_____ and _____

(The first part always has a capital letter; the second part is always lower case)

KINGDOM	Eukaryota (has cells with a membrane bound nucleus)
PHYLUM	Animalia (what is this word?)
CLASS	Chordata (vertebrates)
ORDER	Chondrichthyes (do you recognise this word? It means cartilaginous fish)
FAMILY	Carcharhinidae (a group known as requiem sharks - give birth to live young, live in warm seas)
GENUS	Carcharhinus
SPECIES	limbatus

Classification Quest - 10 of the best

On your travels through the Oceanarium can you spot the full scientific name for ten different animals. You can also add this information to the Explorer Journal if you wish.

Common name	Scientific name

Your turn - Oceanarium Classification

Using information you gathered on your trip have a go at classifying the following animals, include each taxonomic group and some details that help you place it in the correct group. You might need some extra research.

A bony fish	A cartilaginous fish	A short clawed otter

Taking a bite!

Fish Dentition

What do fish eat?

Well that is a tough question to answer as it really depends on the species of fish!

Some eat larger prey like mammals or other fish, some eat crabs, some eat shellfish and some are herbivores!

All these different feeding requirements need specialised feeding equipment!

The best known teeth in the fish world are probably shark teeth!

They grow in rows, so that if one is broken a new one replaces it quickly.

Tasks

You have a few tasks to complete for this topic.

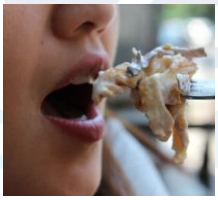
You will need to carry out some research on different types of fish, what their habitats are and how they are adapted to feed.

What are the 3 main types of teeth? Label and draw a picture in the boxes below

Teeth Types!

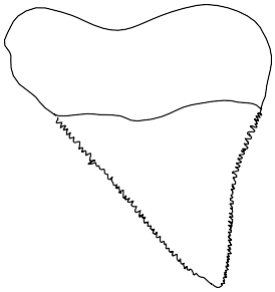
There is a huge variety in the different types of teeth found on all animals, but there tend to be some similarities, depending on the type of food they eat.

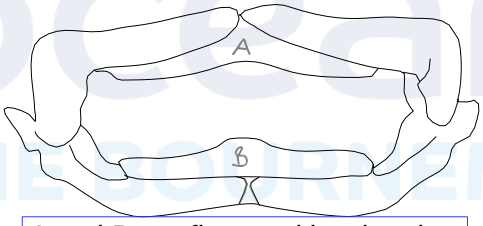
Complete the following information. You don't need to use fishy examples yet!

Type of animal (you could add a picture too)	Description of teeth, what are they like?	Why do you think the teeth are like this?
Carnivore 		
Herbivore 		
Omnivore 		
Challenge! What are the teeth like on a turtle? 		

Teeth Function

What might these teeth be useful for and on what type of fish might you find them?

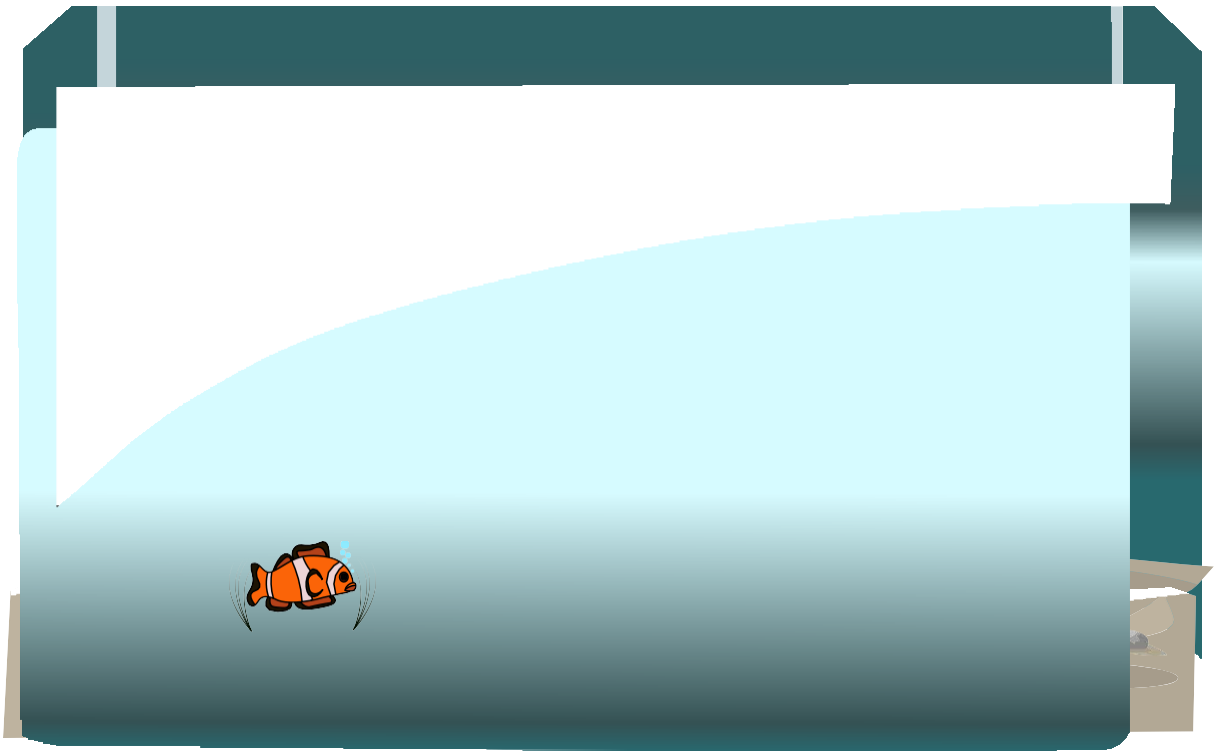




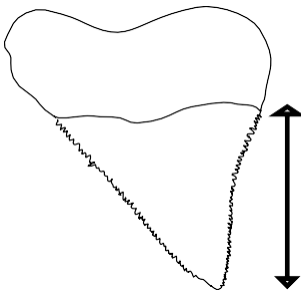
A and B are flattened hard pads.

Teeth fused into a beak shape

MATHS ACTIVITIES



Measuring a shark by its teeth!



Estimating size

If you measure the enamel part (the hardest part) of a shark tooth and multiply it by 10 you can estimate the size of the shark.

The measurements in the examples below are in cm but we also want to know how long, in feet, the sharks are.

