

An important STEM skill is estimating. Challenging for some, you'll get better with practice.

Try these; no calculators, no pencil or paper either! As soon as you have the answers, raise your hand.

1. The Nintendo Switch game, *Mario vs Donkey Kong*, has a retail price of \$49.99. You can get a used copy for \$29.55. **ESTIMATING**, what's the percent savings?
2. Honey roasted pistachio nuts (Yum!) have 36 g of protein in a 155 g bag. Teens need about 50 g of protein per day.



ESTIMATE how many bags of these nuts you would have to eat per day, for the required protein.

Estimating means you don't have to have the exact answer. A quick way to estimate is to round numbers for calculation.

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Round costs to \$50 and \$30. \$10 off would be $10/50$ or 20%, so multiply by 2 and you get 40% savings.

Another way, $\$30/\$50 = 3/5 = 6/10$. That means you are paying 60%, so 40% savings.



**Estimating means you don't have to have the exact answer.
Another way to estimate is to split up the calculations.**

- 1. Honey roasted pistachio nuts (Yum!) have 36 g of protein in a 155 g bag. Teens need about 50 g of protein per day. ESTIMATE how many bags of these nuts you would have to eat per day, for the required protein.**



36g in 1 bag, so you need 1 bag plus 14g more. Half a bag would be 18g more, so I'll estimate a bit less, 1/3 bag, plus the first bag.

Note that the weight of the bag doesn't matter in the calculation. Also note that the protein requirement is generally 52g for a teen boy and 46g/teen girl. That's not taking into account weight, height or activity level of the teen. Nor does that account for stage of development. Protein is essential for cell and tissue growth, as well as energy and tissue repair.