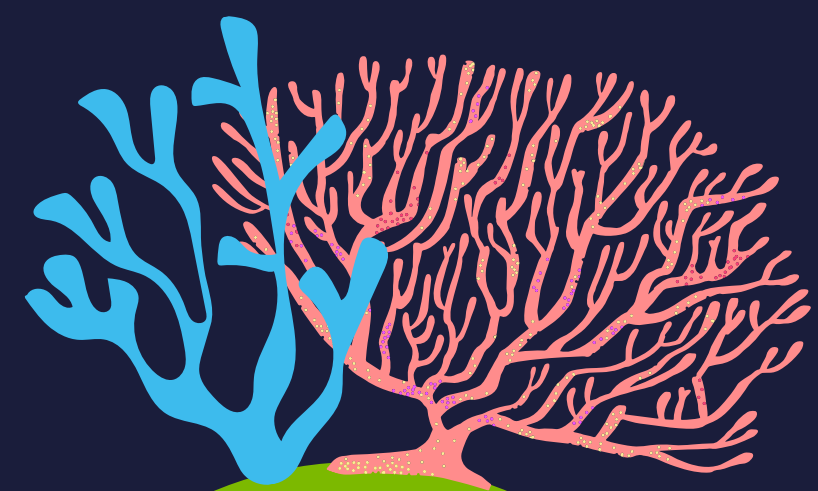


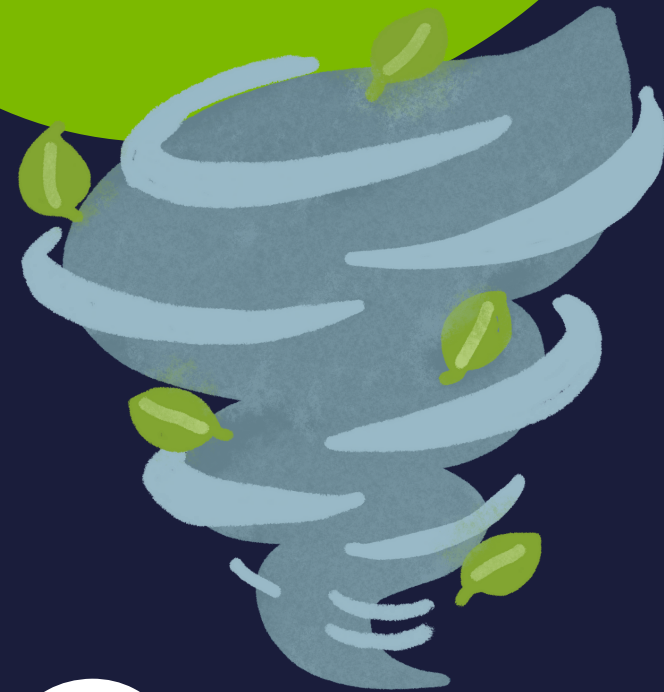


LISTENING TO CORAL REEFS



Did you know?

Reefs also **stop the waves from washing onto the shore** when a storm hits hence protecting people living near the coast!



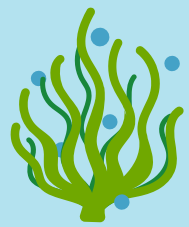
THE WONDERS OF THE REEF



Coral reefs are some of the **most diverse ecosystems** in the world and are **colourful and vibrant** places.



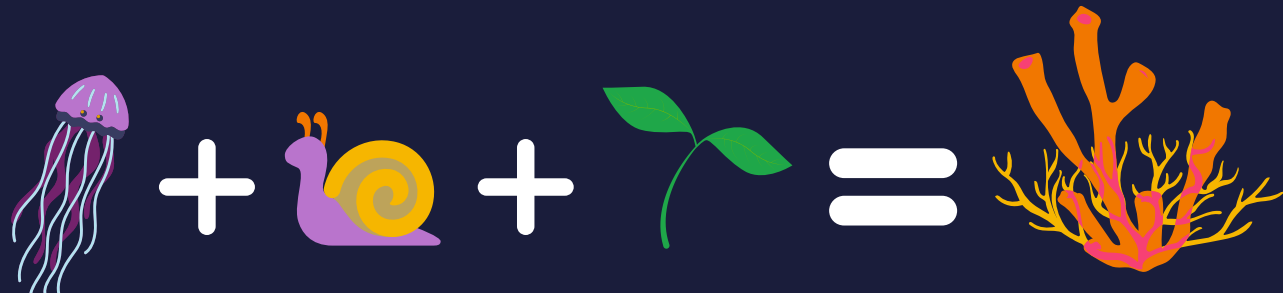
The corals making up the reef are of a lot of **different shapes, sizes and colours!**