We can convert metres to feet by multiplying it by 3.281 e.g. 1m = 3.281 feet

Looking through the records in the museum we found some measurements of different shark teeth. Can you help us to estimate the size of the shark to update our records in both feet and metres?

1) Shark tooth enamel 0.44cm

Size in metres _____

Size in feet _____

2) Shark tooth enamel 0.44cm

Size in metres _____

Size in feet _____

3) Challenge!

A shark was spotted swimming off the Bournemouth coast, it was estimated to be 12 foot long. How big might its teeth be?

Picky Penguins!

The keepers at Bournemouth Oceanarium are having trouble working out the costs of the fish needed for the penguins and need some help. There are 12 Humboldt penguins. Humboldt penguins eat a diet that consists of anchovies, herring, and smelts.

Every day, <u>each</u> penguin will eat:

12 anchovies

5 herring

5 smelt

How many fish do the 12 Humboldt penguin eat in a day?	
How many fish do they eat in a week?	
How many fish do they eat a month?	
How many fish do they eat in a year?	

Penguin supermarket

We know how many fish they eat - but we need to check the costs, can you help?

The cost of the fish is in the table below

Anchovies	£0.30 per fish
Herring	£1.50 per fish
Smelt	£1.15 per fish

What is the cost of food for one penguin per day?

Show your working out below

Answer_____

What is the cost of the food for all of the penguins for one day?

Answer_____

The keepers are trying to work out which is the best buy for herrings. They have two deals to choose from.

Deal 1 100 herrings for £150

Deal 2 500 herrings for £550

Work out which is the best deal - show your workings below.

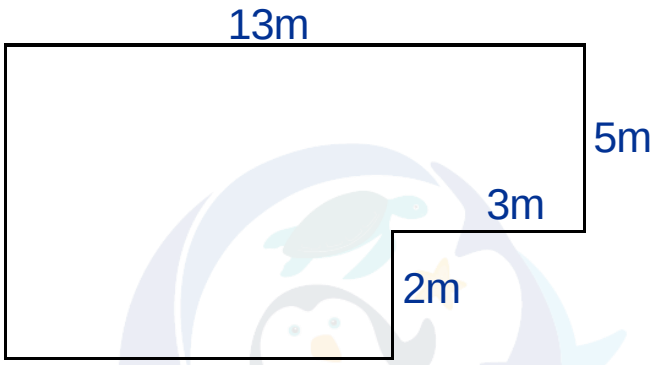
Which deal is the best?_____

Explain your answer to the best deal.

New homes

Some new tanks are being built to house more species at Bournemouth Oceanarium. But we need your help with the final planning,

We need your help to work out the volume of the tanks we need, the perimeter and how long it will take to fill the tank! Especially as we have the new sharks being delivered in 6 hours!



Calculate the perimeter of the tank in metres (show your workings**)**

Perimeter_____

Calculate the area of the tank - show your workings and write the units.

Area _____

Does it fit?

The floor space for the new exhibit is a total of 100m² is there enough space for the exhibit and for people to get all the way around it, use your area and perimeter information?

Explain your answer:

Fill it !

The new black tip reef sharks are arriving in 6 hours and will need to go into their tank, but we still need to fill it with seawater!

How long will it take to fill the empty tank using the pump that delivers water at 15l per second? Give your answer in hours.

Step 1 - Tank volume calculation - Use the measurements below:

Length 13m

Width 7m

Height 3.5m

Volume _____ **m³**

Adding the water

The pump we have pumps 15 litres of water a second. We need to know how long it will take in hours to fill the tank.

What was your volume? _____

We need to convert our volume from m^3 to litres. $1m^3 = 1000l$

What is the volume in litres? (Volume in m^3 x 1000) - show your working**s**

_____Litres

You now have worked out how many litres of water are needed to fill the tank, but we still don't know how long it will take, and the clock is ticking!

The next step is to divide the volume by 15.

This will tell us how many litres per second it will take to fill the tank

$$\text{Time to fill} = \frac{\text{volume in litres}}{\text{15 litres per second}}$$

_____Litres per second

We need to know how many hours it will take! How can we calculate that?

How many seconds are there in an hour? _____

So how many hours will it take?

(divide the time it takes to fill the tank in litres per second with the number of seconds in an hour)

Hours _____

Do we have time to fill the tank up before the sharks arrive in 6 hours?

Or will we need to delay their arrival time? Explain your answer

Teachers calculations

Picky penguins

Fish eaten

All 12 22x12 = 264

All in a week 264x7 = 1848

All in a year 1848x12 = 22,176

12 x £0.30 = £3.60

5 x £1.50 = £7.50

5 x £1.15 = £5.75

One penguin costs £16.85 per day

All 12 = £202.20 per day

Herring costs

Deal 1 = £1.50 per herring

Deal 2 = £1.10 per herring

New sharks

Perimeter : - 40m

Area of tank - 80m^2

Volume - 318.5 m^3

Volume in litres - 318,500

Fill time in seconds - 318500 / 15 = 21,233

Seconds in an hour - 3600

Time in hours to fill the tank - 5.9 hours

Convert to hrs and minutes as a bonus - .9 x 60 = 54 min

Total time - 5 hours 54 minutes

English / Literacy resources

Coming Soon to an Oceanarium Near You!

Bournemouth Oceanarium are looking for a new species of animal for a new exhibit, but they need some help to work out which one would attract the most visitors and need your help!

Task 1 – Identify your animal.

What animal would you like to see at the Oceanarium?

Why?

Before you dive into this project, you need to undertake some research so that you can present your findings and put forward some detailed reasons why you think your chosen animal deserves to be in the Oceanarium.

Task 2 – Ask a friend

The Oceanarium staff ask the public for their thoughts when they are building a new exhibition, to see if it is something they would come and see.

We use closed and open style questions to get responses back from people.

Closed questions usually only have a yes or no answer.

Open questions have more detail in their answers.

Ask the students on your table for their views about your chosen animal and write down their thoughts.

	Student 1	Student 2	Student 3
Would you go to see _____ in the Oceanarium?			
What would you like to know more about _____ at the Oceanarium?			
Why do you think _____ would be a good animal to have at the oceanarium?			

Task 3 – Research

You need to find out some more information about your animal. Use the points below to help you find out the information you need:

Where does your animal live - its natural habitat?

Why would it be helpful to have this animal in captivity?

What does it eat?

Does it need to live in a group or on its own?

Could it live in captivity well?

