

Math Word Problems

Let's face it, as useful as math is (and I think it's pretty useful), sometimes practicing it can be a boring and repetitive. We've tried to make things a bit more interesting by connecting some math word problems to the Principles of Green Chemistry we've been discussing. Make sure students learn a bit about what Evrnu and ZILA Works are doing before they dive into these math problems.

Grades 3–5 (ask students to show their work in 2 different ways)

1. It takes a lot of water to make the clothes we wear. How many T-shirts do you have at home? If it takes 700 gallons of water to make a single T-shirt, how many gallons of water did it take to make all the T-shirts you own?

An average backyard swimming pool holds 30,000 gallons of water. How many pools could you fill with the water it took to make all the T-shirts you have at home? (Note—it is OK if the answer is a fraction or less than 1.)

2. Every year people spend almost \$10 billion dollars on *epoxy resins*. How much is that in millions? In thousands?

The main uses for epoxy resins are listed in the table below. Also in the table is how much money is made from selling the material each year (this is called the market size). Create a bar chart showing the market size in millions of dollars of each different use.

Use	Market Size (amount of money earned each year)
Adhesives (glue)	\$750 million
Composites	\$500 million
Construction	\$2,200 million
Electronics	\$2,350 million
Paints and Coatings	\$3,200 million
Wind Turbines	\$500 million
Other	\$500 million

If ZILA Works is trying to make a new glue—or epoxy resin—for things like snowboards, it means they are making products for both the adhesives and composite markets. What is the total size of these two markets combined? (Hint—add the adhesives and composite market sizes together.)

How much money would ZILA Works make each year if they were able to earn 1% of the composites market? (Hint—answer is 1% x Market size.)