

Sea Level Puzzle by Astrid Andersen, 6G High March School

Q: What can you see in the picture?

A: The picture shows a sea, a sea-level, a horizon, a sky, a rock-formation running from the sea-level down into the sea as well as a red and white lighthouse build on top of the rock-foundation. In the sea, there are 7 animals all at different distances away from the sea-level. From the bottom up these animals are: crab, sting-ray, eel, shrimp, shark, sea-horse and a blue and yellow fish. Flying above the sea-level is the 8th animal which is a white seagull. The sky is blue with a few light clouds.

Q1: What number should be where the head of the seagull is?

A: 4 metres

Q2: What number should be where the mouth of the crab is?

A: -9 metres

Q3: How far up is it from the head of the shrimp to the mouth of the shark?

A: 2 metres

Q4: How far from the surface is the eel's mouth?

A: 7 metres

Q5: How high above the sea level is the seagull's beak?

A: 4 metres

Q6: How much higher is the seagull's beak than the seahorse's mouth?

A: 7 metres

Q: How did you arrive at your answers? Did you write anything down to help you?

A: I know that sea-level is zero, and that one black line represents 1 meter in both directions. I added numbers to each of the black lines (from 6 metres at the very top of the sky, to -9 metres at the very bottom of the sea). I also used a ruler to indicate where the mouth/beak/head of each of the animals are on the scale. This made it easier for me to precisely answer the questions.

Below I have created my own questions you might have fun with trying to solve and answer?

Q1: If you stand the furthest up in the lighthouse, on the outside, how high up will your feet be above sea-level? How high up will your feet be above the mouth of the crab?

Q2: What is the furthest distance between the mouth/beaks of two animals on the picture?

- Q3: What is the shortest distance between the mouth/beaks of two animals on the picture?
- Q4: How tall is the lighthouse approximately?
- Q5: What is the average distance of animals below the sea-level to the sea-level?
- Q6: What is the average distance from the animals above the sea-level to the sea-level?
- Q7: What is the average distance from all the animals to the sea-level?
- Q8: If the average distance from animals to the sea-level is 7 metres, which animals am I thinking of?
- Q9: If a seagull can fly/dive through the air at a speed of 2 metres per second, how long time will it take for the seagull to snatch a fish swimming at sea-level?
- Q10: If a sting-ray swims through water at a speed of 1 meter per second, how long time will it take for the sting-ray to reach the sea-level?
- Q11: What is the distance between the shark's mouth and the seagull's beak?
- Q12: What is the distance between the bottom of the ocean floor and the top of the lighthouse?
- Q13: If an eel swims an average of 3 metres per second, how long time will it take for the eel to reach sea-level?
- Q14: How much lower is the crab's mouth to the bottom of the lighthouse?
- Q15: If the seagull was flying but goes down 1 meter how high above the surface will it be?