

Recommended style of activity

Public engagement: Family drop-in activity with floor mat; group activity with A3 sheets

Schools: Class activity with A3 sheets

Suggested age range: 4+ years

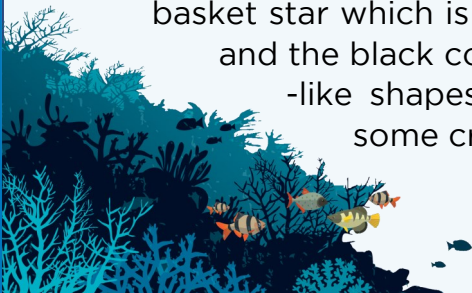
Approximate time : 10-15 minutes

Background Science

Just like their tropical cousins, cold-water coral reefs provide a habitat for many different creatures, which find shelter, food and even a safe a place to lay their eggs amongst the coral. In this activity you can explore the diversity of a cold-water coral reef using a composite image. The image features some of the more commonly found creatures along with others which were selected as they are more easily recognised. The right-hand side of the image shows the living coral reef, mainly composed of white and orange varieties of the cold-water coral *Lophelia pertusa*. In between the reef and the muddy sea-floor on the left of the image is an area covered in dead coral 'rubble'. On a real reef, this is where the highest diversity of creatures is usually found. This images has been created from images taken of the Logachev Mounds on Rockall Bank, a large underwater landscape to the west of the UK around 600-1000m deep. The mounds of coral can be 500m high and several kilometres long!

Surveying cold-water coral reefs poses much more of a challenge than shallow tropical reefs and requires specialist equipment such as ROVs (Remotely Operated Vehicles); underwater cameras and submersibles. Different scientists will look at hundreds of photos and videos to work out what lives around the reef. It can take years to fully understand the biodiversity of these areas!

Some interesting creatures to highlight include the 'Carrier crab' which is using its 9th and 10th legs to carry a piece of coral as a way of defending itself; the basket star which is related to starfish and in real life can be 107cm across and the black coral which has skate eggs attached (small, brown purse-like shapes) which indicates that the reef might be viewed by some creatures as a safe place for young to hatch out.



Curriculum for Excellence Links (Scotland):

I can distinguish between living and non-living things. I can sort living things into groups and explain my decisions. **SCN 1-01a**

I can identify and classify examples of living things, past and present, to help me appreciate their diversity. I can relate physical and behavioural characteristics to their survival or extinction. **SCN 2-01a**

Kit List:

For the floor-mat drop-in activity

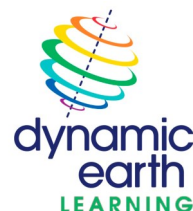
- ReefSurveyMat image printed on a large scale (we used the PDF version printed on Vinyl banner material 1.5m tall x 3m long via a local printing company).
- Plastic magnifying glasses
- Printed & laminated copies of 'Reef Survey Key'
- Dry wipe pens and tissue for filling out sheets and cleaning them.

For the class/group activity with A3 sheets

- ReefSurveyMat image printed on A3 paper (suggested 1 per pair)
- Plastic magnifying glasses
- Printed copies of 'Reef Survey Key' (suggested 1 per pair of participants)
- Pens for completing survey sheets.

For both activities, introduce the concept of a cold-water coral reef as an important habitat in the deep sea and tell the participants they have been tasked with carrying out a survey of the reef. For younger children you can simply ask them to find all of the different creatures.

You may also want the answer sheet: ReefSurveyKeyAnswers



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