



Maths

Multiplication and Division

Teamwork



Aim

- I can use short division to solve problems.

Success Criteria

- I can read the problem carefully and find the important information.
- I can use short division to calculate the answer.
- I can work out any remainders.
- I can interpret remainders to answer the question.

Teams



There are 32 children in Habiba's class. Her teacher, Mr Green, wants to split the class into equal teams to play a game.

How many children could he have in each team?

How many teams will there be?

Which numbers give equal teams?

Do any of them leave a remainder?

teams of 3 = 10 r2	teams of 4 = 8
teams of 5 = 6 r2	teams of 6 = 5 r2
teams of 7 = 4 r2	teams of 8 = 4
teams of 9 = 3 r5	teams of 10 = 3 r2
teams of 11 = 2 r10	teams of 12 = 2 r8

Solving Word Problems

There are 44 pupils in Connie's year group. The teacher has booked a 54 seater coach with seats arranged in threes.

1. How many sets of seats are there on the coach?
2. How many groups of 3 children will there be?
3. Will any children be sat on their own?
4. The school would like to take 5 adults with them, will there be room for them on the coach?
5. Will there be any empty seats?

How do we solve this problem?

- Highlight the important information in the problem.
- Work out the calculation you need to do. For the first questions you need to work out $54 \div 3$. this will give the number of rows of 3 seats.

$$\begin{array}{r} 18 \\ 3 \overline{) 54} \\ \underline{3} \\ 24 \\ \underline{24} \\ 0 \end{array}$$

There are 18 sets of seats.

Practise



There are 44 pupils in Connie's year group. The teacher has booked a 54 seater coach with seats arranged in threes.

1. How many groups of 3 children will there be?

There are 14 groups of 3, with 2 children left over.

2. Will any children be sat on their own?

Nobody will be sat on their own, but there will be a row with only 2 children in it.

How do we solve this problem?

- Highlight the important information in the problem.
- Work out the calculation you need to do. For the second question you need to work out $44 \div 3$. This will tell you how many groups of three children there are. You will then be able to work out if there is a remainder and this will answer question 3.
- There are 14 groups of 3 with 2 children left over.
- Nobody will be sat on their own, but there will be a row with only 2 children in it.

$$\begin{array}{r} 14 \text{ r}2 \\ 3 \overline{) 44} \\ \underline{30} \\ 14 \\ \underline{12} \\ 2 \end{array}$$

Practise



There are 44 pupils in Connie's year group. The teacher has booked a 54 seater coach with seats arranged in threes.

- 1. The school would like to take 5 adults with them, will there be room for them on the coach?**

Yes. There will be 49 people on the coach.

- 2. Will there be any empty seats?**

Yes. There will be 5 empty seats.

How do we solve this problem?

- Highlight the important information in the problem.
- Work out the calculation you need to do. For question 1 you need to work out $44 + 5$. This will tell you how many adults and children need seats. You can then subtract this from 54 to calculate the number of empty seats.
- Everyone will fit on the coach and there will be 5 empty seats.

$$44 + 5 = 49$$

$$54 - 49 = 5$$

Teamwork



127 children turn up for the after school sports club.

The coach must sort them into teams.

1. **How many teams will she have if she sorts them into teams of 8?**

There will be 15 teams of 8 and 1 team of 7.

2. **Will the teams be equal?**

The teams won't be equal, there will be a team of 7.

How do we solve this problem?

- Highlight the important information in the problem.
- Work out the calculation you need to do. For this question you need to work out $127 \div 8$. This will tell you how many teams there will be. If there is a remainder it will tell you that the teams won't be equal as some children will be left out.
- There will be 15 teams of 8 and 1 team of 7.
- The teams won't be equal, there will be a team of 7.

$$\begin{array}{r} 0 \quad 1 \quad 5 \quad r7 \\ 8 \overline{) 127} \\ \underline{12} \\ 7 \\ \underline{7} \\ 0 \end{array}$$

Teamwork



127 children turn up for the after school sports club.

The coach must sort them into teams.

- The coach would like to give each child a drink for break time. Cartons of juice come in packs of 6. how many packs does she need to buy?**

She will need to buy 22 packs.

How do we solve this problem?

