

Suitable for
3-7 years

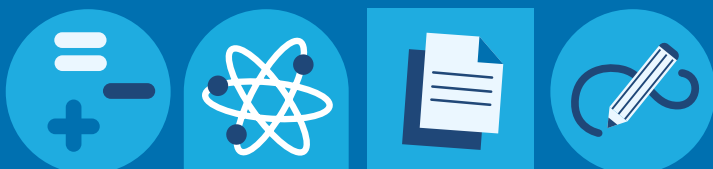
- Solo
- Pairs
- Groups

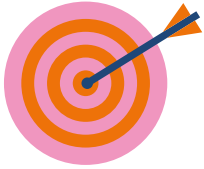
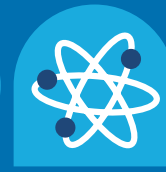
Uwe's activity

Coral drama

Drama Workshop

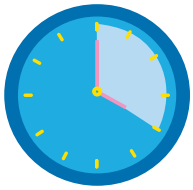
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with quality engineer, Uwe Wolfram





Aim

Using drama activities this workshop explores the topics of the coral reefs of Scotland, the scientists and engineers helping them and what children can do themselves to help the environment.



Duration of workshop

1 hour and 30 minutes



What you will need

→ Clear room such as a gym hall



Key Messages

- Corals are animals that live in the sea and build reefs. Each Coral animal lives in a cup-like skeleton that it builds itself.
- Reefs create biodiversity by making homes for fish and other sea life.
- Scotland has coral reefs very deep down in the sea. These are cold-water corals.
- ROV is a tool to help study reefs. ROV stands for Remotely Operated Vehicle and they are non-crewed submersibles piloted from the surface which can take lots of measurements and images.

- A bioengineer is a scientist that helps animals, plants and humans using engineering skills.
- Some bioengineers are helping coral reefs.
- Too much Carbon Dioxide (CO₂) is bad for deep water corals. It makes the ocean more acidic which then dissolves older skeletons that new corals build upon. This destroys a safe habitat for many fish and other animals.
- We can all do things to reduce our CO₂ levels and help coral reefs in the process.



Drama Activities

Imagination warm-up – getting used to moving our bodies, thinking about the sea and listening to instructions

A day in the life of coral – acting as a coral animal through imaginative play and narration

Protect the polyp! – Working in pairs to learn about coral skeletons

Exploring the sea – using imaginative play to swap between being part of a coral reef and an ROV submersible (class split into two halves)[An Ipad is handy but not essential]

Who is helping the corals? – Find out what a bioengineer is and what they do to help. A whole-class greeting game with fun actions.

Solving CO₂ – in small groups children are given suggestions on activities they can do to reduce their CO₂ footprint and help the coral reefs. They will make a tableau (frozen image) to show these activities.

Coral Reef quiz – a script to talk through the science covered in the workshop where children fill in the missing words by calling out or putting up their hands.

Imagination warm-up

(5 minutes)

Make sure that each child has space on their own and is standing ready to listen and act out the instructions on the spot. Add one new instruction at a time, explain what it means and give them a chance to try it out. Then you can call out the instructions in any order, each child should try to do the correct action as quickly as they can. You can also use these to get your class ready for the next games by calling out one of these instructions to check who is listening.

"Today we are going on a journey deep under the sea. We are going to need our imaginations, our listening skills and our bodies to move around and help us explore.

"I am going to call out the name of an animal that lives in the sea and I want you to stay on the spot and pretend to be that animal. Do you think that you can do that? OK.

"Lobster! – Let's see those pincers pinching the air.

Starfish – lie down and spread your arms and legs out to the sides like a starfish.

Urchin – crouch down and use your arms, elbows and fingers to make yourself look as spikey as possible.

"To the bottom of the sea!" – class responds "Follow me!" and do 'the swim' dance move where you hold your nose and wave your other arm above your head, switching sides a few times.

A day in the life of a coral

(15 minutes)

Gather the class together and share the following information about corals before the exercise begins:

"Today we are going to be corals in a coral reef. Have you heard of a coral reef before? Does anyone know where corals live? (In the sea) Do you think a coral is an animal or a plant?

Many people think corals are plants, because they stay in one place, but corals are actually animals, they play a very important part in looking after the oceans. Did you know that there

are coral reefs in Scotland? They are very deep down in the sea and can grow really tall. They are an important home for lots of animals, including the ones we just pretended to be in our warm-up!

We call a single coral animal a coral polyp. Corals are related to jellyfish.

Can everyone imagine a jellyfish? How do they move? They float gently through the water moving their tentacles. Can you move like a jellyfish? Slowly, gently, moving your arms and legs like tentacles?"

