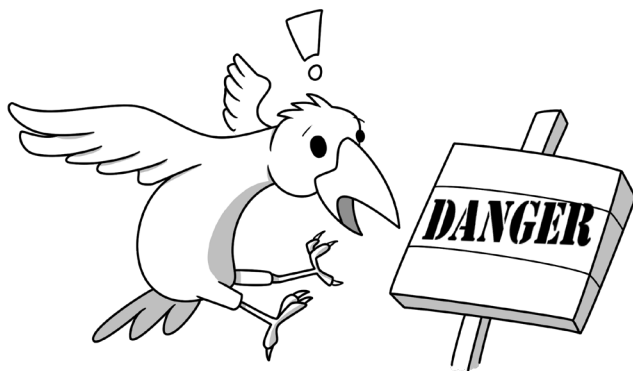


# THE PIT

Would you like to live next to a giant hole in the ground filled with acid and poisonous minerals? The people of Butte, Montana do! It's called the "Berkeley Pit." It even has a waterfall!

The contaminated water in the Berkeley Pit is only about 46 meters below the natural water table. It is slowly rising at the rate of about  $\frac{1}{3}$  meter per month. If the water is allowed to reach the water table, it will contaminate the Columbia River! How many years would it take for this to happen if nothing is done to prevent it? Express your answer as a mixed fraction.

The Berkeley Pit is filled with water that is about the acidity of stomach acid. Unfortunately, this water appears to be responsible for the deaths of many birds that have landed on it. Eventually, the mining company that owns the pit started taking steps to scare the birds away. This reduced the number of deaths. Between 1996 and 2001 only 75 out of 22000 birds who visited the pit died. What fraction of the birds does this represent? Be sure to simplify your answer.



In order to slow the rise of the water, the people of Butte built the Horseshoe Bend water treatment plant in 2003. Since then, it has been treating about 5 million gallons of contaminated water per day. How many gallons of water does Horseshoe Bend treat in a year?

Butte is also honeycombed with underground tunnels from mining. Sometimes sinkholes will open up under buildings and homes! In 1884 there were 300 operating mines in Butte. In 1955, they started using open pit mining instead of tunnels, but by then 10,000 miles of underground tunnels had been dug! On average, how many miles of tunnel were dug per year? Round your answer to the nearest mile.