

Maths word problems – Application of number

At Guide Dogs we breed and train dogs that help people with sight loss get out and about and live independently. Today we're focusing on a recent litter of 12 puppies, born to guide dog mum Abby.

The puppies were all born over the course of one evening. In the first hour three puppies were born, Arrow was born at 4am followed by Baxter and Chaz.

Dell was born 105 minutes after Arrow, what time was Dell born?

Milly was born 128 minutes after Arrow, what time was Milly born?

The last puppy to be born was Ford at 6:30am, calculate the number of minutes it took from the first pup being born to the last pup?

All the puppies were weighed when they were born, use the following table to answer the questions below.

Puppy/weight in	Birth	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6
Baxter	370g	510g	860g	1420g	2000g	2690g	3540g
Chaz	430g	610g	930g	1580g	2090g	2750g	3720g
Elmo	400g	660g	990g	1480g	2210g	2820g	3740g
Goldie	400g	540g	1010g	1450g	2150g	2710g	3780g
Inca	360g	520g	880g	1430g	2080g	2710g	3550g
Jessie	450g	630g	1080g	1400g	2060g	2800g	3900g
Kira	480g	620g	1000g	1480g	2100g	3010g	3800g
Lola	390g	540g	910g	1450g	2090g	2840g	3720g

What is the weight difference between Lola and Inca at birth and 2 weeks?

What percentage difference is there between Lola and Inca's weight at birth?

What percentage difference is there between Lola and Inca's weight at 2 weeks?

What does the weight difference in grams and the percentage difference tell us?



Use the weights table to work out the percentage increase in weight of the following:

Puppy	Percentage increase from birth to week 1	Percentage increase from week 2 to 3	Percentage increase from week 5 to 6	Percentage increase birth to week 6
Chaz				
Elmo				
Kira				
Goldie				

Compare the percentages for each individual puppy's growth over the 6 weeks. What does the information tell us?



When Abby's puppies were born, they only fed from their mums' milk, their eyes were closed and their movement was limited.

At 25 days old, Abby's pups all had their eyes open and they were on solid food. Each puppy had 15g of dry food per meal three times a day. At 4 and a half weeks old they were each given 25g per meal three times a day. At 5 weeks this increased to 40g each per meal three times a day.

There are 3 sizes of Puppy food bags which Guide Dogs could purchase to feed Abby's puppies, 2kg bag, a 4kg bag and an 8kg bag. Use the information in the text to complete the table below by calculating how many days to one decimal place, each bag would last the 12 puppies at the different stages of their growth.

Puppy age/bag	A 2kg bag would last	A 4kg bag would last	An 8kg bag would last
25 days old			
4 and a half weeks			
5 weeks old			

Show your workings out:

Complete the following table to work out how much you would pay per kg of food for each bag size.

Bag size	Cost of the bag	Cost per kg
2kg	£12.49	
4kg	£19.99	
8kg	£32.99	



You need 30kg of food to support the litter of puppies for the 1st 6 weeks of their life. Use the cost of the bags in the table, to work out the differences in cost if you purchased 8kg bags or 4kg bags? Remember you'll need to purchase enough bags of food to last the full 6 weeks.

Show your workings out:

How much food from each bag would you have left over?

At Guide Dogs we have a responsibility to spend the money we are given from donations wisely.

Which option gives the best value for money?

Abby's pups have all left mum and are now with their volunteer puppy raisers, learning about the world around them.

