



ALL IN ONE PLACE BASE CAMP MATHS WORD PROBLEMS ACTIVITY 1

INSTRUCTIONS

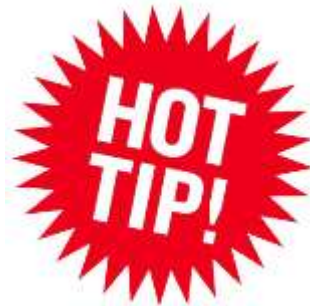
- There is no time limit for the activity – work at your own pace
- Ask a family member or friend for help if you need it
- Show all your working and only use a calculator if told to
- Use the solution sheet to check your work

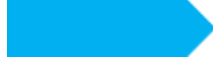
INTRODUCTION

Word problems are sometimes used to see how you apply your Maths knowledge and skills. Most of the time, word problems are no different from the exercises you do in class or for homework. The only difference is that you have to read to get information and then solve problems.

WORD PROBLEM TIPS

- read the question text twice
- think about what each question is asking you to do
- how will you apply your Maths knowledge and skills
- think about your class work and homework – for example, if you need to calculate a ratio, what are the steps you use to do a simple ratio calculation
- work through the problem one step at a time
- show your working out
- check your answer
- don't waste time – if you can't do the word problem, move on and come back to it





JUMP 1

A total of 48 match will be played in the Group Stages of the World Cup in 2018. These matches are played so the top 8 teams get through to the Quarter Final stage.

Each match lasts for 90 minutes and there will be an average overtime of 5 minutes per match.



a. How long is each match in hours, excluding overtime?

ANSWER _____

b. England is playing Mexico and the match has 5 minutes overtime. Use a calculator to express the overtime as a percentage of the total match time.

ANSWER _____

c. What is the maximum time for all the matches in the Group Stages if no overtime is played? Write your answer in hours.

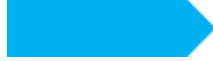
ANSWER _____

d. What is the maximum time for all the matches in the Group Stages if one third of the matches have 5 minutes overtime and the rest only go to full time? Write your answer in hours.

ANSWER _____

e. A top Russian player is injured after playing for 25 minutes of a match. What fraction of the match was he on the field for? Express your answer in the simplest terms.

ANSWER _____



JUMP 2

The 2018 World Cup will be held in Russia. England aims to play the Russian Federation in the finals.

a. Use the information to work out how many games England will play to win the World Cup.

- there are 32 qualifying teams in the Group Stage
- there are 8 Groups with an equal number of teams
- teams in a Group all play each other
- after getting through the Group Stage, England will have to play QF, SF and Final matches.

ANSWER _____

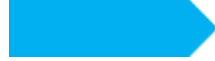


b. What fraction of the Russian Federation flag is not red?

ANSWER _____

c. Cut out the English flag or make a copy. What percentage of the area of the flag is red? Write your answer as a whole number and include units.

ANSWER _____



JUMP 3

3. The Group matches and the Final do not go into overtime. 10% of the QF match is overtime. The SF match has 8 minutes of overtime.

a. How long, in minutes, was the QF overtime?

ANSWER _____

b. Express the SF time as a decimal fraction of the total match time. You can use a calculator and express your answer to 2 places.

ANSWER _____

c. Calculate the total time for all matches that England will spend on the field when they win the World Cup.

ANSWER _____



JUMP 4

Terry made 1 litre of tea for his Mum, Dad and himself. His parents get the cups containing the larger volumes of tea.

He poured 212 ml into one cup, and 368 ml was poured equally into two other cups.

a. Express 1 litre in millilitres.

ANSWER _____



b. How much more tea did Terry's Mum get compared to Terry? Express your answer in millilitres.

ANSWER _____

c. How much more tea did Terry's Dad get compared with his Mum?

ANSWER _____

d. How much tea does Terry have left in his? Write you answer in litres.

ANSWER _____



JUMP 6

Sandy, Lorenzo and Chloe are dividing out the candy they got from trick-or-threating at Halloween.

Lorenzo takes charge and takes 50% of the candy for himself. He gives Sandy 60% of the remaining candy. Poor Chloe only gets 80 sweets.

a. After Lorenzo had taken his share of the candy, what percentage did Chloe get of that remaining?

ANSWER _____

b. How many sweets did Sandy get?

ANSWER _____

c. How many sweets did the children collect in total?

ANSWER _____





e. What is the ratio of sweets that each child has? Express your answer in decreasing number size and in the simplest form.

ANSWER _____

f. Lorenzo feels guilty and decides that everybody should have an equal share of the candy. Explain why it is impossible for the children to share the all the candy equally.

ANSWER AND EXPLANATION

g. What is the maximum number of sweets Chloe can have if the candy is equally shared?

ANSWER _____



JUMP 7

The European Union flag has 12 stars arranged in a circle representing unity. The number of stars does not depend on the number of member states.