Ask the children to move around the room like a jellyfish for a few minutes, try bobbing up and down, gently moving their tentacles in and out and very slowly changing direction.

"When Corals are first born they are carried around by ocean currents. What might that feel like?"

Encourage children to imagine being carried around by currents, swirling through the room

"Eventually they find a place to rest.
[Find your own space in the room and lie down]

"Corals look like jellyfish if they were on their backs. Can you find a space on your own and lie down? Keep moving those arms and legs gently like a jellyfish. Congratulations, now you are all corals! You can stop moving your arms and legs.
[Stay where you are]

"Corals are builders. They build reefs in the ocean. They do that by making little cups to live in called skeletons. These reefs are made up of millions of tiny skeleton-cups. The coral animal lives inside this cup, it keeps the coral polyp safe. Can you sit up where you are and look around you at your new home? [Sit up and look around]

"Once a coral has found a good spot and built its cup it will stay there for the rest of its life. Thousands of coral animals can build right next to each other, they build on top of old coral skeletons to make structures called reefs. It's like having a lot of neighbours in a block of flats, each coral lives on its own balcony.

"Each morning the coral sticks out its tentacles and waves.

Everyone wave

“Good morning! The ocean currents have tiny particles of food that float by. The coral catches these to eat. Can you wave to catch your food? Just like a jellyfish the tentacles on a coral can sting. This helps the coral catch food but also protect itself.

“At the end of the day the coral tucks away its tentacles, to stay nice and safe until its morning again. Good night!” [Tuck themselves away, crouched down, hiding their tentacle arms.]

Protect the Polyp

(10 minutes)

Help the children to get into pairs (or groups of three if necessary) and find their own space as a group. Explain that you will be thinking about the word ‘protect’ and talk about what that word means to them.

They will work together to bring to life this word by making a picture with their bodies. Ask one of the group to be protected and the other(s) to strike a pose which might protect their partner. This may be a superhero pose in front of them, having their arm around them or guarding/blocking them from harm in some way. If there is a group of three have two protectors and one protected. Point out some of the different poses the groups are doing.

The groups then swap roles until everyone has had a chance to try both roles at least once.

Now ask the children to think about the coral polyp, like a little jellyfish that builds its own cup to protect itself. These cups are made from a similar material that we use to make our own strong, healthy bones and teeth. Ask each group to have one person be the coral polyp with their tentacles and the other(s) to make a skeleton-cup around them. The coral polyp can be; sitting, crouched down, standing, lying, curled up in a ball. So long as they are comfortable to let their partner(s) shield or protect them in some way.

Can the coral still stick its tentacles out of the top to catch food? Ask them to swap roles. Can the corals in the reef all wave to each other?

Remember these poses.

Explore the Sea

(20 minutes)

Keep the groups in their pairs or threes and ask them to sit where they can listen well.

“We are now going to learn about a special tool that scientists use to look at coral reefs. It is a special type of submarine called an ROV. An R.O.V is a remotely operated vehicle. They are piloted or controlled by someone on the surface, a bit like a remote-controlled car. The R.O.V's have long, strong electrical cables that attach them to a boat. They do not take passengers like a normal submarine. By looking at many cameras on the R.O.V, the pilot can control where they want to move the R.O.V underwater. There are many instruments that tell us how deep it is, what the temperature is and other useful pieces of information as well as taking videos and photographs.

Keeping the pairs or groups of three together, split the class roughly in half. One half will first strike their coral poses. The second half will imagine they are an ROV, a submarine which moves slowly and carefully through the water, taking pictures as it goes. Ask this group to slowly begin exploring the coral reef by moving between the corals and taking photographs of things they find interesting. Remind them that just like a real coral reef, we can look but never touch as we might cause damage.

Ask them:

Are any of these shapes unique?

Which coral is the most well-hidden?

Which coral would have the easiest time feeding?

(Most parts sticking out)

Give the groups time to swap over, they may need help to remember their partners/groups to become the corals again.

Finally ask the class if they would like to be a coral, fish, lobster, urchin or starfish on the reef. Ask everyone to choose a space on their own in the room and tell them that once everyone is happy with their poses (some movement of tentacles moving or pinchers snapping is ok) you will be the ROV that explores the reef taking pictures. If you have a tablet you could take a video of a tour of their own coral reef or take still photographs.

What's a Bioengineer?

20 minutes

Whole class activity, moving around the space and acting out different scientific roles.

Gather the class together to listen.

"Now that we have some information about our coral reefs from the ROVs we can use that to think of ways to help them.