Task 4 – Home Sweet Home

Your chosen animal needs to have a wonderful space to call home at Bournemouth Oceanarium.

From your research so far, can you answer these questions?

What habitat would the oceanarium staff need to create?

What items would your animal need to make it feel at home? (rocks, kelp, corals, trees etc)

Are there any things your animal would not like?

Task 5 – Present your case

You need to write a speech to persuade your class to vote for your chosen animal as the new exhibit at Bournemouth Oceanarium.

Use the guide below to help you write your speech.

- Tell your class what your animal is and why you chose it.
- Give 2 interesting facts about your animal.
- Explain what your animal would need as its habitat at the Oceanarium.
- Give two reasons why your animal should be included as an exhibit at the oceanarium.

Practice giving your speech – read through it a couple of times to make sure it makes sense and you have all of the information you want to share to your class in it.

Active listening

When other students give their speeches, listen carefully to what they have to say.

Write down a question you would like to ask them to find out more about their animal.

Ask your question. Did you get any new information?

Task 5 – Present your case

Task 6 - And the Winner Is……

Based on the speeches you have heard, you need to vote on which animal you think should become the newest addition to Bournemouth Oceanarium.

Write you choice on a piece of paper, and give it to your teacher.

Count up the votes to see which animal won, and who was the most persuasive person in your class today.

Which group was the most persuasive? Can you give some reasons why?

How might you improve your presentation next time?

Time to talk!

You have just started work at the Bournemouth Oceanarium and have been asked top prepare and present a new animal talk.

The talk should last around ten minutes and should have some really interesting information you can tell the other visitors

Things to consider

What animal do you think would be good to do a talk about? Why?

What interesting facts would be good to share with the audience?

Could you include a feed with your talk?

While at the Oceanarium go and watch at least one of the talks.

Make notes on the interesting things they talk about., Think about where they stand to give the talk. How long is it? What was a new fact that you learned? What would you do differently?

The talk I watched was about?

What were some important / interesting things?

Time to talk - your turn

Prepare your own talk - use this page to make some notes and then prepare a presentation that you will give to the rest of your class. You can work in pairs or small groups , remember each person in the group will need to take part in your talk.

Your talk can last no longer that 10 minutes and no shorter than 6 minutes - so you will need to prepare and practice. Use the information you got from your visit to help you plan.

Non-chronological report resource

Asian small clawed otters

Activity 1

Read through the information carefully.

Use a different coloured pen or pencil and underline:

- the heading
- the subheadings
- the generalisers
- the caption
- the introduction

Asian Small Clawed Otters live in family groups.

Asian Small Clawed Otters - *Aonyx cinereus*

Asian Small Clawed Otters live in small groups across Asia from India and Nepal to the Philippines, Indonesia, China, Singapore, Malaysia and Thailand.

What do Asian small clawed otters look like?

Asian Small Clawed Otters have short but very **flexible** sensitive claws useful for **digging**, climbing, and grabbing hold of **prey**. These little otters have thick fur made from short hairs to help keep them warm when swimming in colder waters. Their tails are and propel them through the water when they swim; they also use their tails for balance when standing upright on land. Asian Small Clawed Otters have feet that are partially webbed, this means their paws are more dexterous and help them hold on to their food.

What do Asian small clawed otters eat?

Asian Small Clawed Otters are carnivores and eat a diet that consists of insects, snails, small fish and crabs.

What do Asian small clawed otters do?

Asian small clawed Otters live in freshwater swamp and rivers. They form pairs for life and have two litters of up to seven pups per year.

Did you know?

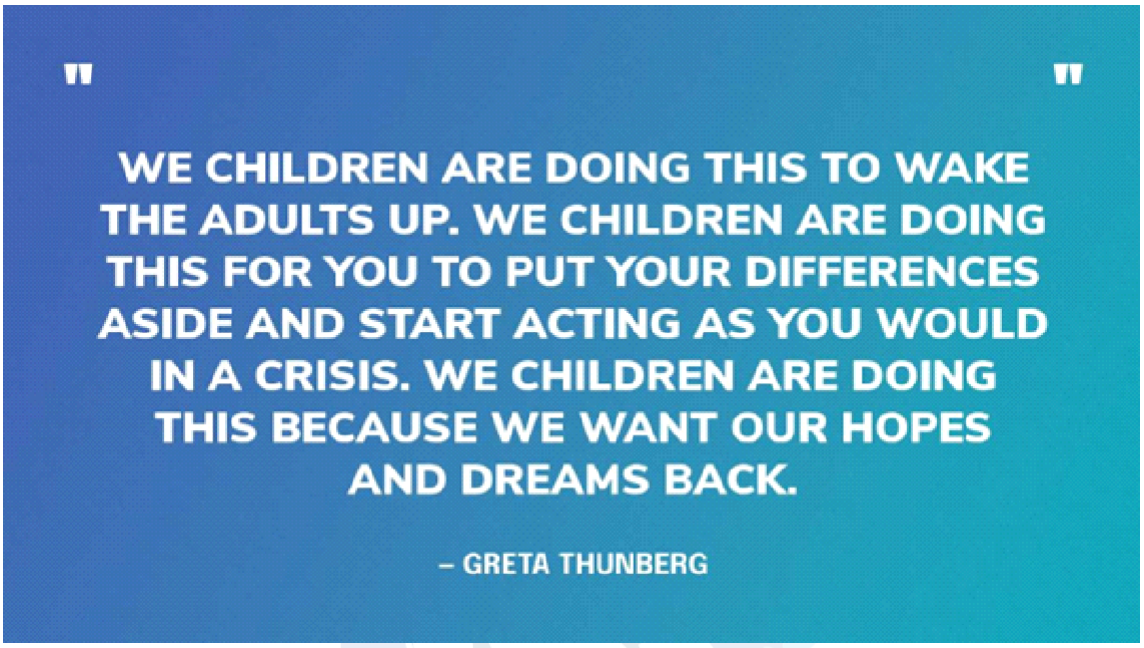
Asian small clawed otters are the smallest species of otter.