Currently the EU has 28 member states or countries.





The USA flag has 50 stars, each representing the 50 states of the country.

The flag includes the island state, Hawaii, and Alaska, which is also not part of the **contiguous** USA. The word **contiguous** means **sharing a common border or neighbouring**.



a. How many more stars are on the USA flag compared with that of the European Union?

ANSWER _____

b. Write, as a decimal fraction to one place, the number of stars on the EU flag compared to the total stars on both flags.

ANSWER _____

c. A European Union Flag has a length of 1 m and a width of 60 cm. Each star on the flag has an area of 25 cm². What percentage of the EU flag is covered by stars?

ANSWER _____

d. In 2018, two more countries will join the European Union. By what fraction will the area occupied by stars increase?

ANSWER _____

e. The United Kingdom consists of four countries. Which country is not part of the **contiguous** United Kingdom? Do some web research if you don't know the answer.

ANSWER _____



JUMP 8

There are 360 boxes of Swiss chocolate in a store. 48 boxes are given away as prizes in a draw. People buy 126 boxes which cost £5.60 per box.



a. How many boxes of chocolate remain in the store?

ANSWER _____

b. What percentage of the total boxes were given away in the prize draw?

ANSWER _____

c. How much did the store owner make from selling the chocolates?

ANSWER _____

d. If the store owner buys the boxes of chocolate at a total cost price of £1080.00, how much profit is made from the boxes that are sold?

ANSWER _____

e. Each box contains 60 chocolates of which 8 are hazelnut. What is the ratio of hazelnuts to other chocolates in the simplest form?

ANSWER _____

f. You select one chocolate from the box? What is the probability that your chocolate will not be a hazelnut?

ANSWER _____



JUMP 11

A local book store has a sale and all items have a 25% mark-down. Melanie buys a set of 12 encyclopedias; the set normally costs £48.00.



a. How much does Melanie pay for the encyclopedias?

ANSWER _____

b. How much has Melanie saved per book?

ANSWER _____

c. Melanie pays with two £20 notes from her bag and receives £5 in change. Why has the book store owner given her the incorrect change?

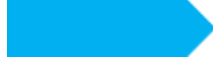
ANSWER AND EXPLANATION

d. Melanie realizes the store owner's mistake. How much does she give back so that she has the correct change?

ANSWER _____

e. On her way home, Melanie buys a drink and a muffin. The drink costs 60p and is half the price of the muffin. How much money does Melanie have left when she arrives home?

ANSWER _____



JUMP 14

Read the information about Jack, Penny and Ryan and then complete the table. One answer has been filled in for you.

Jack says

I'm two years older than Ryan but a year younger than Penny. I have my birthday on the six weeks after Penny's. I'm 150 cm tall. I enjoy weight-lifting and my mass is 60 kilograms, two kilograms more than Penny's brother.



Penny says

My birthday is on the 12th May and I have a twin brother, Josh, who is the same height as Jack and 8 cm taller than me. I enjoy food, but like fresh fruit and vegetables. Ryan's mass is 10% more than mine.



Ryan says

I was born in 2007, in the same month as Penny, but four days earlier. I enjoy athletics and swimming. Sport keeps me fit and my mass is 55 kilograms. If I grow another 4.5 cm, I'll be 1 cm taller than Jack.





	Mass (kg)	Height (cm)	Date of Birth
Jack	60		
Penny			
Josh			
Ryan			

a. What is the mode of the heights of the four children?

ANSWER _____

b. What is the median mass of the four children?

ANSWER _____

c. What is the range of masses of the four children?

ANSWER _____

d. Calculate the children's average mass. You can use a calculator and express your answer to one decimal place.

ANSWER _____

e. In which year was Jack's sixth birthday?

ANSWER _____

f. When will Ryan turn fifteen?

ANSWER _____

g. How old are the twins today?

ANSWER _____



Cut and paste the **CHECK POINT** into your workbook.



CHECK POINT WORD PROBLEMS ACTIVITY 1

How much have you Jumped Ahead applying your Maths knowledge and skills at word problems? Write a number from 1 to 10 – 10 is the biggest jump. Be honest – you can keep this information to yourself, or share it with your family.

I've jumped _____

Write Maths topic from this worksheet you found easy and a topic you need more practice at.

I'm good at _____

I need to work on _____

LEARNING OUTCOMES

Write your name in the table and ask a parent, teacher or tutor to decide **YES** or **NO** for each learning outcome or success criterion.

My name is _____ and I can	
<i>solve percentage, decimal and fraction word problems.</i>	YES or NO
<i>solve word problems on volume and area.</i>	YES or NO
<i>solve word problems relating to money.</i>	YES or NO
<i>apply ratio and proportion to solve problems.</i>	YES or NO
<i>calculate and tabulate information from texts.</i>	YES or NO