

# Education Resource Pack

## Key Stage 1

### Introduction

The Key Stage 1 Resource Pack is an educational tool for teachers to use in conjunction with a visit to Bournemouth Oceanarium. Whilst at the Oceanarium the children will explore the beautiful aquatic life that lurks beneath the surface of the World's waters, ranging from tropical to temperate climates in both marine and freshwater environments.

This resource pack is designed to aid both children and teachers, enabling pupils to discover more about the incredible animals that would otherwise live thousands of miles away. All the activities are designed to be fun and educational and relate to the creatures on display at the Oceanarium. The activities explore the various processes, relationships and cycles that occur in the natural world and are all linked to key areas of the curriculum.

The activities in this pack require little teacher preparation and relevant worksheets are included. Some of the activities can be completed during a class visit to the Oceanarium, and others can be undertaken back in the classroom. NB If your group does wish to complete a worksheet during your visit you must provide all equipment and materials. If your group is having a guided tour, worksheets should be undertaken once the tour is completed.

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### Discovery Trail

This can be described as a 'knowledge treasure hunt'. The questions are set in the order that the answers can be found if you walk around the Oceanarium from entrance to exit. For most questions the appropriate zone is indicated. Multiple answers are given for some questions in order to limit the amount of writing required. Children should be encouraged to answer other questions in note form.

#### Answers

Question	Answer	Location of answer
1	a. They would eat other fish	First information board in the Amazon area.
2a 2b	July - 0 metres Nov - 8 metres	The rain machine - just as you exit the Amazon area.
3	In its mouth	Light box in the Africa area.
4	All three	Turtles in trouble information board.
5	CITES (the Convention on International Trade in Endangered Species of Wild Fauna and Flora) is an international agreement between Governments. Its aim is to ensure that international trade in specimens of wild animals and plants does not threaten their survival.	Clipboard next to the reptiles - beyond the Marine Research Lab.
6	Banner protruding from its head.	Requires observation - in the tunnel / from the Hawaii area.
7	a. TRUE	Shark information board (Conservation Watch) - before entering the tunnel.
8	Brightly coloured / attractive, Finding Nemo.	Requires observation - Hawaii area
9	Cownose ray, Big Eye Jack, Red Pacu, Banner fish, etc.	Requires observation - in the tunnel/ from the Hawaii area.
10	This question relates to the Artificial Reef being built in Boscombe. This is the first reef of its kind to be built in Europe and is an important part of the coastline for both the local residents and animals. The student's answer should relate to animals finding new habitats and	The notice board on the right, after leaving the displays on the wall just before the shop entrance.



shelter on the new reef as well as nursery grounds.

Curriculum Links: Science (Investigative Skills, Life Processes, Humans and other Animals, Variation and Classification) English (Reading for Information)

### Discovery Trail – Worksheet

Can you find the correct answers to these questions?

1. The Red Bellied Piranha are in a tank alone, without any other fish because: (circle the correct answer)
  - a. They would eat other fish
  - b. They smell
  - c. They are big
2. In the Amazon rainforest, how high is the flood water in:
  - a. July?
  - b. November?
3. The Zebra Cichlid looks after its eggs (circle the correct answer)
  - a. In a nest?
  - b. Under rocks?
  - c. In its mouth?
4. Turtles are under threat from:
  - a. Tourism?
  - b. Pollution?
  - c. Fishing?
5. Ask an adult to help you find out why CITES is important to help endangered creatures. Then write your answer below:
6. Find the Banner Fish in the Great Barrier Reef display. How do you think it got its name?
7. More people die from bee stings each year than from shark attacks: (circle the correct answer)
  - a. True



## Key Stage 1

b. False

8. The Regal Tang in the Hawaii display is a popular aquarium fish. Why do you think this is?
  
9. If you do not know, ask an adult what a 'shoal' is. Find one type of fish that would be unhappy if it were in a tank on its own.
  
10. As you leave the Oceanarium displays, look at the information on the Artificial Reef. Can you think of any ways that the reef will help the local fish and other animals? (Think about the animals you've seen that live on natural reefs).



### **My Favourite Fish**

This activity asks children to look at 3 areas of the Oceanarium and to choose their favourite fish. Working in pairs they should use the identification questions to try and narrow down what their partners' fish might be.