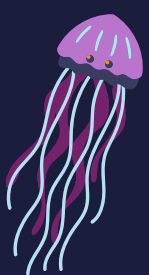
Millions of people around the world rely on reefs for their food or to earn money through fishing or tourism activities.



What is a coral?



Corals are marine invertebrates that function like a mix of different organisms and usually form colonies. Corals have **three super powers**:



A coral is a bit like an upside-down jellyfish. It has **tentacles** that allow it to **sting predators** and to **catch food** in the water.



It's similar to a snail in the way that they both make shells or skeletons out of calcium!

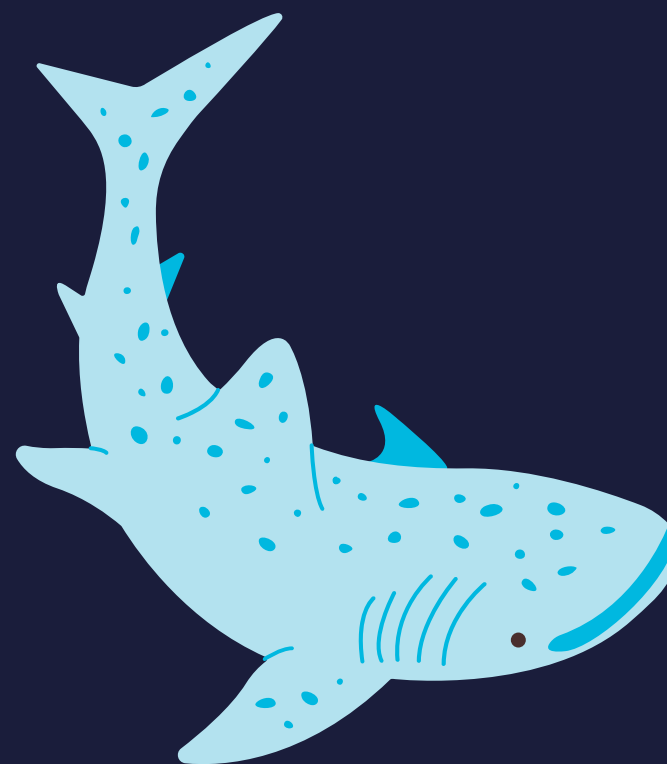


And it has plant-like attributes (such as being able to get energy from the sun) because it **contains algae**.



6,000

That's the number of coral species that exist around the world



- Scientists are **listening** to the coral reef **soundscape** (which is the sounds that animals make in the ocean) and using that knowledge to protect these endangered ecosystems.

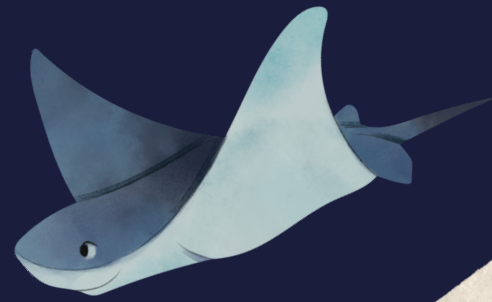


REBUILDING HEALTHY REEFS

Soundscapes can help conservationists understand what elements make up a healthy reef. They can then use this insight to help restore coral reefs.



This is what a **degraded reef** looks like. One of the key problems with restoring reefs is that fish can tell if a reef is **healthy or not** based on its soundscape. If it is very quiet they won't swim towards it and won't establish populations there!