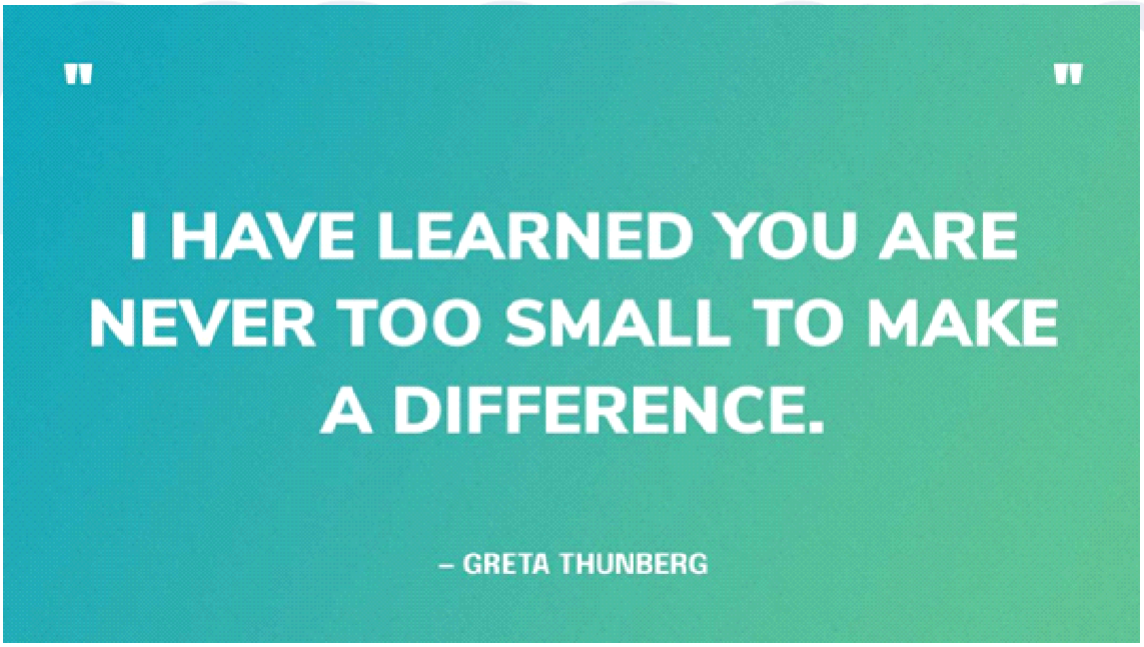
Activity 2

Use the non-chronological report on Asian small clawed otters as a guide to help you write your own report on an animal you saw on your visit to Bournemouth Oceanarium.

You might need to visit the Bournemouth Oceanarium website too for extra facts and information about your chosen animal, as well as information from your visit.

Conservation Comprehension





Greta Thurnberg reading comprehension activity

Great Thunberg is a Swedish environmental ac□vist, probably the most well-known ac□vist, who has challenged world leaders to take immediate ac□on on climate change.

Great was born in Stockholm, Sweden, in 2003. She was just 8 years old when she started to learn about climate change and was concerned that although we knew what was happening very li□le was being done about it. She was so upset by this that aged 11 she stopped talking for a short period of □me.

Greta has au□sm. Young people with au□sm may have a hard □me rela□ng to others socially, can show repe□□ve behaviour pa□erns, and have a narrow range of interests. Gr describes her au□sm as a “superpower” which helped her with her mo□va□on.

She was 15 years old when she started the first “School Strike for Climate” outside of the Swedish Parliament, you can see her poster board in the image. Students from all over the world joined in with her Fridays For Future strikes, which only ended when she le□ school in 2023.

Her goal is to raise awareness of the damage that we have done to our planet and to get people to fight for change to reduce the affects if climate change.

Her goal is to raise awareness of the damage that we have done to our planet and to get people to fight for change to reduce the affects if climate change.

She has travelled the world, for example sailing by yacht across the Atlan□c Ocean to speak at the United Na□ons climate ac□on summit in New York, a journey that took her 15 days. Greta has also spoken numerous □mes to world leaders including at the COP25 Climate Emergency Event and in London in the Houses of Parliament.

She has asked word leaders to commit themselves to the Paris Agreement. The Paris Agreement was put in place for world leaders to commit to limit global warming to 1.5 degrees Celsius by 2050. This would mean reducing greenhouse gas emissions.

Greta was named the Time Magazine person of the year in 2019 and has been nominated for the Nobel Peace Prize every year since 2019!

What can you do to fight climate change? As Greta once said “ I have learned you are never too small to make a difference”

Questions.

1) Where was Greta Thunberg born?

2) How old was she when she first found out about climate change?

3) What is the Paris Agreement?

4) What is Greta's goal?

5) How long did it take for her to sail to the Climate talks in New York?

6) In what year was Greta Thunberg named the Time Magazine person of the year?

7) Why did Greta talk about her au□sm as a "superpower"? How might it help her?

Passionate speech at UN climate action summit

h□ps://youtu.be/KAJsdgTPJpU?si=_iUaxL9GuOmtSwbV

COP25 speech

h□ps://youtu.be/Eo_-mxvGnq8?si=4FSyscZk3ypMzrhh

h□ps://www.bbc.co.uk/news/newsbeat-42030979

Describing a species - Information signs

On your trip around the Oceanarium have a look at the different ways that the animals have been described and displayed - this is called interpretation.

What sort of information and styles can you find?

We would like you to help us create some new interpretation for an area or animal of your choice.

Choose the animal you are going to look at, make sure you know where it is, and when you arrive make some notes on what information you have found.

The template will help you to find the information you need. You could also use the explorers' journal to gather the information. When you are back in school after your trip, you can create a new piece of interpretation for your chosen animal,

Don't forget to email us a copy of your work too! You never know - we might even use your interpretation! info@oceanarium.co.uk

Some things to consider

You could time how long it takes you to read some information - Consider why this might be useful to know.

How much information do you need / want?

How could you get the visitor to engage/read/use with the interpretation?

Create your own interpretation

Information template

These are just some prompts to get you thinking, but you can add your own notes and thoughts too!

Was the information found on a noticeboard / a screen / something interactive?

Which did you prefer? (think about this when you are creating your own)

What were the most important pieces of information that you found?

Discuss with your partner too - did they want to know the same information as you or something different?

Did you find the information you needed on your animal?

How long did it take you to read?

What sort of information would you like to see ?

Other notes

Design your own interpretation

Have you decided on the type of information you think was important? Have you thought about how you want to share that information with the visitors?

This is your chance to create your own piece of interpretation on an animal / plant of your choice. Add your key information below and then prepare your interpretation on paper or using a computer. Don't forget we would love to see your examples!

My Notes

Explorer's Journal - Teachers guide

The following pages can be printed out (A5 2 to a page is ideal and double sided / or printed as a magazine), or you could save as a PDF and if students have iPads / tablets then the file can be shared and used in this way.

