

Ocean Depth on a Sheet of Paper...

School Bus on a Pencil Line

(Suggested for Grades 6 – 9)

Materials: 0.7mm mechanical pencil, ruler, this sheet of paper

Objective: To compare the depth of the ocean where *Jaguar* and *Puma* were diving on the Mid-Atlantic Ridge to the size of a familiar object.

Ocean depth: 4000 meters.

Procedure:

Use your ruler and a 0.7mm mechanical pencil to draw a line 25 cm long down the right hand edge of this sheet of paper. Hold the pencil straight up (perpendicular to the paper) and draw the line with one smooth stroke. The line should be the same width as the pencil lead, 0.7mm.

The 4000-meter-deep ocean is represented by your 25 cm line at a **scale** of 16,000 to 1.

At the same scale, the width of the pencil line represents the length of a school bus.

To see how much you have scaled everything down to get the ocean depth to fit on the sheet of paper, try to draw a school bus, sideways, inside the thickness of the pencil line! Do you need a microscope?

Follow-up:

1. A school bus is about 10 meters long. How many school buses would it take to reach the bottom of the ocean if you stood them end to end on their noses?
2. How many times would you have to run a 100 meter dash to get to the bottom of the ocean? This is assuming, of course, that you could run straight down in the water.