Scientists like Tim Lamont (pictured) are using underwater loudspeakers to **play the sounds of healthy reefs in degraded habitats**. Doing this **doubled the rate at which fish came back and recolonised!** This is exciting as it might speed up the process of restoring a reef to a healthy state.



"Sometimes it is quite an **emotionally tough experience**, seeing all these reefs being really damaged and really degraded! But now I find it **an encouraging experience** doing research that tries to help restore and rebuild reefs."

-Tim Lamont



Fun Fact
Synchronised swimmers use the same loudspeakers to hear music underwater when in the pool.



25%
of the world's fish species live on coral reefs

THE UNDERWATER SOUND LIBRARY

Click on the image to listen to the sound that this animal makes!

Dolphin



Blue whale



Mantis shrimp



Sea urchin



Clownfish

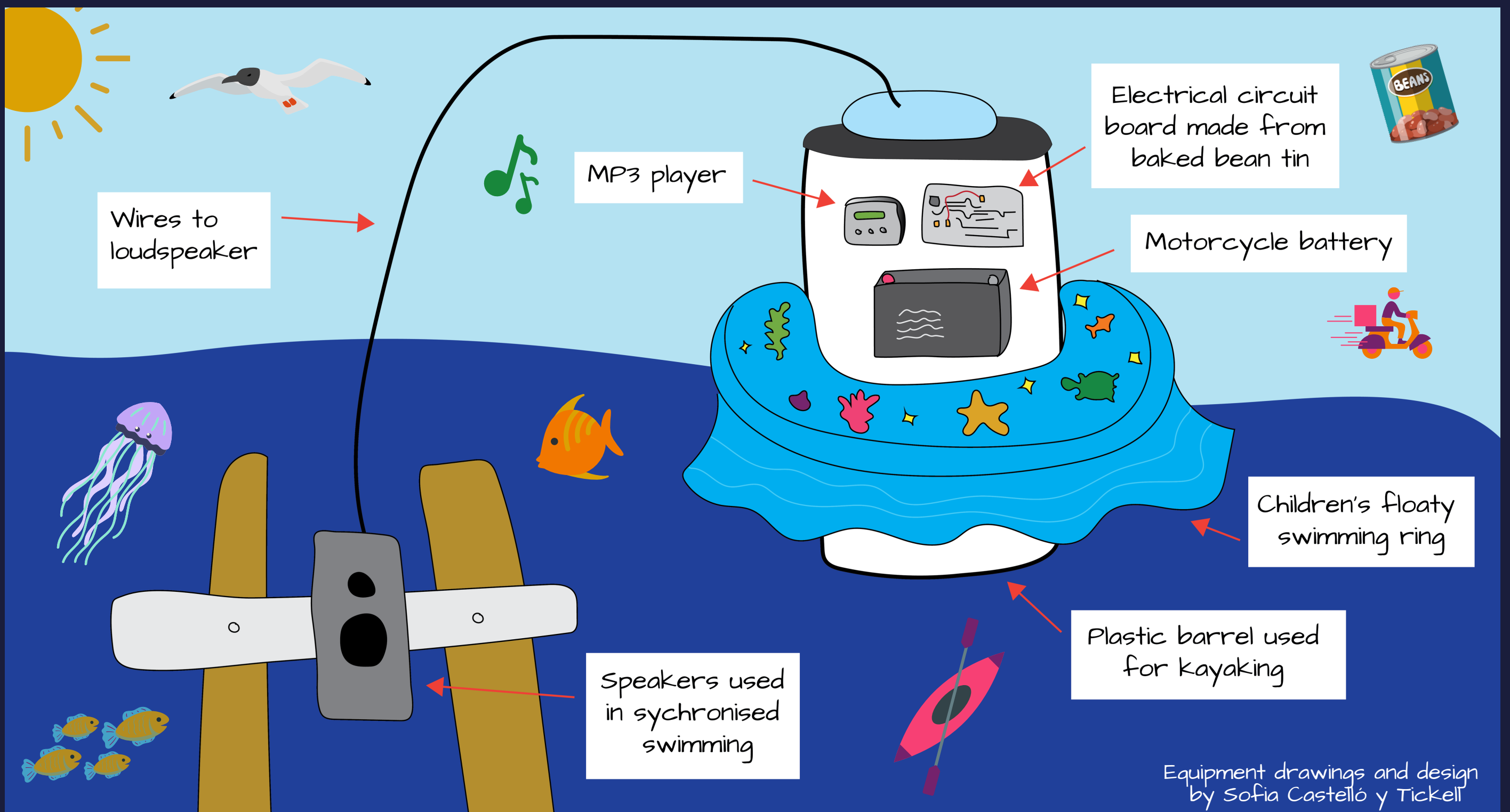


Parrotfish



DIY UNDERWATER SPEAKER

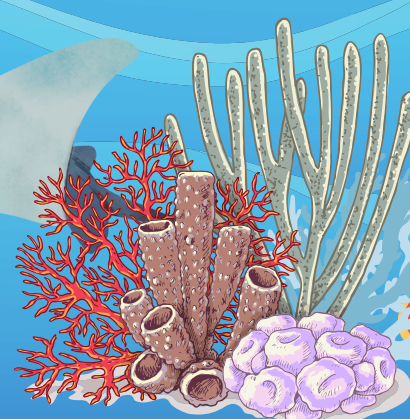
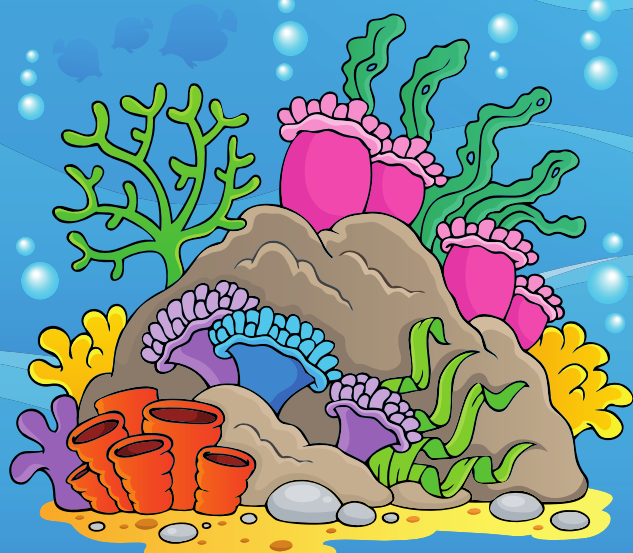
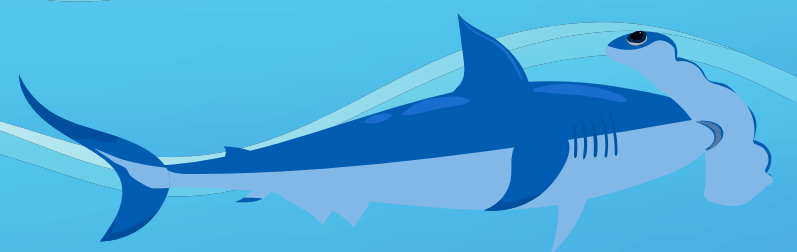
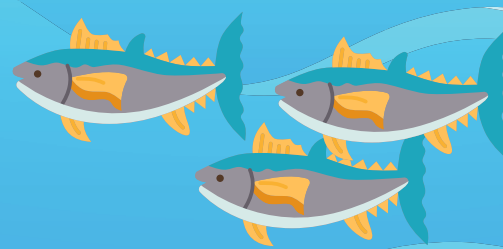
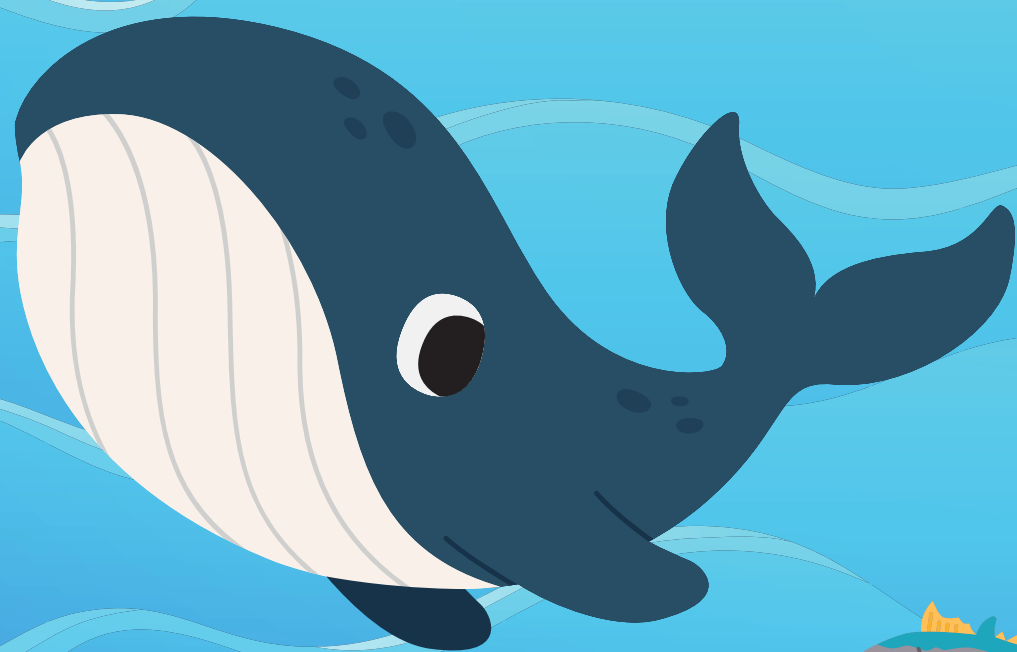
This is what scientists used to create their underwater speaker setup and play sounds of healthy reefs in degraded ones. Look how many unusual items they used!