Ask the students to complete their journals in pairs / small groups as they move around the oceanarium.

If you are asking them to focus on certain species / groups of animals - for example for classification activities, you can assign different groups of organisms to different groups of students.

They can find the information they need on information boards and screens around the Oceanarium, and complete ant gaps when they return to school.

Explorer's Journal

Name of animal - Nautilus

Picture / photograph

Classification

Invertebrate, Cephalopod,

Level of threat

Not classified

Explorer notes

Description of animal & behaviours:

It has orange and white stripes. It has small eyes and lots of tentacles. Slow swimming, seems to hang in the water

What country is it from? Australia / Indonesia

What is its habitat? Deep sea and coral reefs

What is the biome? Tropical region

What does it eat? Crabs and small fish - carnivore

Awesome adaptations?

It has very poor eyesight as it lives in deep water where there isn't a lot of light. To help it hunt it has lots of tentacles that are very sensitive. Like other cephalopods it has a beak like jaw to help it break apart its food. It also has a siphon, a water jet, which allows it to help it to move around and to look for food.

Explorer's Journal

Name of animal _____

Picture / photograph	Classification Level of threat

Explorer notes

Description of animal & behaviours:

What country is it from?

What is its habitat

What is the biome?

What does it eat?

Awesome adaptations?

Explorer's Journal

Name of animal _____

Picture / photograph	Classification Level of threat

Explorer notes

Description of animal & behaviours:

What country is it from?

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What is the biome?

What does it eat?

Awesome adaptations?

Explorer's Journal

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What is the biome?

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Awesome adaptations?

Explorer's Journal

Name of animal _____

Picture / photograph	Classification Level of threat

Explorer notes

Description of animal & behaviours:

What country is it from?

What is its habitat

What is the biome?

What does it eat?

Awesome adaptations?

Ocean artwork - Design a new tunnel!

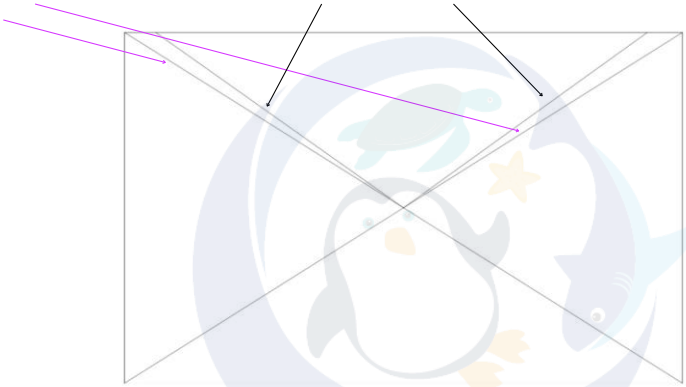
Single point perspective!

- Watch the videos on perspective with your teacher

https://youtu.be/0-RyB14hAt0?si=1pWgmPNoomOHniVm

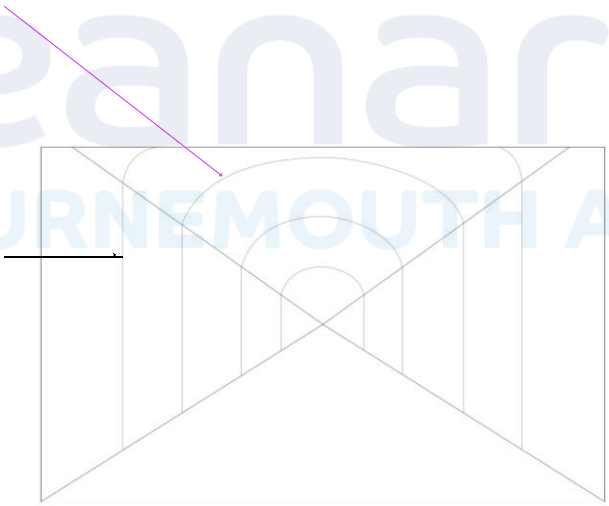
https://youtu.be/_EqG4y7u9tk?si=IsAtj2Xy6aOtD3wY

1) Take your piece of paper and with a ruler draw faint lines from corner to corner
2) Add some more lines from the 'roof' to the centre point, and erase the original corner lines



1) Add some vertical lines on the sides
2) Draw some arch shapes from each of the vertical lines to represent the shark walkway

