

## Lesson 14: Solving Percentage Problems

Let's solve more percentage problems.

### 14.1: Number Talk: Multiplication with Decimals

Find the products mentally.

$$6 \cdot (0.8) \cdot 2$$

$$(4.5) \cdot (0.6) \cdot 4$$

### 14.2: Coupons

Han and Clare go shopping, and they each have a coupon. Answer each question and show your reasoning.

1. Han buys an item with a normal price of \$15, and uses a 10% off coupon. How much does he save by using the coupon?



2. Clare buys an item with a normal price of \$24, but saves \$6 by using a coupon. For what percentage off is this coupon?

#### Are you ready for more?

Clare paid full price for an item. Han bought the same item for 80% of the full price. Clare said, "I can't believe I paid 125% of what you paid, Han!" Is what she said true? Explain.

### 14.3: Info Gap: Music Devices

Your teacher will give you either a *problem card* or a *data card*. Do not show or read your card to your partner.

If your teacher gives you the *problem card*:

1. Silently read your card and think about what information you need to be able to answer the question.
2. Ask your partner for the specific information that you need.
3. Explain how you are using the information to solve the problem.

Continue to ask questions until you have enough information to solve the problem.

4. Share the *problem card* and solve the problem independently.
5. Read the *data card* and discuss your reasoning.

If your teacher gives you the *data card*:

1. Silently read your card.
2. Ask your partner “*What specific information do you need?*” and wait for them to *ask* for information.

If your partner asks for information that is not on the card, do not do the calculations for them. Tell them you don’t have that information.

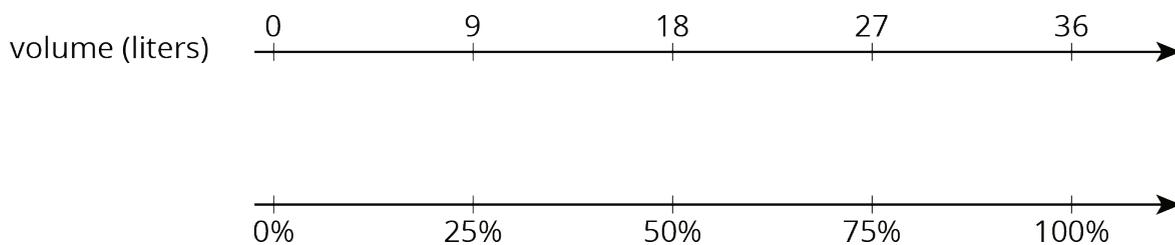
3. Before sharing the information, ask “*Why do you need that information?*” Listen to your partner’s reasoning and ask clarifying questions.
4. Read the *problem card* and solve the problem independently.
5. Share the *data card* and discuss your reasoning.

## Lesson 14 Summary

A pot can hold 36 liters of water. What percentage of the pot is filled when it contains 9 liters of water?

Here are two different ways to solve this problem:

- Using a double number line:



We can divide the distance between 0 and 36 into four equal intervals, so 9 is  $\frac{1}{4}$  of 36, or 9 is 25% of 36.

- Using a table:

volume (liters)	percentage
36	100
9	25

$\cdot \frac{1}{4}$  (curved arrow pointing from 36 to 9)      (curved arrow pointing from 100 to 25)  $\cdot \frac{1}{4}$