

Numeracy Day 2020 - Lesson

Multi-Step Worded Problems

LI: To solve multi-step problems.

In multi-step word problems, there may be two or more operations, and you must solve them in the correct order to be successful. Since word problems describe a real situation in detail, the question being asked can get lost in all the information, especially in a multi-step problem.

Try out this lesson together for Numeracy Day 2020.

SC: I can...

- Recognise alternative words for addition, subtraction, multiplication and division.
- Identify steps within a word problem.
- Solve problems using RUCSAC and **show my workings**.

1. Copy this table and follow the instructions below.

Can you colour in all the words that mean **addition** in **red**?

Can you colour in all the words that mean **subtraction** in **green**?

Can you colour in all the words that mean **multiplication** in **blue**?

Can you colour in all the words that mean **division** in **orange**?

division	divide into	divided by	more	and	Multiply
add	reduce	increase	divisible by	total	multiplication
product	lots of	take from	plus	times	addition
subtraction	times table	groups of	multiplied by	minus	subtract
difference between	share equally	share	group	take away	divide
fewer	decrease	together	sum		

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2. What is RUCSAC?

It is a method that can help support you when answering word problems.



Read

Read the question.
What is the important information?

Understand

Understand the question.
What do you need to find out?

Choose

Choose the correct method of calculation and operation(s).

Solve

Solve the problem.
Make sure you follow the steps.

Answer

Answer the question.
What were you meant to find out?

Check

Check your answer.
Use the inverse to check your working out.



Let's see an example:

1. Bridget's father gave her £34. Bridget bought 10 books, each of which cost £1. How much money does Bridget have left?

A vertical green-bordered box containing six green backpack icons, each with a white letter and a corresponding step of the RUCSAC method. From top to bottom: 'R'ead, 'U'nderline, 'C'hoose, 'S'olve, 'A'nswer, and 'C'heck.

Step 1 – Find the cost of the books.

$$10 \times \text{£}1 = \text{£}10$$

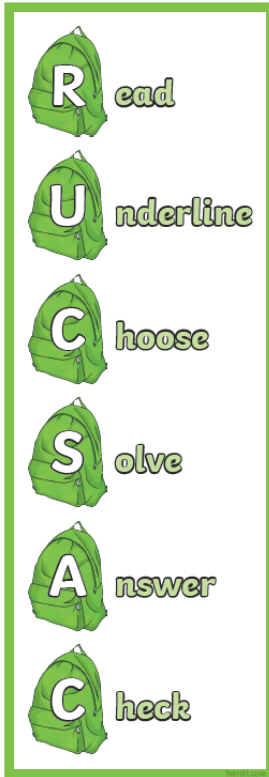
Step 2 – Find the amount of money left.

$$\text{£}34 - \text{£}10 = \text{£}24$$

Step 3– Answer = £24 left

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2. Ethan bought 5 books about animals, 9 books about outer space, and 3 books about trains. Each book cost £10. How much did Ethan spend on the books?



Step 1 – Find the total number of books.

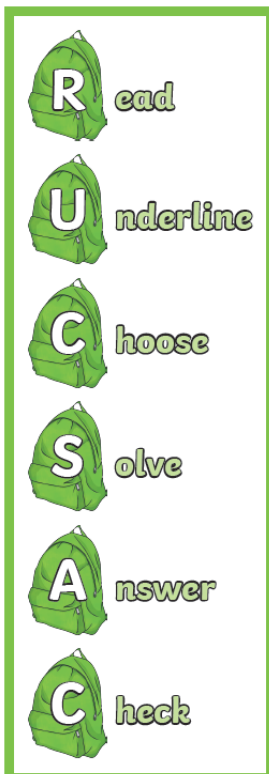
$$5 + 9 + 3 = 17$$

Step 2 – Find the cost of the books.

$$£10 \times 17 = £170$$

Step 3– Answer = £170 spent on books.

3. There are 62 students in the orchestra and twice that number in the band. There are 38 boys and 13 girls in the choir. If each student only participates in one group, how many students total are there in the orchestra, the band, and the choir?



Step 1 – Find the number of students in the band.

$$2 \times 62 = 124$$

Step 2 – Find the number of students in the choir.

$$38 + 13 = 51$$

Step 3 – Find the total number of students.

$$124 + 62 + 51 = 237$$

Step 4– Answer = 237 students

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Try this one using RUCSAC to help.

Jayden bought 11 cartons of ice cream and 6 cartons of yoghurt. Each carton of ice cream cost £3 and each carton of yoghurt cost £1. How much more did Jayden spend on ice cream than on yoghurt?

Step 1:

Step 2:

Step 3:

Step 4:

Work your way through these word problems and use the RUCSAC method to help:

A) In one month 247 adults and 32 children stayed in a hotel. How many people stayed in the hotel altogether?

B) A car park has room for 275 cars. 129 cars are parked in the car park, how many spaces are left?



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C) A tracksuit top costs £13.50 and the matching tracksuit bottoms cost £6.75. How much does the tracksuit cost altogether?