WHO IS THE LOUDEST?



Can you guess which of these animals do you think is the loudest?



Fun Fact
Coral reefs are the
loudest marine
ecosystems!



☐ Crab

☐ Squid

☐ Diver

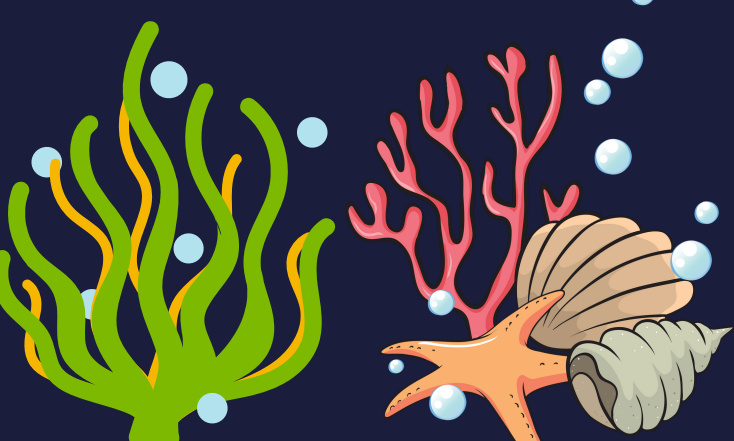
☐ Fish

☐ Blue whale

☐ Jellyfish

☐ Ray

☐ Hammerhead shark



CORAL CHALLENGE!

