

Aim

- To solve division problems using a formal written method.

Success Criteria

- I can set the calculation out correctly.
- I can calculate the answer using a formal written method.
- I can identify remainders and record them in my answer.

Number Hops



$$32 \div 4 =$$

How many groups of 4 carrots are there in 32?

Draw a number line with **0** at the start and the target number **32** at the end.

Number Hops



$$32 \div 4 = 8$$

How many groups of 4 are there in 32? **8**

We just worked this out by hopping along the number line.

We can also set this out using a **formal written method**.

It's called **short division**, but sometimes we call it the bus stop method. This is because the layout we use looks a bit like a bus stop.

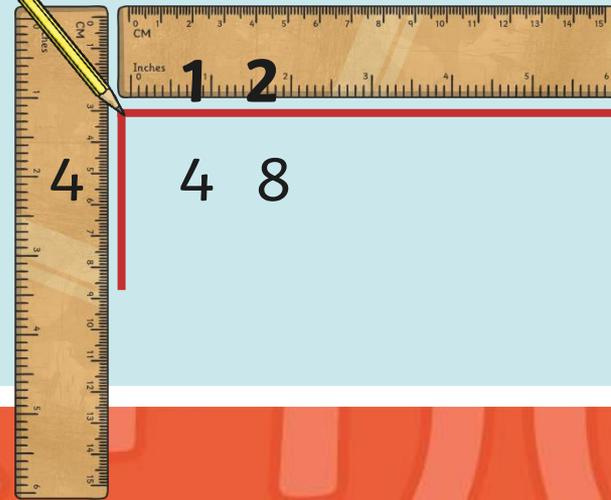


The Bus Stop



$$48 \text{ sweets} \div 4 \text{ people} =$$

1. Draw the layout for the formal written method. This looks a bit like a bus stop!
2. Write the number you are dividing by in front of the vertical line. This is the **divisor**.
3. Write the number that is being divided after the vertical line. This is the **dividend**.
4. The answer goes on top of the horizontal line.



The Bus Stop



We solve short division problems by dividing 1 digit at a time.

$$96 \div 3 = 32$$

Write the answer **32** on the line.

Put the 9 tens into 3 groups. How many tens would be in each group?

Now, let's look at the ones.
Share the 6 ones into 3 groups. There are 2 in each group.

The Bus Stop



We solve short division problems by dividing 1 digit at a time.

$$84 \div 4 = 21$$

Write the answer **2** on the line.

Share the 8 tens into 4 groups. How many tens would be in each group?

Now, let's look at the ones.

Share the 4 ones into 4 groups. There is 1 in each group.

Regrouping



Sometimes when we are dividing 1 digit at a time, the digits don't divide exactly and there are some left over.

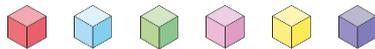
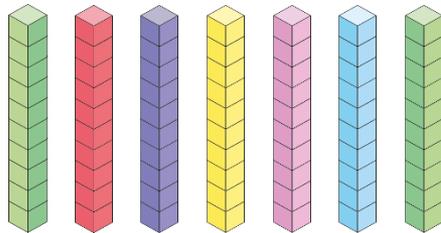


We solve this by regrouping.

Regrouping



$$76 \div 2 = 38$$



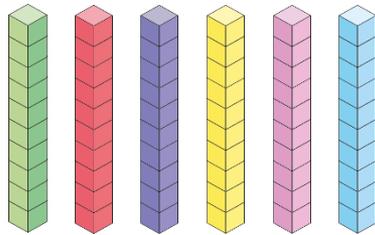
$$\begin{array}{r} 38 \\ 2 \overline{) 76} \\ \underline{76} \\ 0 \end{array}$$

Share the 7 tens into 2 groups. How many tens sticks are in each group?

Regrouping



$$65 \div 5 = 13$$



$$\begin{array}{r} 13 \\ \hline 5 \overline{) 65} \\ \underline{5} \\ 15 \\ \underline{15} \\ 0 \end{array}$$

Share the 6 tens into 5 groups. How many tens sticks are in each group?

Regrouping



$$90 \div 5 = 18$$

$$\begin{array}{r} 18 \\ 5 \overline{) 90} \\ \underline{50} \\ 40 \\ \underline{40} \\ 0 \end{array}$$

How many 5s are there in 40?

Regrouping



$$36 \div 3 = 12$$

$$\begin{array}{r} \boxed{1} \boxed{2} \\ 3 \overline{) 36} \\ \underline{3} \\ 3 \\ \underline{3} \\ 6 \\ \underline{6} \\ 0 \end{array}$$

How many 3s are there in 3 tens?

Regrouping



$$92 \div 4 = 23$$

$$\begin{array}{r} 23 \\ 4 \overline{) 92} \\ \underline{8} \\ 12 \end{array}$$

The diagram shows a long division problem. The divisor is 4. The dividend is 92. The quotient is 23. The 2 is in the tens place and the 3 is in the ones place. An orange line is drawn under the 92. A small box with the number 1 is placed above the 2 in the dividend, indicating that 1 ten is being regrouped from the 9 to the 2.

How many 4s are there in 9 tens?