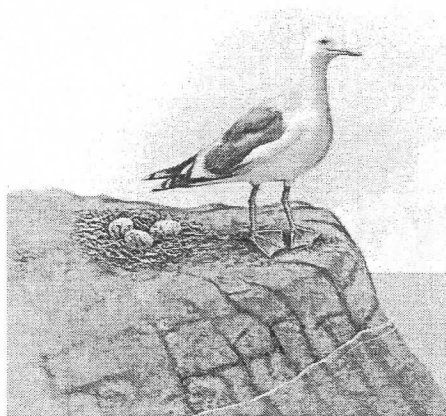


Understanding the Mathematics of Biomagnification

Goal • To learn about biomagnification.

Calculate the concentration of PCBs that biomagnify in the tissues of herring gulls by tracing how the concentration increases throughout the herring gull's food web. For example, to determine the concentration of PCBs in phytoplankton, "magnify" or multiply the concentration of PCBs in water (0.000 002 ppm) by 1250.

Then answer the questions that follow.



Water	Phytoplankton	Zooplankton	Rainbow Smelt	Lake Trout	Herring Gull
0.000 002 ppm	x 1250	x 49.2	x 8.46	x 4.64	x 25.67
PCB concentration					

Questions:

1. By what factor has the concentration of PCBs increased from the water to the herring gull?
2. Check your calculations by studying Figure 1.17 on page 26.
3. Think of the food web that you are part of. Do you think biomagnification is affecting your health? Explain.

