

Varied Fluency

Step 1: Pictograms

National Curriculum Objectives:

Mathematics Year 3: (3S1) [Interpret and present data using bar charts, pictograms and tables](#)

Mathematics Year 3: (3S2) [Solve one-step and two-step questions \[for example, 'How many more?' and 'How many fewer?'\] using information presented in scaled bar charts and pictograms and tables](#)

Differentiation:

Developing Questions to support reading and interpreting of pictograms, using values of 1, 2, 5 or 10. No half pictures.

Expected Questions to support reading and interpreting of pictograms, using various values. Some pictograms include half pictures.



Greater Depth Questions to support reading and interpreting of pictograms, using commutative law to calculate a wider range of multiplication facts. Some pictograms include half and quarter pictures.

More [Year 3 Statistics](#) resources.

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Pictograms

1a. Complete the missing sections of the pictogram using the information below.

Month	Number of Children
January	
February	
March	
April	
May	

Key:  = 1 child



- 4 children have their birthday in January.
- 2 more children have their birthday in March than February.
- 3 fewer children have their birthday in May than April.




VF

Pictograms

1b. Complete the missing sections of the pictogram using the information below.

Crisp Flavour	Number of Children
Cheese	
Slightly salted	
Chilli	
Pickled onion	
Beef	






Key:  = 2 children


- 14 children like slightly salted flavoured crisps.
- 4 fewer children like pickled onion crisps than slightly salted crisps.
- 8 fewer children like beef crisps than chilli crisps.



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2a. Answer the questions about the school's favourite sport.

Class	Number of Children
Class 1A	
Class 2A	
Class 3A	
Class 4A	
Class 5A	






Key:  = 5 children


- How many children like football in class 2A?
- How many children like football in Class 4A and Class 5A?
- Which class liked football the most?
- Which two classes liked football the least?



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2b. Answer the questions about the children's favourite drink.

Drink	Number of Children
Lemonade	
Cola	
Juice	
Water	
Milk	

Key:  = 10 children

- How many children like juice?
- How many children like cola and milk?
- How many more children like water than lemonade?
- Which two drinks are the most popular?



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Pictograms

3a. Complete the missing sections of the pictogram using the information below.

Transport	Number of Children
Walk	
Bicycle	
Car	
Bus	
Taxi	

Key: = 3 children

- 9 fewer children walk to school than come by car.
- Double the number of children who cycle take the bus.
- 3 times as many children take the taxi than cycle.



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Pictograms

3b. Complete the missing sections of the pictogram using the information below.

Club	Number of Children
Karate	
Art	
Singing	
Puzzles	
Sewing	

Key: = 4 children

- 6 fewer children go to art club than karate club.
- 4 more children go to puzzles club than singing club.
- Half the number of children that go to karate club go to sewing club.



VF

4a. Answer the questions about the number of cereal boxes sold.

Cereal	Number of Cereal Boxes
Coco Chips	
Sugar Flakes	
Crunchies	
Wheat Bites	
Bran Hoops	

Key: = 8 cereal boxes sold

- How many boxes of Sugar Flakes were sold?
- How many more boxes of Coco Chips were sold than Crunchies?
- How many boxes of Bran Hoops and Sugar Flakes were sold?
- How many fewer boxes of Wheat Bites were sold compared to Crunchies?



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4b. Answer the questions about the number of cupcakes sold in a cafe.

Cupcake	Number of Cupcakes Sold
Carrot	
Lemon	
Chocolate	
Vanilla	
Red velvet	

Key: = 10 cupcakes sold

- How many chocolate cupcakes were sold?
- How many fewer carrot cupcakes were sold than lemon cupcakes?
- How many red velvet and vanilla cupcakes were sold in total?
- How many more chocolate cupcakes were sold than carrot cupcakes?



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Pictograms

5a. Complete the missing sections of the pictogram using the information below.

Snack	Number of People
Cherries	
Cookie	
Strawberry	
Chocolate	
Orange	

Key: = 12 people

- 6 more than the total of oranges chose strawberry.
- 9 fewer than the total of chocolate chose oranges.
- 6 more than the total of cherries chose a cookie.



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Pictograms

5b. Complete the missing sections of the pictogram using the information below.

Food	Number of People
Egg	
Waffle	
Porridge	
Toast	
Doughnut	

Key: = 9 people

- 18 more people chose toast than a waffle.
- 9 fewer people than the total of doughnut chose a waffle.
- 9 more people chose an egg than porridge.



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6a. Answer the questions about the ice cream treats sold at a tuck shop.

Ice Cream	Number of Items Sold
Sundae	
Bowl	
Sugar cone	
Sandwich	
Wafer cone	

Key: = 8 sold

- How many sugar cones were sold?
- Which two items were equally sold?
- How many fewer bowls were sold than wafer cones?
- Which items have a difference of 20?



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6b. Answer the questions about the stationery sold at a shop.

Stationery	Number of Items Sold
Rubber	
Pencil	
Sticky tape	
Sharpener	
Scissors	

Key: = 12 sold

- How many sharpeners were sold?
- Which item was sold the most?
- Which items have a difference of 30?
- How many more scissors were sold compared to sticky tape?



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Varied Fluency Pictograms

Developing

1a. The pictogram should be completed as follows:

Month	Number of Children
January	
February	
March	
April	
May	

2a. A. 25; B. 35; C. Class 1A; D. Class 3A and Class 4A.

Expected

3a. The pictogram should be completed as follows:

Transport	Number of Children
Walk	
Bicycle	
Car	
Bus	
Taxi	

4a. A. 36; B. 12; C. 56; D. 20

Greater Depth

5a. The pictogram should be completed as follows:

Snack	Number of People
Cherries	
Cookie	
Strawberry	
Chocolate	
Orange	

6a. A. 32; B. Bowl and sandwich; C. 28; D. Sundae and sugar cone

Varied Fluency Pictograms

Developing

1b. The pictogram should be completed as follows:

Crisp Flavour	Number of Children
Cheese	
Slightly salted	
Chilli	
Pickled onion	
Beef	

2b. A. 50; B. 100; C. 40; D. Water and milk

Expected

3b. The pictogram should be completed as follows:

Club	Number of Children
Karate	
Art	
Singing	
Puzzles	
Sewing	

4b. A. 65; B. 35; C. 105; D. 30

Greater Depth

5b. The pictogram should be completed as follows:

Food	Number of People
Egg	
Waffle	
Porridge	
Toast	
Doughnut	

6b. A. 42; B. Scissors; C. Pencil and rubber; D. 15