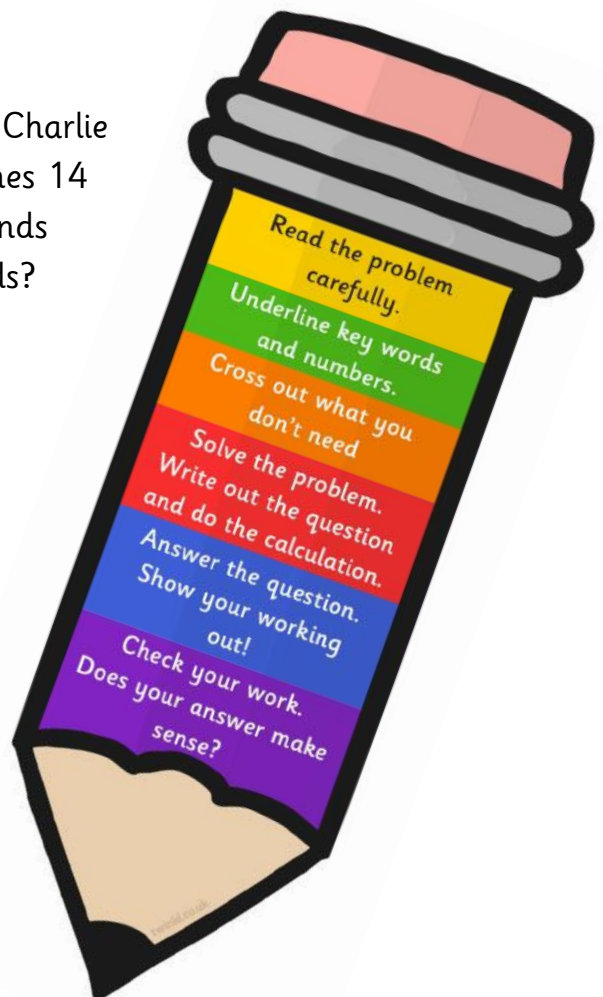
D) Kieran needs to run 2500 metres. In the first ten minutes he runs 639 metres and in the second ten minutes he runs 794 metres. How much further does he still need to run?

E) A toy car costs £12.49, a board game costs £25.38 and building blocks cost £34.39. Amil and Rikard want to buy one of each toy. Amil rounds the price of each toy to the nearest £10 and adds them together. Rikard adds the exact price of each toy together. What is the difference between Amil's and Rikard's total?

F) P7 have a race. Kat's time is 47 seconds. Charlie finishes nine seconds before Kat. Maria finishes 14 seconds after Charlie. Birkir finishes 26 seconds before Maria. What is Birkir's time in seconds?

G) Phoebe bought a ruler and a pencil. She paid £1.45. Leah bought a ruler and two pencils. She paid £1.80. How much does a ruler cost?

H) Marbles are sold in bags of 25. A marble machine produces 1892 marbles per hour. How many bags of 25 marbles can be filled from the marbles made by this marble machine in six hours?



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You may have found interpreting the worded problem difficult but once you follow the steps, you can figure them out easily. It just needs practice. Completing the Daily Rigour helps. This is below for you to try, if you have time. You should practice this whenever you have a bit of free study time.

The Daily Rigour



Sun 10th May 2020
Issue No. 203

Your free weekly numeracy newspaper!

VE Day: 75th anniversary of the end of WW2 in Europe

Friday saw celebrations and tea parties up and down the country as people celebrated the 75th anniversary of VE Day.

Victory in Europe Day marks the day in 1945 when Britain and its allies accepted the unconditional surrender of Nazi Germany, bringing the war in Europe to an end.

But did you know that in WW2 British soldiers got a ration of just 3 sheets of toilet paper per day? Germany and Great Britain were at war for a total of 2077 days.

There are 1000 sheets in a "bog standard" roll of toilet paper!

How many toilet rolls would be needed in order to give a British soldier his full quota of paper?



UK

'World's clearest picture of the moon's craters' is captured by a Californian astrophotographer

A photographer has taken the world's clearest pictures of the moon's craters by combining multiple shots of the lunar line where light meets dark.

The **Full Moon** is the moment the entire face of the Moon is illuminated by the Sun's rays. This happens once a month.

The last Full Moon in the UK was three days ago and the next Full Moon is 3 weeks next Friday from the date of this newspaper.

(a) On what date was the last Full Moon in the UK?
 (b) On what date is the next Full Moon in the UK?



SCIENCE

Ten-year-old footballer aims for 7.1 million keepy-uppies for 7.1 million keepy-uppies

A 10 year old footballer has urged people to help her reach 7.1 million keepy-uppies, one for each UK key worker, to raise money for charities. She is managing about 2000 each day but has also asked for keepy-uppy donations to help her reach her target.

At this rate, how many days would it take her to meet her target on her own?



SPORT

Do you want sauce with that? Sachets of McDonalds sauce selling for big bucks on Facebook Marketplace

For those of you missing your McDonalds fix you can currently buy a tomato sauce for £26, a BBQ sauce for £60, a Big Mac "special sauce" for £69 and a sweet chilli dip for a staggering £10 000 on Facebook Marketplace.

How much does it cost for all 4 sauces? Give your answer in WORDS.



£10,000



£26



£60



£69

Answers to daily rigour available [here](#).