

Plankton: tiny drifters: lesson 2 of 2

The plankton race

Design a plankton that sinks as slowly as possible



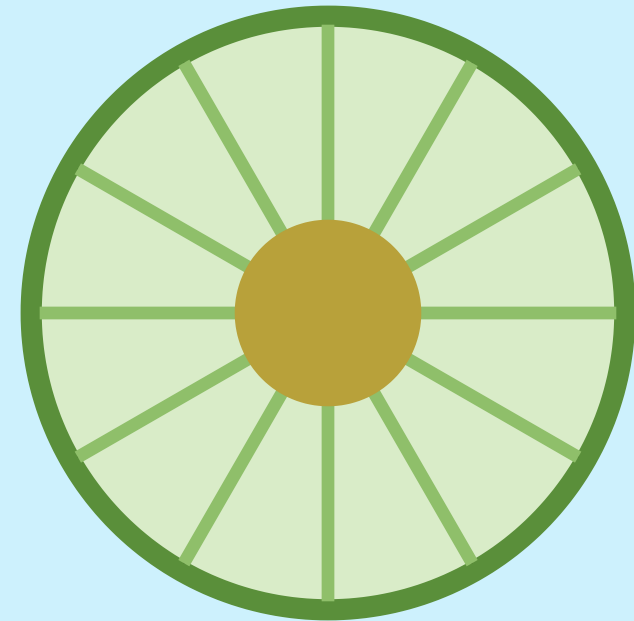
A reef in the sunlit shallows. Photo: MCP



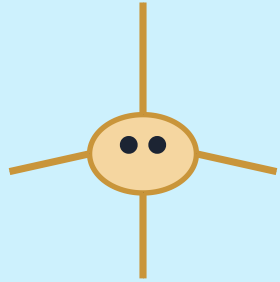
Why plankton don't want to sink

Phytoplankton need sunlight to make food, and sunlight only reaches the top of the ocean. If they sink too deep, they can't survive.

So plankton have clever shapes and tricks that help them stay near the surface.



Plankton tricks



Spines and arms

Long spikes slow them down, like a parachute.



Flat shapes

A flat body sinks more slowly than a ball.



Chains

Joining together into long chains helps some float.



Oil droplets

Oil is lighter than water and helps them float.



The challenge

1. Design a plankton from modelling clay, paper, straws, pipe cleaners or foil.
2. It must sink, not float, but as slowly as possible.
3. Drop it into a tall bottle or jar of water and time how long it takes to reach the bottom.
4. Test it three times. Then improve it and test again.

Fair test

Same amount of clay for everyone

Drop from the same height

Same container



Race day

1. Each team drops its plankton in turn while everyone watches.
2. Record the times on the class chart.
3. Which designs sank most slowly? What did they have in common?
4. Which real plankton trick did the winners use?



Talk about it

What was the best change you made to your design?

Why did everyone use the same amount of clay?

How is a real plankton different from your model?

Well done! You have finished the plankton lessons.



Photos and sources

Photos: reef by MCP. Drawings made for this lesson. All illustrations drawn for this lesson by Marine Conservation Philippines.

Sources:

- Marine Conservation Philippines.

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