










Pictograms

A **pictogram** is a way of visually representing a set of **data**. It consists of **symbols** that represent a **number of items** and a **key** that displays the value of each symbol.

The pictogram below shows how many children prefer each flavour of **ice cream**. Looking at the key, we can see that each ice cream symbol **represents 5 children**.

Flavour	Number of children
Chocolate	 
Vanilla	   
Caramel	  

To find the **number of children who prefer each ice cream flavour**, we multiply the number of ice cream symbols in each row by the value of each symbol:

$$\text{Chocolate} = 2 \times 5 = \mathbf{10}$$

We can calculate the **total number of children** by finding the **number of ice cream symbols** and **multiplying** this by the value of each ice cream symbol (from the key):

$$2 + 4 + 3 = \mathbf{9 \text{ ice cream symbols in total}}$$

$$9 \times 5 = \mathbf{45 \text{ children}}$$














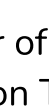
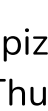
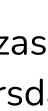
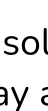
We can figure out **how many more** children like vanilla than chocolate, by finding the **difference** in the number of symbols, and **multiplying** this by the value of each symbol:

$$4 \text{ (vanilla)} - 2 \text{ (chocolate)} = 2 \text{ symbols}$$

$$2 \text{ ice cream symbols} \times 5 = \mathbf{10 \text{ children}}$$

Method

Let's look at how we can deduce the value of each symbol in a pictogram!

Day	Number sold
Monday	  
Tuesday	
Wednesday	     
Thursday	  
Friday	   

This pictogram shows the number of pizzas sold by a pizzeria from Monday to Friday. There were 24 more pizzas sold on Thursday and Friday combined than on Monday.

1 Add the number of symbols for **Thursday** and **Friday**.

$$\begin{array}{ccc} \text{Thursday} & & \text{Friday} \\ \text{3} & + & \text{4} \\ \hline & = & \text{7 pizza symbols} \end{array}$$

2 Find the **difference** between the number of symbols for **Monday** and the combined number for **Thursday** and **Friday**:

$$\begin{array}{ccc} \text{Thursday and Friday} & & \text{Monday} \\ \text{7} & - & \text{3} \\ \hline & = & \text{4} \end{array}$$

3 Divide the **difference in pizza symbols** by the real difference in pizzas, **24**:

$$24 \div 4 = 6$$

4 1 pizza symbol represents **6 pizzas**!

Key:  = 6 pizzas

Example Question

Ato opens a lemonade stand and records the number of lemonades sold from Monday to Friday. This is recorded in the pictogram below.



Day	Number sold
Monday	 
Tuesday	    
Wednesday	
Thursday	   
Friday	  

If Ato sold 14 more lemonades on Tuesday than on Wednesday, what is the value of one lemonade symbol?

A 4

B 5

C 6

D 7

E 8

Let's use this information to find the value of one symbol (the key) for this pictogram!

1 Find the number of symbols for Tuesday and Wednesday.

$$\begin{array}{c} \text{Tuesday} \\ \text{4} \frac{1}{2} \end{array}$$

$$\begin{array}{c} \text{Wednesday} \\ 1 \end{array}$$

2 Find the **difference** in the number of symbols for **Wednesday** and **Tuesday**:

$$\begin{array}{ccc} \text{Tuesday} & & \text{Wednesday} \\ \text{4} \frac{1}{2} & - & 1 \\ \hline & = & \text{3} \frac{1}{2} \end{array}$$

We now know that $3 \frac{1}{2}$ symbols = 14 lemonades.


3 We need to find the value of 1 symbol. To do this, we need to do some **division**. It is hard to divide 14 by $3 \frac{1}{2}$. Let's double these numbers to make it easier!

$$\begin{array}{l} \times 2 \left(\begin{array}{l} 3 \frac{1}{2} \text{ symbols} = 14 \text{ lemonades} \\ 7 \text{ symbols} = 28 \text{ lemonades} \end{array} \right. \times 2 \end{array}$$

4 Now we can divide both sides by 7 to find the value of 1 symbol!

$$\begin{array}{l} \div 7 \left(\begin{array}{l} 7 \text{ symbols} = 28 \text{ lemonades} \\ 1 \text{ symbol} = 4 \text{ lemonades} \end{array} \right. \div 7 \end{array}$$

The correct answer is **A**. One lemonade symbol represents **4** lemonades!

Key:  = 4 lemonades