Vertical lines

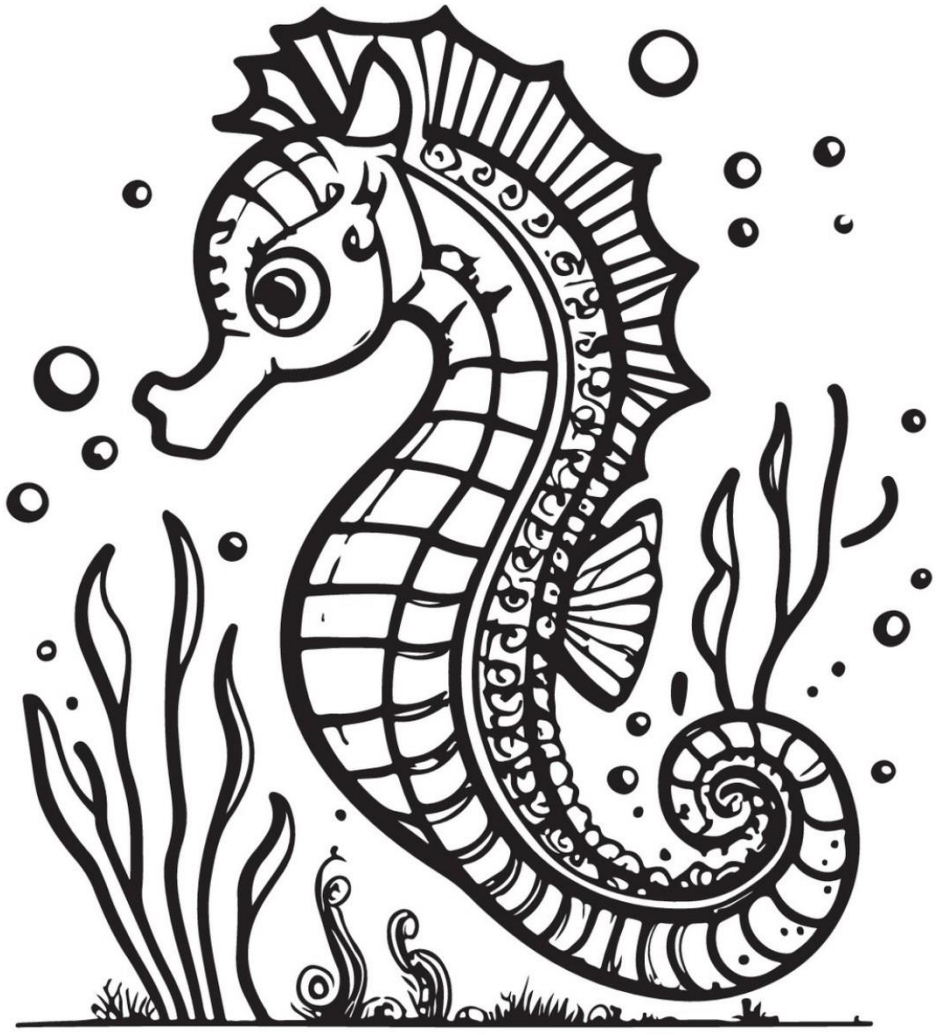


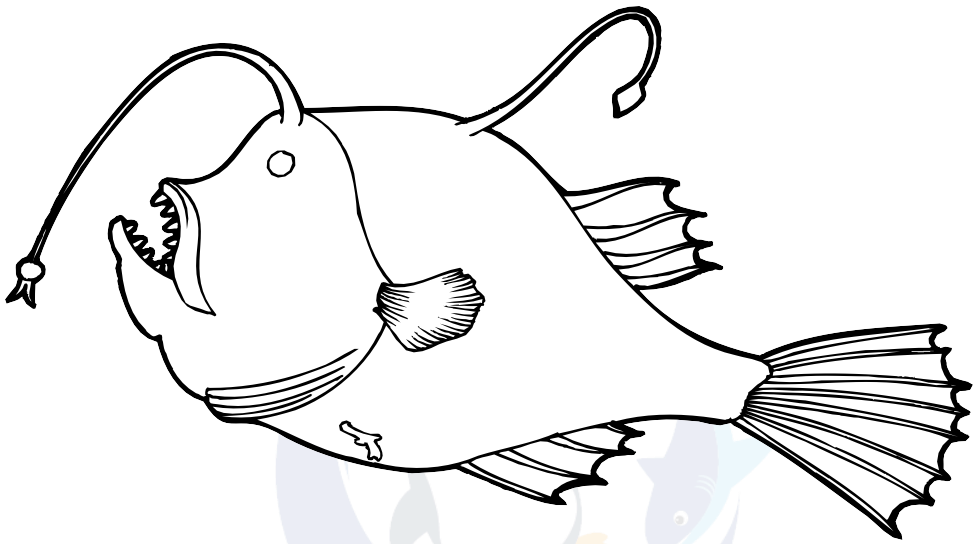
1) Add details for the floor, add fish, rocks, colour etc
2) Have fun experimenting with perspective

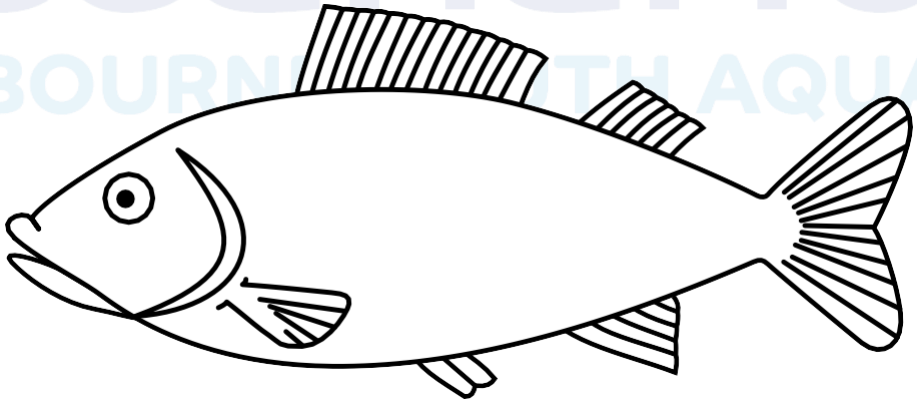
Tranquil Oceans

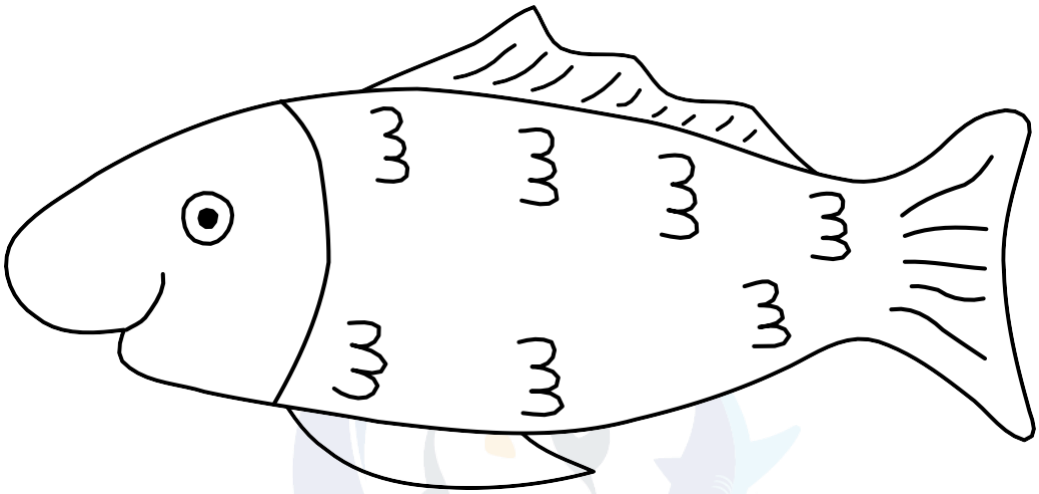
The following pages are for you to create your own colourful creatures.

