

# Four 4s

You need: a calculator (optional), a classmate

## ACTIVITY

Malaki and Charlotte's teacher told them that many mathematicians over the centuries have tackled the four 4s problem. He set them this challenge:

Using four 4s and any of the operation signs, write a statement that equals 9.

Well,  $4 + 4 = 8$ .  
That leaves two 4s  
that I can use to make 1.

Doesn't  $4 \div 4 = 1$ ?

Yes. So  
 $4 + 4 + (4 \div 4) = 9$ .  
That's it! I could write  
 $4 + 4 + \frac{4}{4} = 9$ .

- Your challenge in the next question will be to find expressions for all the numbers up to 20 using four 4s and any operation signs you choose. Before you start, solve these helpful building blocks:
  - $\sqrt{4}$
  - $44 \div 4$  (or  $\frac{44}{4}$ )
  - $\frac{4}{4}$
  - $4!$  (or  $4 \times 3 \times 2 \times 1$ )
- Now find four 4s expressions for the whole numbers from 1 to 20. (For many numbers, there is more than one way.)  
Share your solutions with a classmate.
- Another challenge! Find a four 4s expression for 100.