- Highlight the important information in the problem.
- Work out the calculation you need to do. For this question you need to work out $127 \div 6$. This will tell you how many packs she needs to buy. If there is a remainder then what should the coach do? She can't leave some children without a drink so she will have to round up and buy an extra pack.
- She will need to buy 22 packs.

$$\begin{array}{r} 0 \quad 2 \quad 1 \quad r1 \\ \hline 6 \overline{) 127} \end{array}$$

Teamwork Activities



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The children of Dove Primary School are going to have a sports day. The teachers want to put the children into teams. Use short division to work out the following.

1. How many teams will there be if there are 48 children and each team has 6 children? Will there be any children left over?

2. What if they are sorted into teams of 8? Will there be any children left over?

3. What if they are sorted into teams of 9? Will there be any children left over?

4. What if they are sorted into teams of 10? Will there be any children left over?

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5. How many teams will there be if there are 60 children and each team has 12 children? Will there be any children left over?

6. The teachers buy 100 ice cream sticks. Each pack has 5 sticks. How many packs will they need to buy?

7. Each child needs a medal for taking part. Dove Primary School has 120 children. How many packs of 10 medals will they need to buy?

8. If each bottle of squash makes 20 cups of orange juice and the school buys 25 bottles, will there be enough for all of the children to have a drink?

9. Can you make up some of your own word problems about your school sports day?

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Teamwork

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5. How many teams will there be if they are sorted into teams of 12 children? Will there be any children left who are not in a team of 12? _____

6. The teachers buy each child an ice cream to have after the races. The ice creams come in packs of 5. How many packs will they need to buy? _____

7. Each child needs a medal for taking part. Medals come in packs of 11. How many packs does Dove Primary School need? _____

8. If each bottle of squash makes 20 cups of orange juice and the school buys 25 bottles, will there be enough for all of the children to have a drink? _____

9. Can you make up some of your own word problems about your school sports day?

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True or False Quiz



First you need to put yourselves into teams of four.

How many teams will you need?

Will all the teams be the same size?

Don't leave anyone by themselves – make one bigger team if you need to!

If you think the answer is TRUE, then all stand up.
If you think the answer is FALSE, then all sit down.

You will need a whiteboard or some paper to use your super short division methods to work out the answers.

True or False Quiz



I need to put 76 children into teams of 5.

All of the teams will be equal.



FALSE!

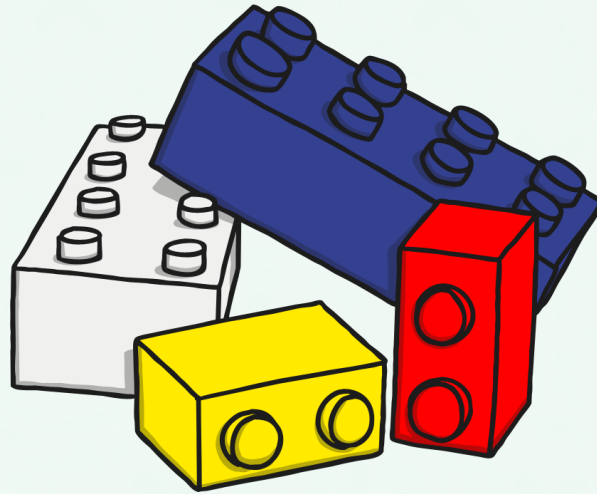
Multiples of 5 end in 5 or 0.

True or False Quiz



I build 12 towers with my 840 building bricks.

All of my towers are the same height.



TRUE!

$$840 \div 12 = 70 \text{ exactly}$$

True or False Quiz



I split my year group of 86 into teams of 4.

There was 1 child left on their own.



FALSE!

$$86 \div 4 = 21 \text{ r}2.$$

There are 2 children left.

True or False Quiz



I shared my tin of 146 sweets between 8 children.

We all got the same number of sweets and there were none left for my teacher.



FALSE!

$$146 \div 8 = 18 \text{ r}2$$

The children had 18 sweets each and there were 2 sweets left for the teacher.

True or False Quiz



The school has 4 teams for sports day.

There are 144 children in total and the same number of children in each team.



TRUE!

$$144 \div 4 = 36$$

So there are 36 children in each team

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