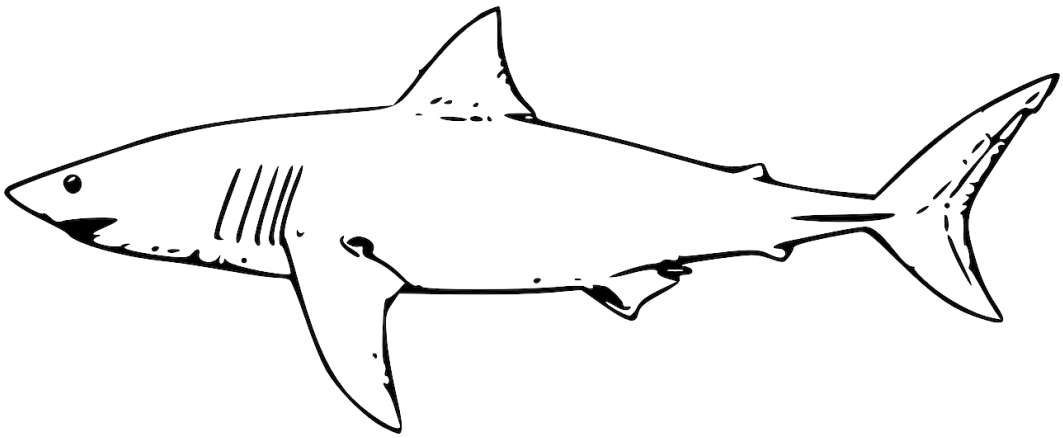
Choose an image you wish to focus on, imagine you are swimming in the water, and you spot your fish in front of you. What colours should it be? Take some time to focus only on your colouring.

