

10 Patterns and rules

We are learning to...

- Find the rule for a growing pattern
- Use graphs and tables to describe a growing pattern
- Find number patterns in multiples and prime numbers
- Find the rule for a number pattern

Vocabulary

factor
graph
multiple
pattern
prime number
rule

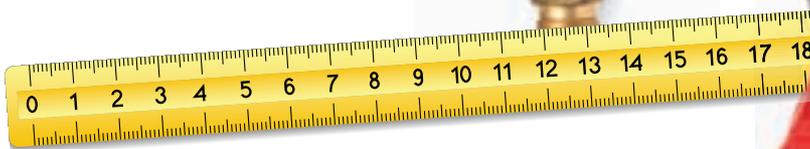


Getting started

● Patterns in measurement



- What patterns can you find on measuring devices?
- Think about modern and old devices.



Check up on number knowledge and book 3A

The page numbers in the hand  tell you where to go for more practice.



 120

- 1 Work out the answers on each bag as quickly as you can.
Time yourself and then try to beat your time by doing the same bag again.

Bag A	Bag B	Bag C	Bag D
a $4 \times 2 =$	a $40 \div 5 =$	a $10 \times 3 =$	a $18 \div 2 =$
b $3 \times 5 =$	b $7 \times 5 =$	b $2 \times 10 =$	b $45 \div 9 =$
c $14 \div 2 =$	c $3 \times 7 =$	c $0 \times 10 =$	c $10 \times 7 =$
d $4 \times 9 =$	d $5 \times 9 =$	d $10 \div 1 =$	d $60 \div 10 =$
e $20 \div 5 =$	e $6 \times 4 =$	e $4 \times 10 =$	e $5 \times 5 =$
f $9 \times 1 =$	f $35 \div 7 =$	f $60 \div 10 =$	f $5 \times 3 =$
g $0 \times 6 =$	g $7 \times 0 =$	g $10 \times 5 =$	g $14 \div 2 =$
h $40 \div 8 =$	h $4 \times 8 =$	h $7 \times 10 =$	h $2 \times 7 =$
i $9 \times 3 =$	i $36 \div 6 =$	i $90 \div 10 =$	i $30 \div 5 =$
j $5 \times 8 =$	j $8 \times 9 =$	j $10 \times 8 =$	j $8 \times 5 =$

- 2 Jolly Jellies make these bags of jelly beans.



- a Matt bought 8 bags of Supa Jellies.
How many packets of jelly beans did he get?
- b Jack bought some bags and got exactly 16 packets of jelly beans.
Which bags might he have bought?
Give two different answers.
- c Saskia bought 15 packets of jelly beans all the same size.
Which bags did she buy?
- d Jolly Jellies also sell a family bag that has 20 times more packets of jelly beans than the Supa Jellies bag has.
How many packets of jelly beans are in that bag?





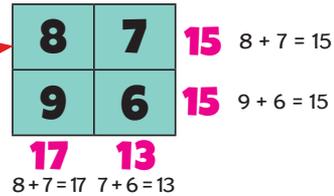
Addition and subtraction basic facts

Adding and subtracting to 20

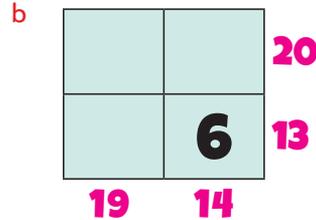
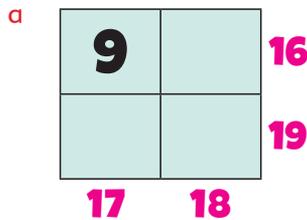
Activity 1



- 1 This is a number grid. The numbers in the boxes add across or down to give the pink numbers.



Fill in the missing numbers on your copy of these number grids.



2

Three darts that make 20 win a prize



- a Race a partner to find as many ways as you can of making 20 in five minutes. You must choose **one** number from **each** board. You can add or subtract the numbers. Write down your equations.

Example



$$7 + 8 + 5 = 20$$

- b What is the highest total you can get with three darts?
 c Which of these scores is it possible to get?

A 27 B 23 C 28 D 34

Highest total wins a prize



Puzzle

Ziggy was trying out his new flying saucer by flying from stars to planets. On your copy, join any decimal planets to decimal stars that show the same amount to see where he flew.

If any of Ziggy's flights **cross** a planet with a decimal in it, name the decimal using tenths and hundredths.

Some planets and stars don't have matches.

Planets and Stars:

- Planet: 0-09, Star: 16 shaded
- Planet: 0-24, Star: 5 shaded
- Planet: 0-45, Star: 9 shaded
- Planet: 0-05, Star: 2 shaded
- Planet: 0-4, Star: 4 shaded
- Planet: 0-5, Star: 6 shaded
- Planet: 0-64, Star: 64 shaded
- Planet: 0-4, Star: 2 shaded
- Planet: 0-5, Star: 73 shaded
- Planet: 0-6, Star: 37 shaded
- Planet: 0-42, Star: 0-6
- Planet: 0-64, Star: 0-6
- Planet: 0-2, Star: 0-42
- Planet: 0-37, Star: 0-2
- Planet: 0-25, Star: 24 shaded
- Planet: 0-6, Star: 6 shaded
- Planet: 0-06, Star: 15 shaded