1. How many coral species are there?

- a. 60
- b. 6,000
- c. 600

2. What do you call all the noises made by animals underwater?

- a. a soundscape
- b. an audioscape
- c. a noisescape

4. Which activities did coral reef scientists borrow equipment from to set up experiments?

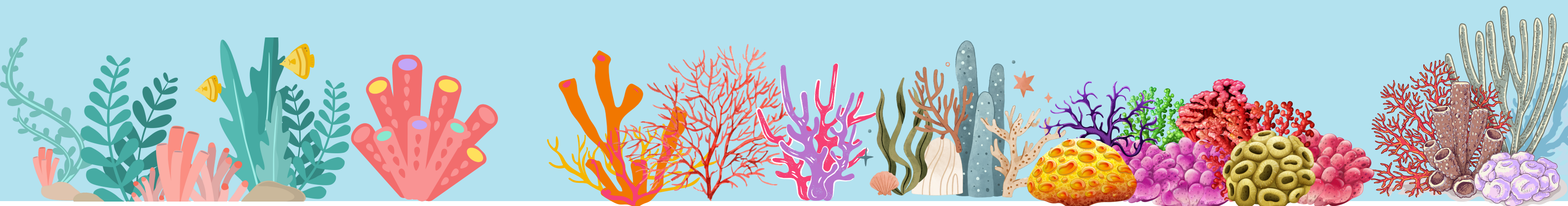
- a. motorbiking
- b. synchronised swimming
- c. baked bean eating
- d. all of the above

A clownfish on a coral reef in central Indonesia

3. Which of those are coral superpowers?

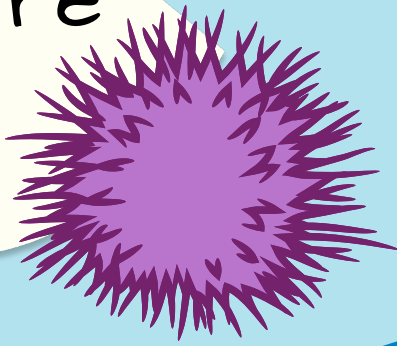
- a. they can make their own skeletons out of calcium
- b. they can sting predators
- c. they contain plants
- d. all of the above

Communities in Indonesia are working with Mars Sustainable Solutions to restore coral using Reef Stars



5. Do sea urchins make noise?

- a. Yes
- b. No
- c. Only when they're young



6. How much of the world's fish species live on coral reefs?

- a. 70%
- b. 10%
- c. 25%



Underwater loudspeaker on a coral reef in Australia

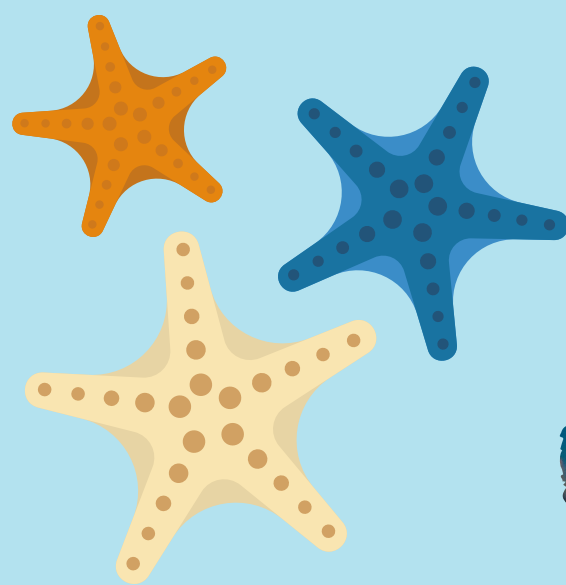
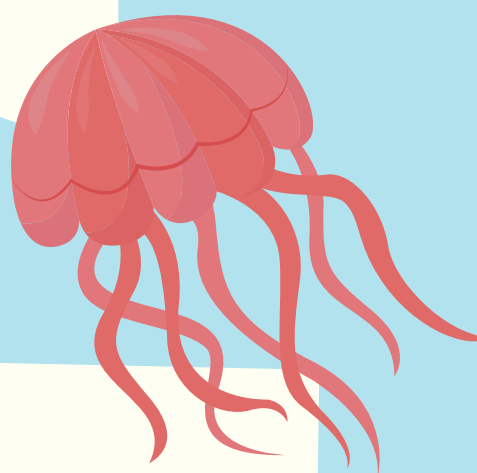
7. What happened when scientists played the sound of healthy reefs in degraded habitats?

- a. nothing
- b. it doubled the rate at which fish came back
- c. it reduced the rate at which fish came back



8. Reefs are important for people because they:

- a. stop the waves from washing onto the shore when a storm hits
- b. provide people with food
- c. eat the plastic in the ocean



1=b, 2=a, 3=d, 4=a, 5=a, 6=c, 7=b, 8=a&b

ANSWERS:



Coral attached to a Reef Star on a newly-restored reef