- 1)** They should be encouraged to use general sizes like small, medium, large as well as simple comparisons (for example, compare to pupils hand, foot, forearm, etc.).
- 2)** Body shape can be discussed according to ability. Descriptive words such as long/elongated, short, round, flat can be used as well as any other vocabulary that may have previously been discussed in class.
- 3)** Some fish have striped patterns and some have blotchy patterns on them. Some fish may be plain but have a few dots on their body or fins. The pupils can focus on as much or as little of the fish as they want but have to be able to describe the markings and where they might be.
- 4)** Colours of fish vary greatly between species. Describe whether the colours are bright, dull, light or dark.
- 5)** As different species have adapted to suit different environments and lifestyles, they have developed physical features to help them in everyday tasks like sensing, moving, feeding. Look for features such as barbels, whiskers on catfish, used for feeling in muddy water, or big tails on powerful fish to help them catch their prey or escape predators.

As describing and drawing the fish may take some time, please let the Oceanarium Group Bookings Co-ordinator know in advance if you are planning to do this activity, so that we are able to allocate extra time for your group at the end of your tour.

**Curriculum Links: Science (Investigative Skills, Variation and Classification, Living things in their Environment, Light and Sound, Breadth of Study)**



**My Favourite Fish – Worksheet**

As you walk around the Oceanarium choose 3 different zones that have many different types of fish (e.g. Africa, Great Barrier Reef, Key West). Working in pairs, take it in turns to pick your favourite fish, then use the identification questions to try and find out which fish the other person is thinking of. Once you've done that, draw the fish and give a reason why you chose it.

**Identification:**

- 1) What size is the fish?
- 2) What shape is the fish?
- 3) Does the fish have any pattern or marks on its skin?
- 4) What colour is the fish and the pattern on the fish?
- 5) Does the fish have any other special features to help you describe it?

Draw Your Favourite Fish	I chose this fish because
I am a -----	
I am a -----	
I am a -----	



**Freshwater Wordsearch**

This activity is an old favourite and can be done either at the Oceanarium or back in the classroom. All the words in the list are in the wordsearch grid. The words can go in any direction – up, down, backwards, diagonally. This can be done in pairs or even groups but is best as an individual exercise.

S	B	P	I	R	A	N	H	A	C
T	K	S	L	T	I	J	I	D	A
I	W	T	H	X	B	V	M	G	T
N	O	E	Z	O	K	D	E	N	F
G	P	H	J	N	A	I	F	R	I
R	E	D	T	A	I	L	E	D	S
A	I	P	R	X	V	H	W	C	H
Y	B	T	K	R	Y	C	U	S	Q
Q	E	E	L	U	O	I	G	D	O
T	W	U	G	P	A	C	U	F	L

**Curriculum Links: Science (Investigative Skills) English (Reading for Information)**



**Freshwater Wordsearch – Worksheet**

Look at the list of words below and try and find them somewhere in the wordsearch. All these words are to do with the freshwater habitats at the Oceanarium.

S	B	P	I	R	A	N	H	A	C
T	K	S	L	T	I	J	I	D	A
I	W	T	H	X	B	V	M	G	T
N	O	E	Z	O	K	D	E	N	F
G	P	H	J	N	A	I	F	R	I
R	E	D	T	A	I	L	E	D	S
A	I	P	R	X	V	H	W	C	H
Y	B	T	K	R	Y	C	U	S	Q
Q	E	E	L	U	O	I	G	D	O
T	W	U	G	P	A	C	U	F	L

**CATFISH**  
**CICHLID**  
**EEL**  
**PACU**  
**PIRANHA**  
**RED TAILED**  
**RIVER**  
**SHOAL**  
**STINGRAY**  
**TETRA**

**Food Chains**

This task involves the children understanding the fact that animals eat other animals or plants, and that there is an order in which this happens. Most of the animals can be found in the first few displays at the Oceanarium and the information around these tanks will help the children to figure out the order of the food chain. The children might need help in working out that worms consume dead matter as a starting point.

**Rotting Leaves → Worm → Tetra → Piranha → Crocodile**

**Curriculum Links: Science (Investigative Skills, Life Processes, Humans and other Animals) English (Reading for Information)**



**Food Chains – Worksheet**

The pictures below are of animals or plants that belong in the Amazon River. They are all part of a food chain and are either a 'predator' or 'prey'. Use the information around the Oceanarium to help you find out who eats what, and draw an arrow **from** the 'prey' to the 'predator'. When you have drawn arrows between all the pictures you have completed the food chain.



