

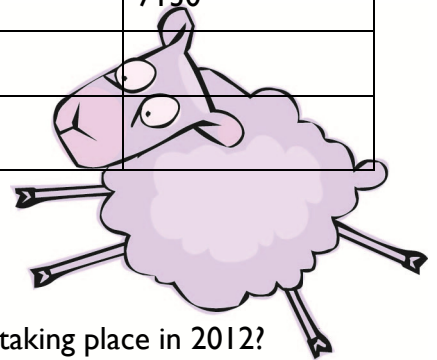
Maths Challenge

Farming in the South Downs National Park

In 2012 a survey was done to count all the livestock animals in the South Downs National Park. The key facts below show you what they found. Using the facts answer the word questions below.

Key facts

Animal	Total number (head)	Number under one year old	Dairy cows	Suckler cows
sheep	126,333	67,948 lambs		
cattle	46,356	11,577 calves	9397	7130
pigs	17,080			
poultry	1,197,424			



Questions

1. How many animals were there at the point of the survey taking place in 2012?
2. How many four footed animals were there?
3. What percentage of the sheep were lambs under 1 year old?
4. If you take away the dairy cows how many cattle are left?
5. If you add together the dairy and beef suckler cows and take these from the total how many cattle are left?
6. What percentage of the cattle are under one?
7. What percentage of the total number of animals are pigs?
8. How many more chickens (poultry) are there than cattle?
9. How many more chickens are there than sheep?
10. If the birth rate of lambs was the same every year and no lambs could be sold and no sheep died how many sheep would there be after one, two and three years?

Teachers notes

The data above was collected from the 2010 June Agricultural Survey, Defra. The questions have been written for KS2 and 3 pupils, but could be adapted for other age groups. These questions can be used to support work based around the South Downs National Park as a quiz or embedded into maths lessons. Extension work might include population graphs or exploring patterns linked to population growth. It could also support work into proportion, ratios and investigational maths around repeated patterns.

Answers

Data: 126,333 sheep, of which 67,948 were lambs under one year old. 46,356 cattle, of which 9397 were dairy cows, 7130 were beef suckler cows, 11,577 calves under one year old and 18,252 other cattle, 17,080 pigs, 1,197,424 poultry.

- How many animals were there at the point of the survey taking place in 2012?
 - $126,333 + 46,356 + 17,080 + 1,197,424 = 1,387,193$
- How many head of four footed animals were there?
 - $126,333 + 46,356 + 17,080 = 189,769$
- What percentage of the sheep were lambs under 1 year old?
 - $100(67,948/126,333) = 54\%$ to the nearest whole number
- If you take away the dairy cows how many cattle are left?
 - $46,356 - 9397 = 36,959$
- If you add together the dairy and beef suckler cows and take these from the total how many cattle are left?
 - $9397 + 7130 = 16527$ taken away from $46,356 = 29829$
- What percentage of the cattle are under one?
 - $100(11,577/46,356) = 25\%$ rounded to the nearest whole number
- What percentage of the total number of animals are pigs?
 - $100(17,080/1,387,193) = 1.2\%$ rounded to nearest whole number
- How many more chickens (poultry) are there than cattle?
 - $1,197,424 - 46,356 = 1,151,068$
- How many more chickens are there than sheep?
 - $1,197,424 - 126,333 = 1,071,091$
- If the birth rate of lambs was the same every year and no lambs could be sold and no sheep died how many sheep would there be after one, two and three years?
 - 126,333 sheep + 67,948 lambs for each year