Mathematical investigation (1)

Investigating is a great way to learn to think mathematically, apply logic, spot patterns and improve our perseverance.

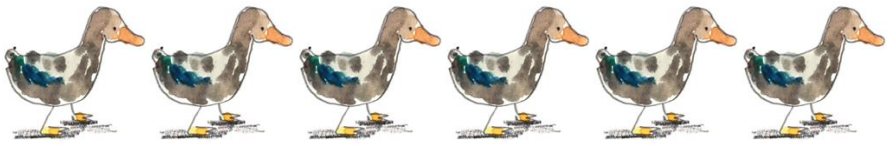
Noah's Ark

Noah watched the animals going into the ark.
He was counting the legs of the animals and he got to 12.
How many creatures did he see?

Think and discuss:

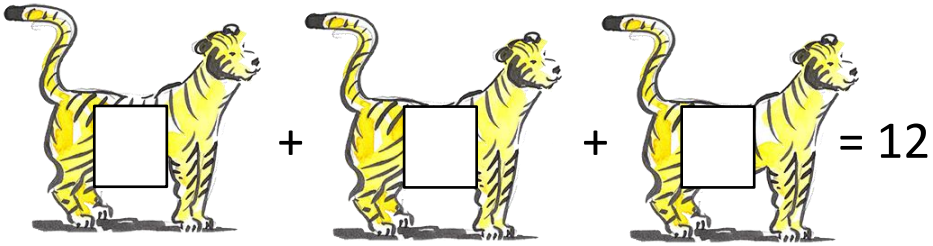
What creatures could there be?
How many legs might they each have?

1. Firstly, let's pretend that **all** the animals Noah saw were 2-legged animals, like ostriches, geese or kangaroos!
   How many of these animals makes 12 legs?
   Let's count in 2s until we reach 12…
2. We can write an addition number sentence to match the animals, e.g.



2 + **2** + **2** + **2** + **2** + **2** = 12

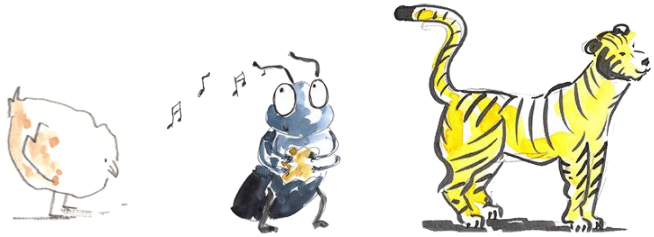
3. What if the animals Noah saw **all** had 4 legs?
   Count in 4s until you reach 12. Write the sort of animal, e.g. tigers, and a matching number sentence.



+ + = 12

4. What if the animals Noah saw **all** had 6 legs? Count in 6s until you reach 12. Write the type of animal and a number sentence.

5. ***BUT what if*** the animals Noah saw had **different** numbers of legs…? Write a number sentence under these animals.



☐ + ☐ + ☐ =

Challenge 1

Carry on investigating… How many different answers can you find? There are lots!
Remember to write a number sentence for each set of animals.
The total must ALWAYS be 12,
e.g. 1 spider and 2 chickens

8 + 2 + 2 =

Challenge 2

What's the greatest number of creatures Noah could have seen?

What's the smallest number of creatures he could have seen?

Challenge 3

What if Noah saw 16 legs?