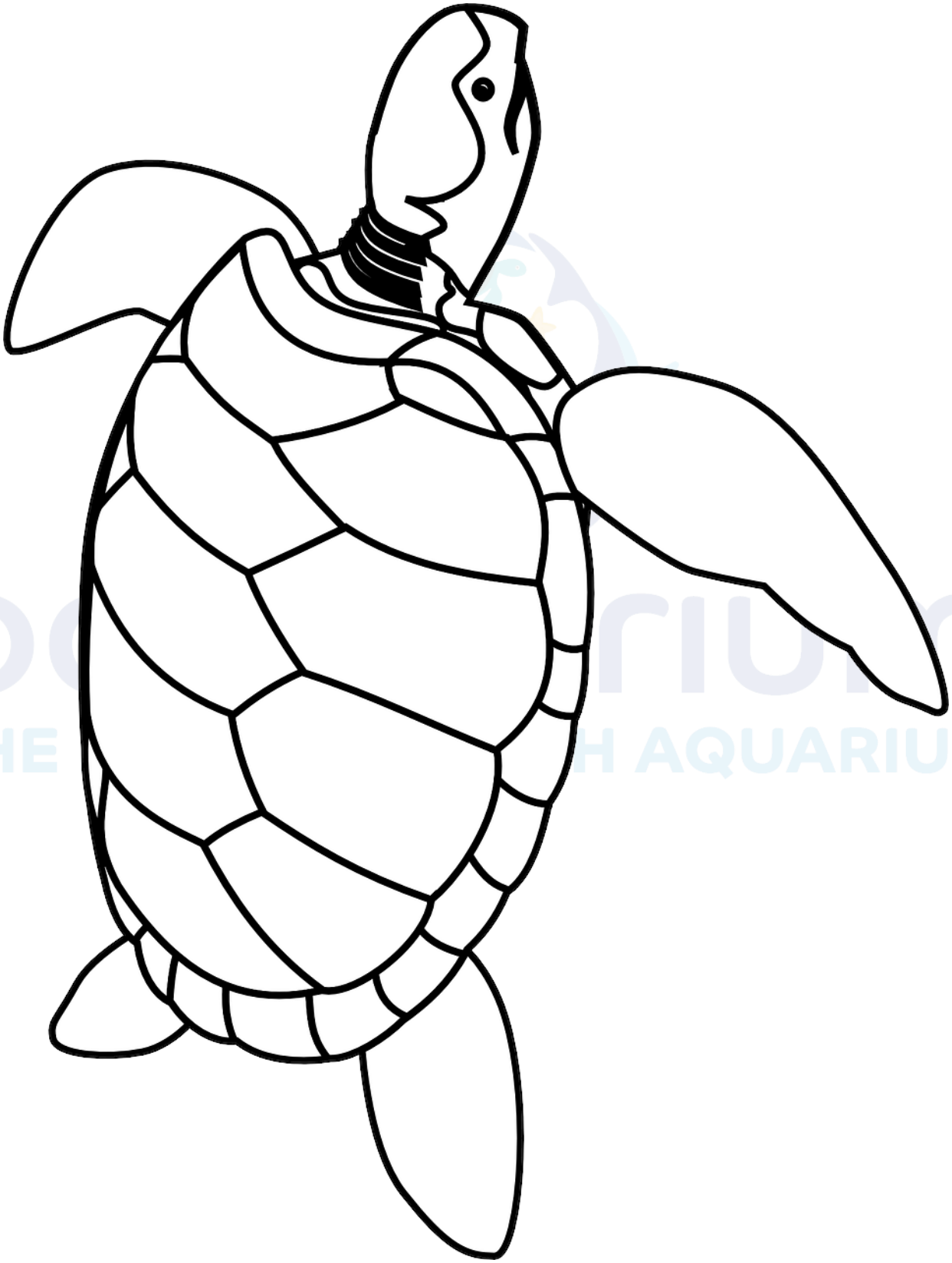


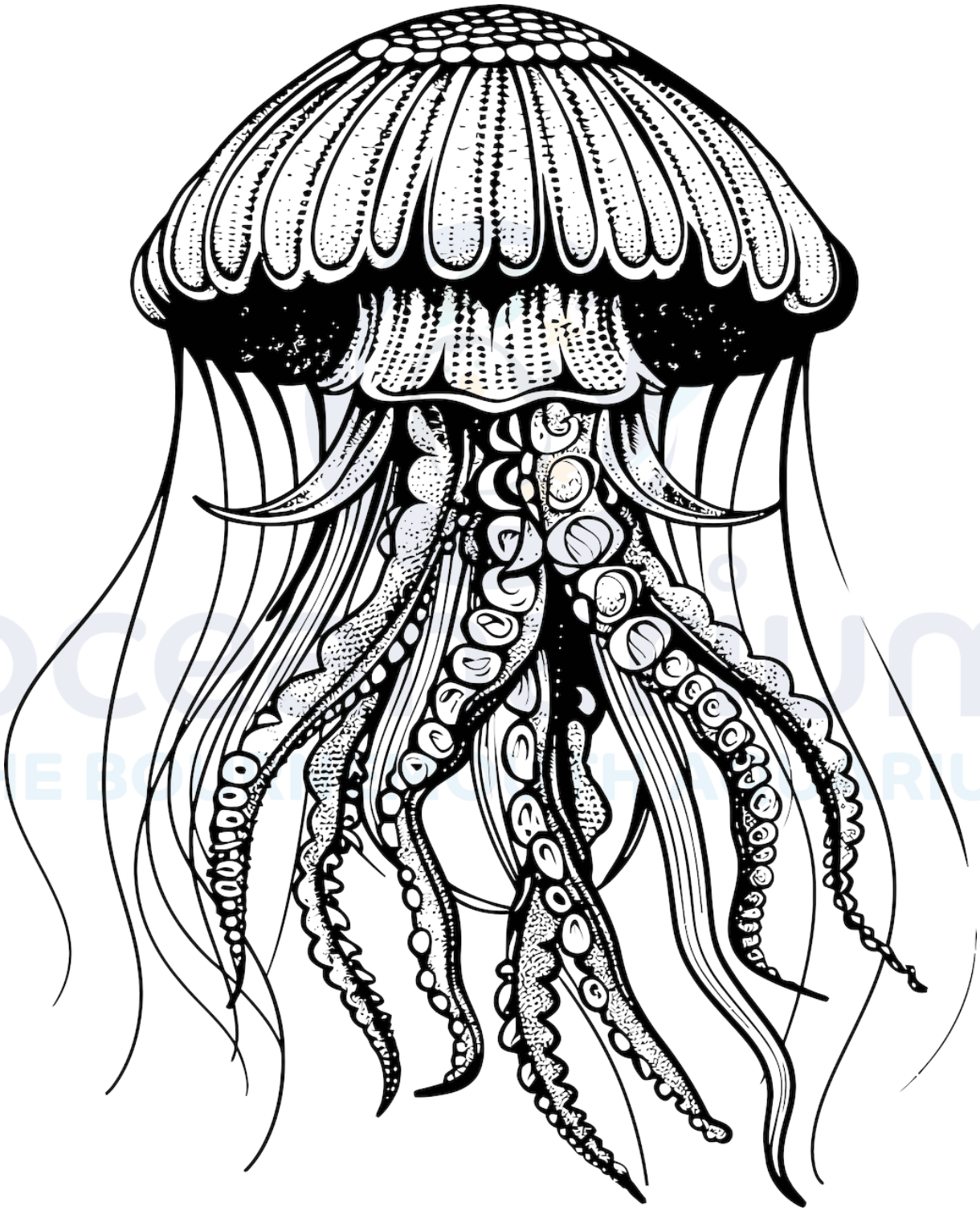


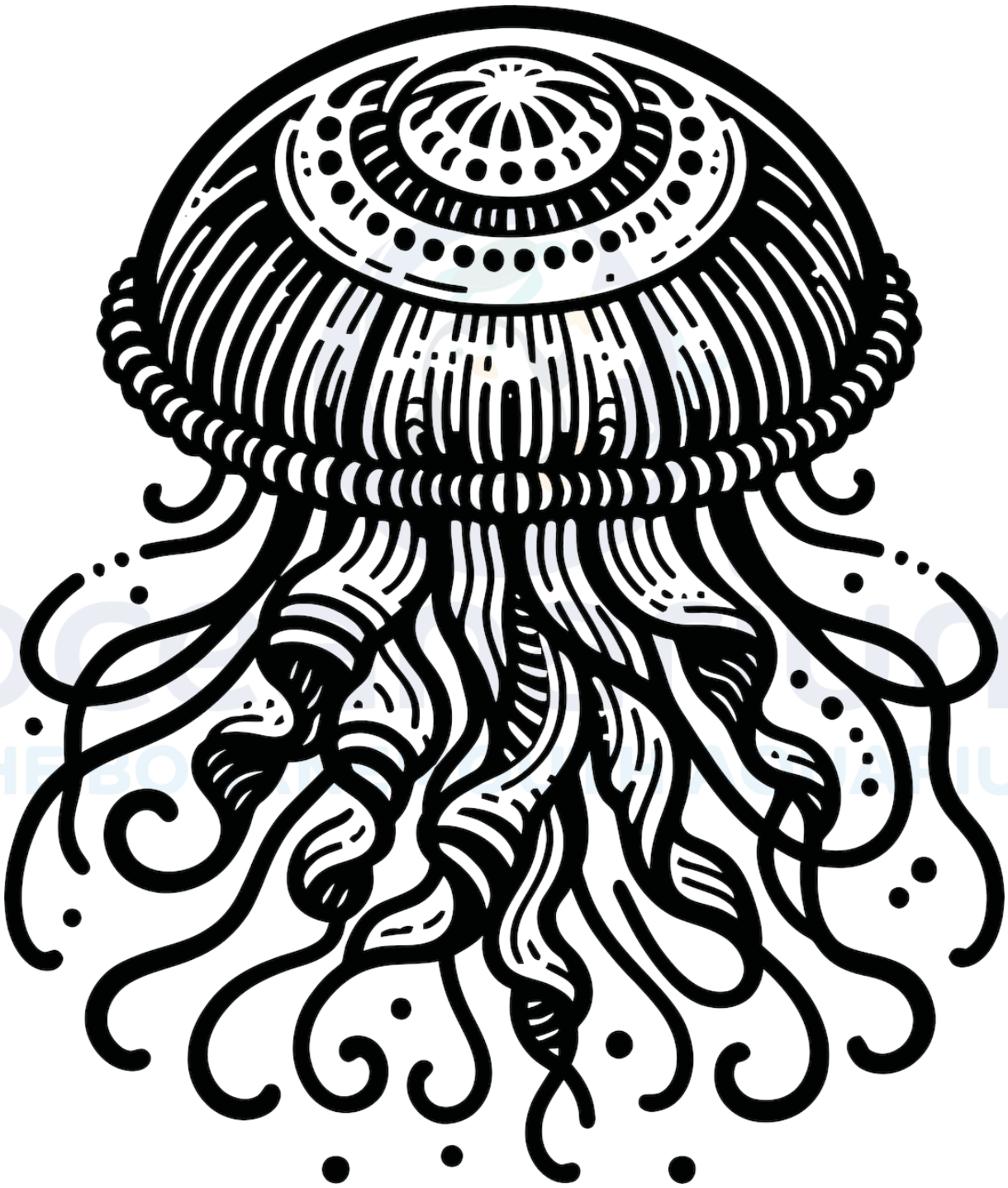












resource created for

oceanarium

THE BOURNEMOUTH AQUARIUM