

A. Teaching basic fraction concepts and operations using arc sectors

6. Multiplication of a fraction by a whole number ("Times" interpretation of multiplication)

Group work

- a. • Put on your desk sectors of $\frac{1}{10}$.
- Arrange a few of these sectors side by side.
 - Write various exercises corresponding to the sectors on your desk.

Discussion

- What exercises have you written?
- Can you write an exercise of a different kind?
- Can you write a multiplication exercise?

- b. Write a multiplication exercise corresponding to your sector construction, and solve it:

- c. Construct another multiplication exercise using sectors of $\frac{1}{10}$. Write the exercise and solve it:

How do we solve a multiplication exercise of a fraction by a whole number?

Example

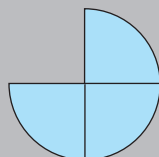
$$3 \times \frac{1}{4} = \boxed{}$$

Suggestion of a way of solution:

$$3 \times \frac{1}{4} \text{ means three times a quarter. } 3 \times \frac{1}{4} = \frac{1}{4} + \frac{1}{4} + \frac{1}{4}$$

Therefore we take three sectors of $\frac{1}{4}$ and arrange them in a circle:

We get:



$$3 \times \frac{1}{4} = \boxed{\frac{3}{4}}$$