MODE

BUILDING BLOCKS

NAME _____ CLASS _____ DATE _____

KEY IDEA

The mode is the one that appears most often.

It can be a number, a word or a shape.

3 5 2 5 8 5

5 appears 3 times, so the mode is 5

1 Here are some shapes.



a) Count each shape. ● ☐ ★ ☐ ▲ ☐ ■ ☐

b) Which shape appears most often? This is the mode. ☐

2 A class voted for their favourite fruit.

FRUIT	TALLY	FREQUENCY
Apple	𝍸 |	
Banana	𝍸 ||||	
Grape	||||	
Orange	𝍸 ||	

a) Count the tally marks. Fill in the frequency.

b) Which fruit got the most votes? This is the mode.

☐

3 Circle the number that appears most often. Write the mode.

a) 4 7 4 2 4 9 Mode = ☐

b) 8 3 6 3 1 8 3 Mode = ☐

4 Here are the colours of seven cars in a car park. What is the modal colour?

red blue red white red blue black Mode = ☐

MODE

SUPPORT

NAME _____ CLASS _____ DATE _____

KEY IDEA

The mode (or modal value) is the value that appears most often. Ordering helps you spot it.

There can be one mode, more than one, or none. Give units.

2 2 5 5 5 8

in order: mode = 5

1 Write each list in order. Then find the mode.

a) **7, 2, 9, 7, 4, 7, 2**

In order: ☐ ☐ ☐ ☐ ☐ ☐ ☐ Mode = ☐

b) **15, 12, 18, 12, 11, 15, 12** Mode = ☐

2 The table shows the shoe sizes of some pupils.

SHOE SIZE	3	4	5	6	7
Frequency	4	9	12	8	3

a) What is the modal shoe size? ☐

b) Four more pupils, all size 4, join. What is the modal size now? ☐

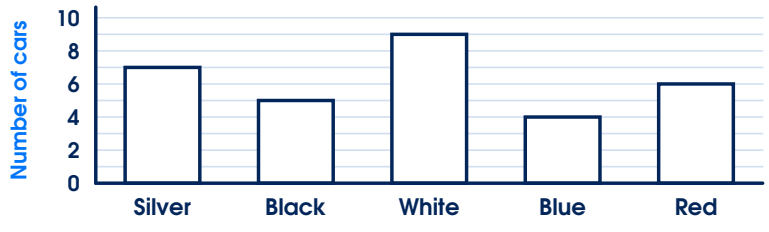
3 Circle how many modes each list has. Write the mode(s) in the box.

a) **6, 3, 8, 3, 1, 6** ONE MODE TWO MODES NO MODE ☐

b) **4 kg, 9 kg, 4 kg, 6 kg, 1 kg** ONE MODE TWO MODES NO MODE ☐

c) **5, 9, 2, 7, 4** ONE MODE TWO MODES NO MODE ☐

4 The bar chart shows the colours of cars in a car park.



a) What is the modal colour? ☐

b) Sam says, "The mode is 9." Explain his mistake.

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MODE

CORE

NAME _____ CLASS _____ DATE _____

KEY IDEA

The mode (modal value) is the most common value. It can be found for numbers and for words (qualitative data). A set of data can have one mode, more than one mode, or no mode at all.

FLUENCY

1 Find the mode of each set of data.

a) **13, 17, 11, 17, 19, 13, 17** Mode: ____

b) **2.4, 2.8, 2.4, 3.1, 2.8, 2.4** Mode: ____

c) **£3.50, £4, £2.75, £4, £3.50, £5** Mode: ____

d) **bus, car, walk, car, bike, walk, car** Mode: ____

2 The goals scored in 20 football matches are recorded in a tally chart.

GOALS	TALLY	FREQUENCY
0	|||	
1	𝍸 |	
2	𝍸	
3	||||	
4	||	

a) Complete the frequency column.

b) Find the modal number of goals. ____

REASONING

3 Write a list of six whole numbers where

a) the mode is 7 .....

b) there are two modes, 3 and 8 .....

c) there is no mode .....

4 Jo records the hair colour of eight friends: brown, black, blonde, brown, red, black, brown, black. She says, "There is no mode." Explain why Jo is wrong.

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MODE

GREATER DEPTH

NAME _____ CLASS _____ DATE _____

REASONING

1 Is each statement always, sometimes or never true? Circle your answer.

If it is sometimes true, give an example of when it is true and when it is not.

a) A set of data has exactly one mode. ALWAYS SOMETIMES NEVER

b) If a list has a mode, the mode is a value in the list. ALWAYS SOMETIMES NEVER

c) Adding one more value to a list changes the mode. ALWAYS SOMETIMES NEVER

PROBLEM SOLVING

2 Seven whole-number cards are in a bag. Five are shown. The only mode of all seven cards is 6.

6	2	9	2	6		

a) Write two numbers that could go on the missing cards. _____

b) Could one of the missing cards be a 2? Explain your answer.

3 20 pupils were asked how many siblings they have.

NUMBER OF SIBLINGS	0	1	2	3
Frequency	4		7	2

a) Missing frequency: _____ **b)** Modal number of siblings: _____

★ CHALLENGE FOR ALL

4 Seven cards each show a whole number. The only mode is 4 and exactly three cards show 4. The total of all seven cards is 35. Find two different sets of cards.

a) Set A | | | | | | | |

b) Set B | | | | | | | |

MODE – ANSWERS

ANSWERS

BUILDING BLOCKS

1. a) circle 4, star 3, triangle 2, square 1 · b) the circle
2. a) apple 6, banana 9, grape 4, orange 7 · b) banana
3. a) 4 · b) 3
4. red (it appears 3 times)

SUPPORT

1. a) 2, 2, 4, 7, 7, 7, 9; mode = 7 · b) 12
2. a) size 5 · b) size 4 (size 4 now has 13 pupils, more than the 12 for size 5)
3. a) two modes: 3 and 6 · b) one mode: 4 kg · c) no mode
4. a) white · b) 9 is the frequency (the number of white cars); the mode is the colour, white.

CORE

1. a) 17 · b) 2.4 · c) £3.50 and £4 (two modes) · d) car
2. a) 3, 6, 5, 4, 2 (total 20) · b) 1 goal
3. e.g. a) 7, 7, 7, 2, 5, 9 · b) 3, 3, 8, 8, 1, 5 · c) 1, 2, 3, 4, 5, 6
4. Brown and black both appear 3 times, more than any other colour, so there are two modes: brown and black.

GREATER DEPTH

1. a) sometimes (e.g. 1, 1, 2 has one mode; 1, 1, 2, 2 has two) · b) always · c) sometimes (adding 6 to 6, 6, 2 does not; adding 2 to 6, 2, 2, 6 does)
2. a) e.g. 6 and 1 (any pair that leaves 6 appearing more often than every other number) · b) No: 2 would appear 3 times, so the other card must be 6 to make 6 appear 3 times too, giving two modes.
3. a) 7 · b) two modes: 1 and 2 siblings
4. e.g. 4, 4, 4, 9, 9, 3, 2 and 4, 4, 4, 8, 7, 6, 2 (the other four cards total 23, none appearing 3 or more times)