Branching Out

Activity One

Ruth's teacher has set the class this challenge:

Complete this web so that all the expressions give 100 as the answer.

$\square \div 10$

$2.5 \times \square$

$10 \times \square$

$\frac{1}{3}$ of $\square$

Answer: 100

$200 \div \square$

$0.5 \times \square$

$10\,000 \div \square$
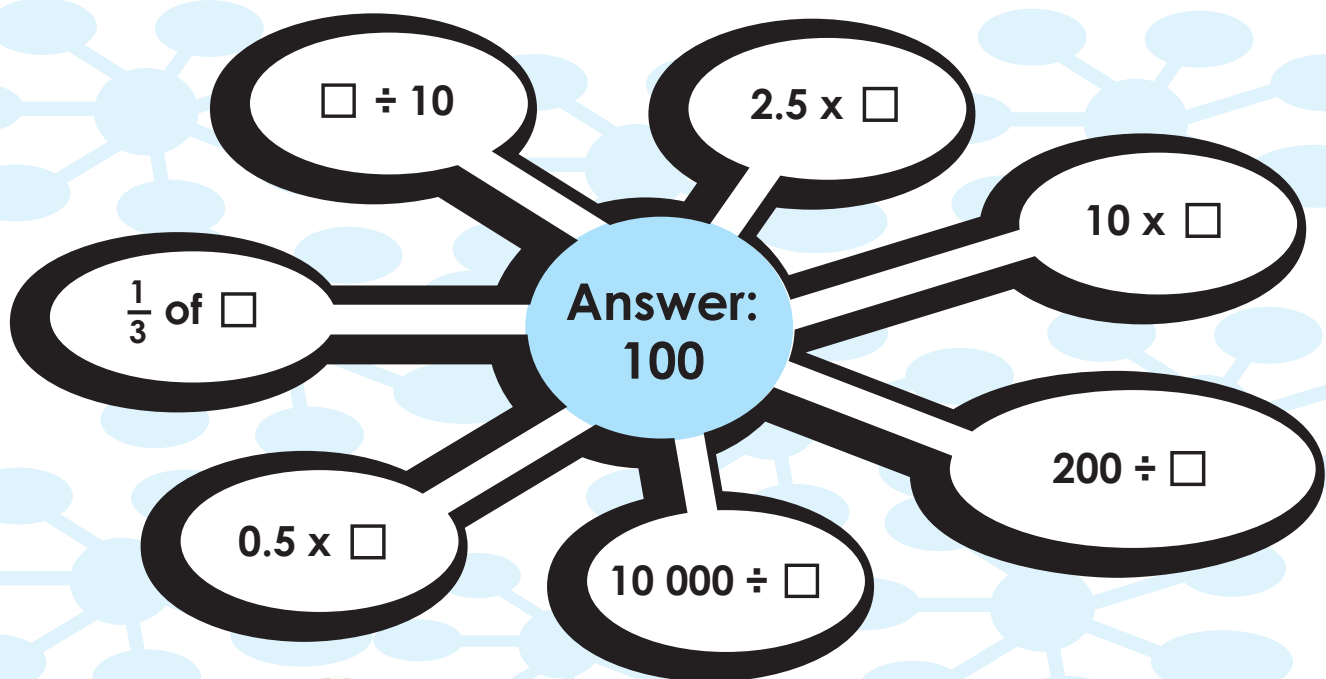
1. Complete your copy of this web.

2. Using your second copy of this web, change the values in each $\square$ so that all the expressions give 200 as the answer.

3. What changes would need to be made to the $\square$ in each expression in the 100 web to get an answer of 50? Make these changes on your third copy of this web.

4. What can you learn by comparing the three webs?

5. Use the relationships you have discovered to alter the $\square$s in the expressions so that they all give 250 as the answer. (Use your fourth copy of this web.)

Using operations and exploring relationships

Activity Two

Have a look at the bigger web below.

1. What relationships do you see?

2. On your photocopy of this web, extend the branches shown here. You will need to make up an expression for each of the first ? on two of the branches.

0.5 x 40

1 x 20

2 x 10

9.9 + 10.1

10 + 10

4 x 5

16 x $1\frac{1}{4}$

8 x $2\frac{1}{2}$

?

?

Answer: 20

20 ÷ 1

10 ÷ 0.5

5 ÷ 0.25

40 ÷ 2

80 ÷ 4

?

?