

Challenge Activities

Prickly Predators

Crown-of-thorns starfish, or COTS, are natural predators of fast-growing corals and are found along the entire length of the Great Barrier Reef. They can have up to 21 arms with hundreds of venomous spines covering the top of their body. These starfish eat by pushing their stomach out through their mouth and covering the living coral tissue in digestive enzymes. They digest the coral tissue and afterwards retract their stomach back into their body via the mouth. When there are too many COTS on a reef, they eat the corals faster than they can grow. This is called an outbreak. During an outbreak the COTS eat all the coral they can find, only leaving behind their white limestone skeletons. It can take 10 – 15 years for a reef to recover after an outbreak. There are many fish that prey on young COTS, and scientists have discovered that reefs with a balanced food web, and healthy fish populations, have less outbreaks than reefs that are heavily fished. Control programs where the COTS are culled by scuba divers are also helping keep the numbers of COTS down.

Questions

1. How many arms can a crown-of-thorns starfish have?

2. Describe how Crown-of-thorns starfish feed?

3. Explain an outbreak of Crown-of-thorns starfish and how it impacts the health of a reef?

4. Identify what we can do to reduce Crown-of-thorns starfish numbers on the reef?

Label the image below with the following features:

- Arms
- Venomous spines
- Mouth (underneath)

