

# Using Mates

You need  a classmate

## Activity

1. Wiha notices 500 gram packs of butter in a supermarket fridge. She wonders how heavy 30 packs would be.

500 grams is 0.5 kilogram. 0.5 is the same as a half. So  $30 \times 0.5$  must be 15 kilograms.



0.5	0.5
1	

Discuss Wiha's reasoning. Then solve:

- a.  $16 \times 0.5$       b.  $800 \times 0.5$   
 c.  $56 \times 0.5$       d.  $40\,000 \times 0.5$

2. The next day, Wiha's teacher, Mr Siolo, tells the class a way of making it easier to multiply several numbers.

Find a mate, if you can, for one of the numbers so that both numbers multiply together to make a whole number or a multiple of 10.

You mean like  $4 \times 0.5 = 2$ , Mr Siolo?  
 Or  $12.5 \times 8 = 100$ ?

Exactly, Wiha!

Find two multiplying "mates" for the following decimals.

- a. 0.25      b. 2.5  
 c. 0.6      d. 1.25

3. Mr Siolo gives the class a problem:

$$20 \times 97 \times 0.5 = \square$$

20 x 0.5 is 10. The answer must be 970.

Discuss Wiha's reasoning with a classmate.  
Then discuss the strategies you could use to solve:

- a.  $20 \times 806 \times 0.5 =$       b.  $0.5 \times 89 \times 6 =$   
c.  $0.25 \times 193 \times 8 =$       d.  $4 \times 326 \times 5 =$

4. Solve the following problems. Write down each step of your thinking so that someone else can follow how you worked it out.

- a.  $8 \times 22 \times 0.5$       b.  $5 \times 312 \times 0.6$   
c.  $0.2 \times 165 \times 5$       d.  $4 \times 7 \times 2.5 \times 3$   
e.  $1.25 \times 13 \times 4$       f.  $6 \times 71 \times 5$   
g.  $25 \times 36 \times 2$       h.  $4 \times 81 \times 15$

5. Try this one:  
 $4 \times 34 \times 25 = \square$



4 x 25 is 100.  
So the answer must be 3 400.

Discuss Wiha's strategy for this problem. Then use this strategy to solve the following problems. Write down each step of your thinking for each problem.

- a.  $8 \times 23 \times 25$   
b.  $150 \times 43 \times 2$   
c.  $40 \times 5 \times 5 \times 70$   
d.  $125 \times 60 \times 4 \times 7$

6. Make up four multiplication problems of your own that you could use a "mates" strategy to help you solve. Work out the answers for them and then give your problems to a classmate to solve.

