



Name: _____

Class: _____ Date: _____

Cocoa Percentages

An activity of "Cocoa farmers cannot afford chocolates. Is this fair?"

The article, "**Cocoa farmers cannot afford chocolates. Is this fair?**" (page 20, *What's Up* October 2020) tells us that a cocoa farmer earns 6% of the price of each chocolate bar sold, given that each bar is priced at \$5.

1. The chocolate bar manufacturer, Mershey, increases the price of each chocolate bar to \$6.
 - a. The farmer still earns 30 cents for each bar sold. How many percent of the chocolate bar's price is this?
 - b. Mershey increases the farmer's earning per bar sold to 90 cents. How many percent of the chocolate's price is this?
2. The farmer decides to also sell his cocoa beans to a chocolate milk manufacturer, Harigold. Harigold pays him 50 cents for each carton of milk sold, or 12.5% of its price.
 - a. How much does one carton of milk cost?
 - b. The farmer asks Harigold to increase his earnings to 90 cents per carton. But Harigold says they can increase his earnings only by 20%. How much will the farmer now get for each carton of milk?
3. Fair Trade International tells both manufacturers they must increase the farmer's earnings by 10%.
 - a. How much is the farmer now getting for each bar of chocolate?
 - b. What percentage of the chocolate bar's price is this?
 - c. How much is the farmer now getting for each carton of milk?
 - d. What percentage of the milk carton's price is this?
4. The farmer has 500 beans. He sells 70% of them to Mershey and $\frac{1}{5}$ of them to Harigold. He kept the rest for his own use.
 - a. What percentage of the beans did he keep for his own use?
 - b. Unfortunately, the farmer finds out that 30% of these beans have gone bad and have to be thrown away. How many beans does he keep in the end?
5. The farmer decides to also grow coffee. After harvesting both his crops, he has 50% as many coffee beans as cocoa beans. He has 1,800 beans in total.
 - a. How many cocoa beans does he have?
 - b. He decides to keep 10% of each crop of beans for his own use. How many coffee beans does he keep?
 - c. He then sells 75% of the coffee beans and $\frac{8}{9}$ of the cocoa beans. What is the ratio of the coffee beans to the cocoa beans that he has left?