

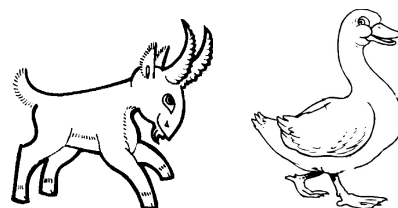
Goats and Ducks

Children in Infant grades will benefit from being given simple problems to solve. For this problem about goats and ducks, the children need to work out how many of each animal belong on the farm according to the number of legs described in the problem. The problem may be solved by drawing a picture, using straws or sticks to represent legs and even by guessing and checking.

Once the problem has been explained to the children it would be worthwhile giving them some time to attempt to find a solution. Discuss some ways they may go about finding an answer (draw a picture, use straws etc to represent legs,)

Sharing at the conclusion is important. Perhaps some of the children will describe a strategy that others could apply to a similar problem in the future.

Here are some possible strategies:



1) Guess and check.

Guess a number of goats and a number of ducks (which adds up to the number of animals stated in the problem). Then count (perhaps draw or model) their legs. If it doesn't add up to the total listed in the problem, have another guess.

2) Make a model / Act it out.

Collect the number of straws or sticks stated in the problem (legs). Arrange them in groups of 2 and 4 until you have the right number of animals. (This is a variation of the Guess and Check strategy).

3) Use Logic.

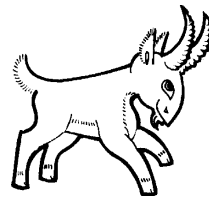
If the problem states (for example, 10 animals) draw 10 circles for bodies of animals. Give each animal 2 legs (as if they were all ducks). Count the legs. Start adding 2 legs at a time to each body until the number matches the one stated in the problem. All the four legged animals are goats and the rest are ducks!

Name: Date:

Goats and Ducks

Farmer Samantha has goats and ducks on her farm.

The goats each have 4 legs.



The ducks each have 2 legs.



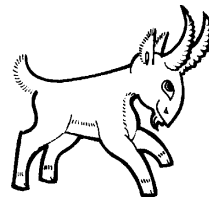
Farmer Samantha knows she has 10 animals and today counted 26 legs altogether.

How many of her animals are goats? How many of her animals are ducks?

Goats and Ducks

Farmer Samantha has goats and ducks on her farm.

The goats each have 4 legs.



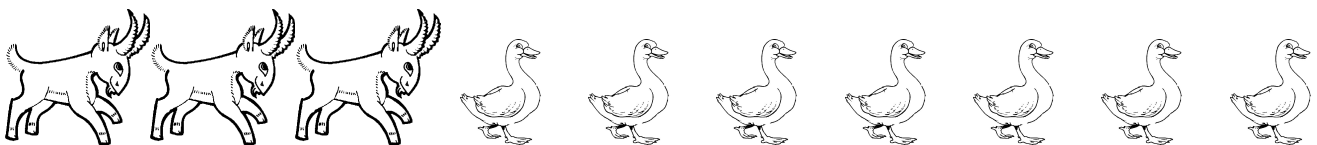
The ducks each have 2 legs.



Farmer Samantha knows she has 10 animals and today counted 26 legs altogether.

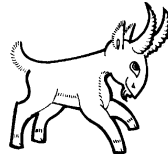
How many of her animals are goats? How many of her animals are ducks?

Farmer Samantha has 3 goats and 7 ducks



Goats and Ducks

Goats each have 4 legs.



Ducks each have 2 legs.



Farmer Mary has goats and ducks on her farm.

She has 9 animals and today counted 30 legs altogether.

How many of her animals are goats ?
How many of her animals are ducks ?

Farmer Bill has goats and ducks on his farm.

He has 11 animals and today counted 26 legs altogether.

How many of his animals are goats ?
How many of his animals are ducks ?

Farmer Joe has goats and ducks on his farm.

He has 8 animals and today counted 18 legs altogether.

How many of his animals are goats ?
How many of his animals are ducks ?

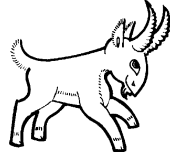
Farmer Helen has goats and ducks on her farm.

She has 12 animals and today counted 32 legs altogether.

How many of her animals are goats ?
How many of her animals are ducks ?

Goats and Ducks

Goats each have 4 legs.



Ducks each have 2 legs.



Farmer Mary has goats and ducks on her farm.

She has 9 animals and today counted 30 legs altogether.

How many of her animals are goats ?

How many of her animals are ducks ?

6 goats and 3 ducks

Farmer Bill has goats and ducks on his farm.

He has 11 animals and today counted 26 legs altogether.

How many of his animals are goats ?

How many of his animals are ducks ?

2 goats and 9 ducks

Farmer Joe has goats and ducks on his farm.

He has 8 animals and today counted 18 legs altogether.

How many of his animals are goats ?

How many of his animals are ducks ?

1 goat and 7 ducks

Farmer Helen has goats and ducks on her farm.

She has 12 animals and today counted 32 legs altogether.

How many of her animals are goats ?

How many of her animals are ducks ?

4 goats and 8 ducks