Ocean Investigators | Years 3 to 6

Into the Dark

Deep Ocean | Film: Buoy Ahoy! Deep Ocean | Game: Glow Hunter



Our question

How does light change as it travels deeper through the ocean?

You need: A torch, a stack of tissue paper or baking paper sheets (each sheet is a layer of ocean), a white card, a dark room

What to do

1. Darken the room. Hold the torch a set distance from the white card.
2. Shine the torch through one sheet onto the card. Rate the spot: 3 bright, 2 dim, 1 faint, 0 can't see it.
3. Add sheets and rate the light at 1, 2, 4, 6, 8 and 10 sheets.
4. Stop when you can no longer see the light. Record how many sheets it took.
5. Extension: does the colour of the light change as you add sheets?

Fair test: Keep these the same: the torch, the distance to the card and the type of paper.

Safety: No shining torches in anyone's eyes.

Our results

Number of sheets	Brightness (0 to 3)	What we noticed
1		
2		
4		
6		
8		
10		

Think about it

- What happened to the light as you added layers?
- The film says it gets darker than the darkest night. Why might so many deep sea animals make their own light?
- Extension: the camera had no rope. It sank on its own and later dropped heavy weights to float back up. Which force pulls it down?

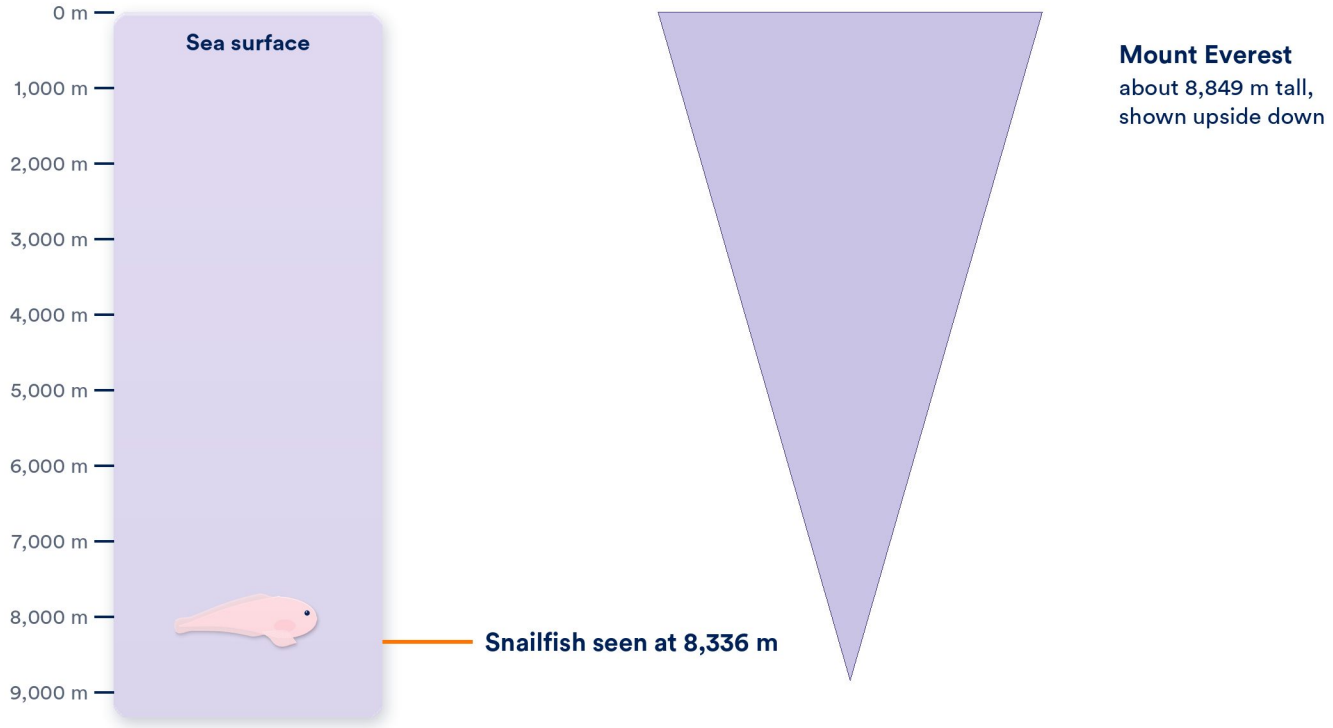
Curriculum link: Year 5: light can be absorbed. Year 5: adaptations for survival.

Deep Sea by the Numbers

From the film

- A baby snailfish was filmed 8,336 metres down in the Izu-Ogasawara Trench. That is the deepest any fish has ever been seen.
- In places the trench is more than nine kilometres deep, deeper than the tallest mountain on land is high.
- At the bottom, the water presses more than 800 times harder than the air presses on you at the beach.
- In one big study, about three out of every four deep sea animals counted could glow.

How deep? (on this page, 1 cm stands for 1,000 m)



Your turn

1. Write 8,336 metres in kilometres.

2. Mount Everest is about 8,849 metres tall. How much deeper is a 9,000 metre trench than Everest is tall?

3. Write ‘three out of every four’ as a fraction and a percentage. If scientists counted 20 animals, about how many could glow?

4. The snailfish is pale and soft, with no scales. Choose one feature and suggest how it might help in the deep sea.

5. Scientists from UWA in Perth worked with a university in Tokyo. Why do scientists from different countries team up?