

Antimycin is a natural chemical produced by a type of bacteria. It is toxic to a variety of organisms because it inhibits the electron transport chain. Antimycin is toxic to fungi and protozoa, organisms that often either eat bacteria or compete with bacteria for resources. The bacteria that make antimycin have a salt content of 1% within their cells.

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A gardener is having problems with slugs (a shell-less snail that lives on land) in her garden. She read on the internet that they cannot tolerate salt and wants to know if that is true. She also read that they have very high water content and are surrounded by semipermeable membranes that can allow water and air to pass through. She formulated the following hypothesis: salt will remove snails from her garden because salt kills snails. Then, she designed an experiment to test if salt will kill slugs. She captured 30 snails and placed each in a small jar. She sprinkled 10 with 1000 mg of table salt, 10 with 300 mg of table salt, and the final 10 did not receive salt. After 2 hours, she checked them to see if they were dead. In both treatments with salt, all of the snails died. However, all snails that were not treated with salt lived.

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The Olympic Games, whether in summer or winter, are the favorite sporting events for millions of people. “Some athletes use ATP at different rates because they have significantly different surface area to volume ratios.” This was stated by a team of sports medicine experts.

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Amphibians (frogs, toads, and salamanders) are currently going through worldwide declines. One current hypothesis explains that parasites increase amphibian deformities and therefore parasites are responsible for amphibian declines. To investigate this hypothesis, scientists randomly selected 40 wetlands in Minnesota and collected 20 randomly selected leopard frogs from each site in July of 1999. In the laboratory, they examined each frog for the number of parasites and recorded the number of deformities in each frog.

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You and your friend visit the Sam Noble Oklahoma Museum of Natural History. As you enter the museum you notice Archie the mammoth, and decide to look at the exhibition on extinct and modern elephants. The display indicates that mammoths and mastodons lived during the ice age in North America and went extinct approximately 10,000 years ago. You observe that compared to the modern African elephant, which live in grass land and forest, mastodons and mammoths had thick hair, short tails, a short trunk, and very small ears.