Rotting leaves



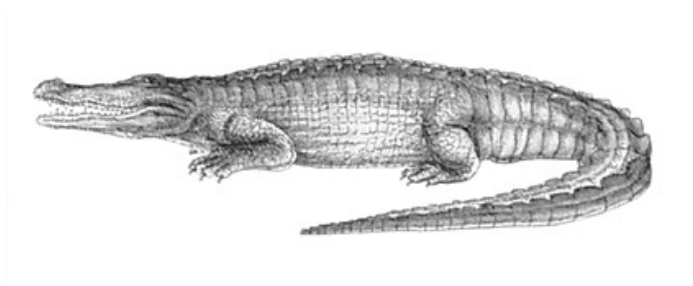
Tetra



Piranha



Worm



Crocodile



**Adaptation**

This activity allows children to use their investigative skills to see how different creatures have adapted to their environment. Most of the animals, with the exception of the Yellow Tang, can be found in the Research Lab area. If the children have had a tour just before attempting this exercise then adaptation would most likely have been mentioned, but it's probably a good idea to refresh the children's memory by discussing it briefly.

The boxes are provided for sketches of a couple of the mentioned creatures. The drawings should have at least one clear adaptation that is relevant to that animal.

**Answers**

1. F
2. C
3. A
4. B
5. D
6. E

**Curriculum Links: Science (Scientific Enquiry, Investigative Skills, Humans and other Animals, Living things in their Environment) English (Reading for Information)**

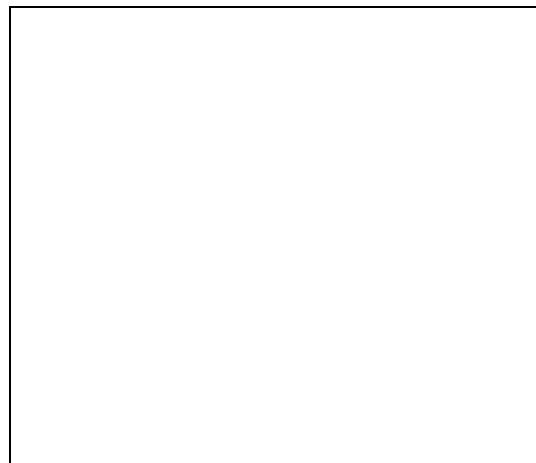
**Adaptation – Worksheet**

Many creatures change their behaviour and body features to survive their environment. Most of the creatures listed below can be found in the Marine Research Laboratory, with exception of the Yellow Tang.

Can you match these creatures to their description? Draw a line connecting the name to the description.

1. Porcupine Pufferfish	A. Has a 'prehensile' tail so that it can cling to rocks and plants.
2. Copperband Butterfly Fish	B. Has poisonous mucus on its skin to protect it.
3. Sea Horse	C. Has a long snout to peck at food in small spaces.
4. Tomato Clownfish	D. Has blade-like spines at the base of its tail for protection.
5. Yellow Tang	E. Has a cube shaped skeleton. Moves its fins in different directions to position itself and feed.
6. Yellow Boxfish	F. Has beak-like teeth to eat hard shelled prey.

Look very carefully at the creatures listed above. Sketch two of them in the boxes below. Try to draw the shape, skin pattern and features of each.



**Where Do I Live**

This activity encourages the children to read and understand the various interpretation boards located in the Oceanarium displays.

As the pupils walk around, they must recognise the various zones and find the relevant information on the interpretation boards.

**Answers**

<b>Creature</b>	<b>Zone</b>	<b>Where I live</b>	<b>Facts</b>
Red Bellied Piranha	Amazon	Mid-water	I grow up to <b>30 cm</b> long. I eat <b>FISH</b> . I often hunt in <b>SHOALS</b> and not on my own.
Walking Catfish	Africa	<b>SWAMPS PONDS DITCHES</b>	I eat <b>INSECTS LARVAE, WORMS, SHRIMPS, FISH</b> . I grow to about <b>40 cm</b> long.
Snake Necked Turtle	<b>GANGES</b>	Mid-water and near the bottom	I feed on <b>INSECTS, SMALL FISH</b> . Estimate how long I am: <b>25 – 30 cm</b>
Silver Hatchet	Amazon backwater	Small streams and backwaters	I am the only true <b>FLYING FISH</b> . I 'fly' from <b>ONE POOL TO THE NEXT</b> . I fly because I catch <b>FLYING INSECTS</b> for food.
Sharpnose Guitarfish	Florida	<b>SEA BOTTOM</b>	I grow up to <b>200 cm</b> long. I am called a Guitarfish because I <b>LOOK LIKE A GUITAR</b> .

**Curriculum Links: Science (Investigative Skills, Breadth of Study, Variation and Classification, Living things in their environment)**



**Where Do I Live? - Worksheet**

As you visit each zone of the Oceanarium, try to find out about the creatures listed below. Can you find out why they live where they do?