"A big problem for deep water coral reefs is too much Carbon Dioxide (we can also call this CO₂). Carbon Dioxide is a gas that we make when we burn fuel to travel or make new things. We always have some Carbon Dioxide in the air, but if the earth has too much CO₂, some of it will go into the ocean. This makes the skeleton-cups on the reef damaged and the older parts of the reef will melt away. The fish and other animals who live there won't have a safe home anymore.

"Luckily there are lots of people whose job it is to think of ways to help the coral reefs. Bioengineers are scientists who use different skills combined together to help the natural world. They learn all about animals and plants as well as engineering skills which means thinking up or designing solutions to problems. Bioengineers take all kinds of information about animals like corals including X-rays to see how they can be helped.

"Bioengineers don't just work alone though. They can work with marine biologists who study life in the sea as well as ROV mechanics and other types of engineers who help them collect information.

"Would you like to help the corals too? Today you will get to be some of these people.

In a moment, I will ask you to move around the room on your own. When you see another person in the class give them a wave and say hi. The first way we will work together is once you've said hello you can ask them to strike a pose and take an imaginary picture using your big X-ray Machine just like a bioengineer might. They can then take a picture of you. Try that now."

The class can move around and wave and say hello to one person at a time. When they do they can take turns to strike a pose while the other takes a 'picture' using an imaginary X-ray machine. Once they have both had their X-rays taken encourage them to move around and find another partner. Allow them to try this with several people.

"Now when you meet, you can share information about the animals you can see in the deep sea. Wave and say hello to someone and then show them your best impression of a fish, lobster, urchin, coral or star fish. Make sure you look at their impression too!"

Children wave and meet a partner and both pretend to be a sea-animal before moving on to a new partner. They can also guess which animal their partner is being. They should try this with a few different people. Ask if they saw any favourite impressions from someone else. Did any make them laugh? Which ones were most realistic?

"This time when you wave and say hello you will take turns being an ROV pilot or ROV engineer. This means that one of you will make a tunnel-tig pose and the other person can pass under your legs like an ROV moving underwater. You can both have a go before you find a new person to say hello to."

Children move around saying hello as before but swap tunnel-tig roles this time before moving on to a new person. Allow them to try this with several people.

[Ask the children to sit or stand somewhere where they can listen.]

"Thank you for being such brilliant scientists and engineers, that was really excellent working together."

Solving CO₂

15 minutes

This last exercise is for teams and will work for 2, 3 or 4 children in each. Younger children may find pairs the easiest to work in.

Explain that although there are scientists and engineers helping the oceans, there is a lot we can do at home, nursery or school to help the environment too. Once they are in their groups in their own space ask the class to make a still picture together to show different ways to help reduce carbon dioxide. Remind them that too much carbon dioxide means that a lot of the coral reefs deep in the ocean would melt away, taking away homes for fish and other animals.

One at a time, give each title and ask the groups to find a way to make a still picture with their bodies that shows this. They can have time to discuss their ideas first, then count down until they freeze in their picture. You can point out something interesting about one or more groups for each suggestion. They can all strike the same pose, but if you can, encourage them to think of poses that work together to tell the story: for example one person pretending to be a recycling bin ready to accept bottles from another person in the group. Props or chairs can be used if they are available, such as school bags, jackets or other handy items. Some groups may even be able to add their own suggestions for the class.

- Walking instead of taking the car to school/nursery
- Recycling your litter
- Taking the bus together
- Turning off the lights, or the TV
- Say no to single-use plastics like straws

Coral Reef Quiz

5 minutes

Sitting down as a whole class go through this script and ask the children to either call out or raise their hands to fill in the missing words.

Today we learned about coral reefs in Scotland. We know that a coral is not a plant, it is actually an _____ (animal).

Corals have tentacles and live in the sea, just like their relatives _____ (jellyfish).

Each animal is called a coral polyp and it builds something to protect itself called a _____ (skeleton/skeleton cup).

When lots of coral polyps build their skeletons they make up a coral reef. The corals live together a bit like a block of _____ (flats/apartments).

Lots of plants and animals live in these reefs, some of the animals you might find are _____ (any of these: Fish, lobster, crabs, anemones, urchins, sharks, star fish).

The reefs in Scotland are not at the surface of the water they are _____ (very deep down).

Scientists who want to collect information about coral reefs can use a special submarine they can control from a boat on the surface of the water. This submarine is called an _____ (ROV).

Some of the scientists helping coral reefs are called bioengineers. Bioengineers use different skills like studying plants and _____ (animals) and problem-solving.

A big problem for deep water coral reefs is too much Carbon Dioxide (CO₂). If the ocean has too much CO₂ some of the reef will melt away, the animals that live there won't have a home.

We can help coral reefs by reducing our CO₂ in these ways _____ (any suggestions from the Solving Problems game or any other sensible suggestion).