<b>Creature</b>	<b>Zone</b>	<b>Where I live</b>	<b>Facts</b>
Red Bellied Piranha	Amazon	Mid-water	I grow up to ____ cm long. I eat _____ I often hunt in _____ and not on my own.
Walking Catfish	Africa	_____ _____	I eat _____ _____ I grow to about ____ cm long.
Snake Necked Turtle		_____ Mid-water and near the bottom	I feed on _____ Estimate how long I am: ____ cm
Silver Hatchet	Amazon backwater	Small streams and backwaters	I am the only true _____ I 'fly' from _____ I fly because I catch _____ for food.
Sharpnose Guitarfish	Florida		I grow up to ____ cm long. I am called a Guitarfish because _____

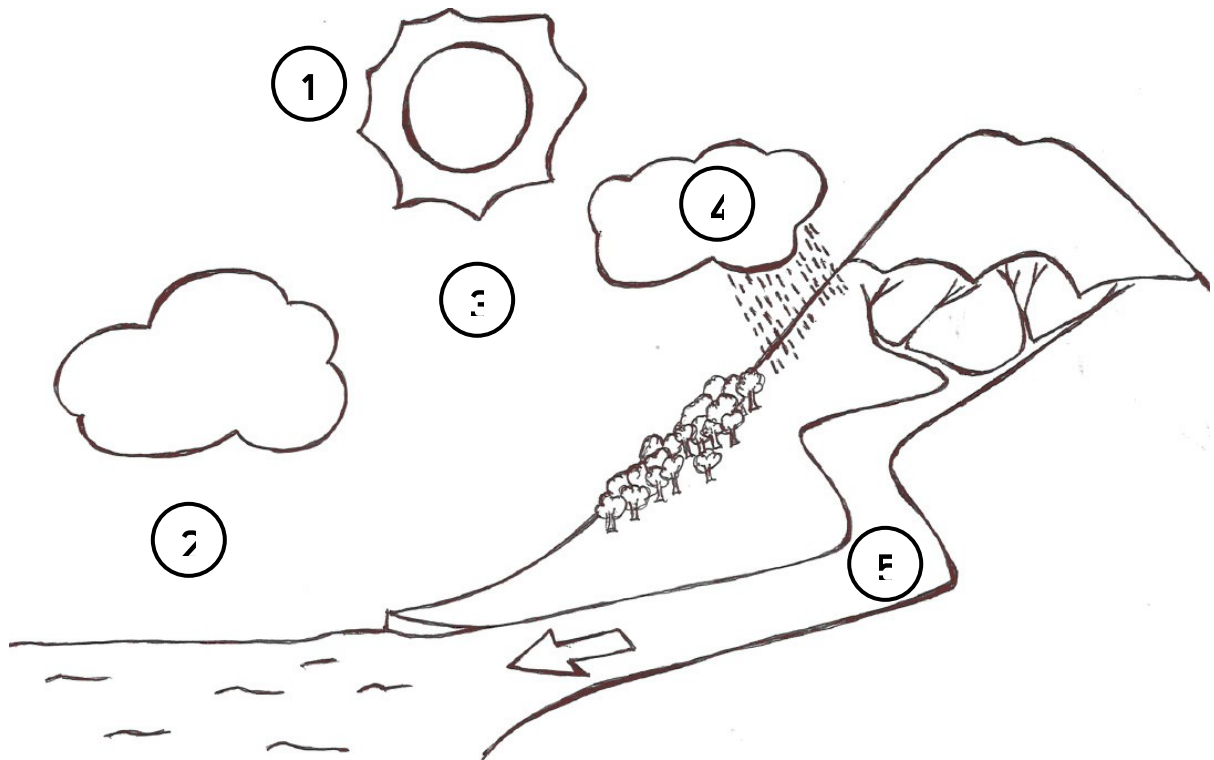
**Water Cycle**



The water cycle exercise is designed to encourage the children to think about everyday processes that happen around us. This is particularly relevant at the Oceanarium due to the close proximity of the Bourne Stream and the sea.

1	2	3	4	5
B	E	A	D	C

**Curriculum Links: Science (Investigative Skills, Life Processes, Green Plants, Breadth of Study)**



Most of the world's surface is covered in water and the water cycle is an important part of many people's and plants' daily lives. In this exercise look at the different stages written below and match them to the numbers you think they belong to on the diagram. Write your answers in the box at the bottom of the page.

- A. The wind blows the clouds towards land.
- B. The sun warms up the water in the oceans and lakes around the world.
- C. Once the rain has fallen it is collected from the land by rivers, and is returned to the oceans and lakes.
- D. When the clouds reach land the water inside them starts to fall as rain. This helps plants grow.
- E. The water evaporates from the oceans and lakes to form clouds.

1	2	3	4	5