Reasoning and Problem Solving
Step 2: Comparison, Sum and Difference

National Curriculum Objectives:

Mathematics Year 4: (4S1) Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs
Mathematics Year 4: (4S2) Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs

Differentiation:

Questions 1, 4 and 7 (Reasoning)
Developing Explain if a statement is correct using data in a bar chart with scale intervals of 1 or 2, with some use of half intervals. Using a maximum of 4 sets of data.
Expected Explain if a statement is correct using data in a bar chart with multiples of 10 for scale intervals, with some use of half intervals. Using 4 sets of data.
Greater Depth Explain if a statement is correct using data in a bar chart with multiples of 5 for scale intervals, where not all increments are marked and with some use of half intervals. Using 4 sets of data.

Questions 2, 5 and 8 (Reasoning)
Developing Explain which statement is the odd one out using data in a table with scale intervals of 1 or 2, with some use of half intervals. Using a maximum of 4 sets of data.
Expected Explain which statement is the odd one out using data in a table with multiples of 10 for scale intervals, with some use of half intervals. Using 4 sets of data.
Greater Depth Explain which statement is the odd one out using data in a tally chart with multiples of 5 for scale intervals, where not all increments are marked and with some use of half intervals. Using 4 sets of data.

Questions 3, 6 and 9 (Problem Solving)
Developing Use the statements to complete missing data from the pictogram with scale intervals of 1 or 2, with some use of half intervals. Using a maximum of 4 sets of data.
Expected Use the statements to complete missing data from the pictogram with multiples of 10 for scale intervals, with some use of half intervals. Using 4 sets of data.
Greater Depth Use the statements to complete missing data from the pictogram with multiples of 5 for scale intervals, where not all increments are marked and with some use of half intervals. Using 4 sets of data.

More Year 4 Statistics resources.

Did you like this resource? Don't forget to review it on our website.
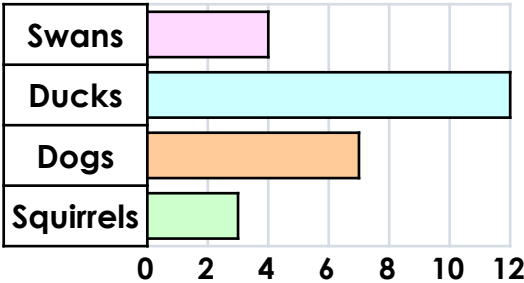
Comparison, Sum and Difference

Comparison, Sum and Difference

1a. Georgia says,

> There are 10 more ducks than squirrels.

Animals at the Park

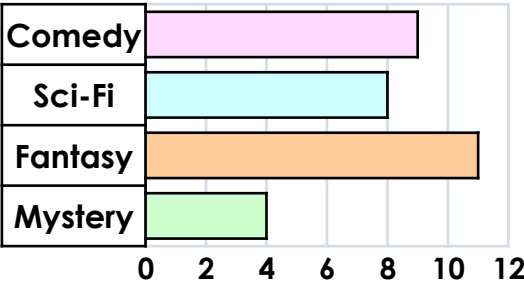|	
Swans	
Ducks	
Dogs	
Squirrels	

0 2 4 6 8 10 12

Is she correct? Convince me.

1b. Frankie says,

> There are 5 more votes for sci-fi than mystery.

Favourite Type of Book

Comedy	
Sci-Fi	
Fantasy	
Mystery	

0 2 4 6 8 10 12

Is he correct? Convince me.

2a. Circle the odd one out of A, B and C.

Day	Houses Sold
Friday	2
Saturday	6
Sunday	5
Monday	1

A. Ten houses were sold altogether.
B. Most of the houses were sold on the Saturday.
C. 1 house was sold on Monday.

Explain your reasoning.

2b. Circle the odd one out of A, B and C.

Birds in the Garden	Number Counted
Robin	1
Pigeon	6
Magpie	3
Sparrow	5

A. The most common bird in the garden was the robin.
B. There were 15 birds altogether.
C. The robin was the least common bird.

Explain your reasoning.

3a. Fill in the missing data.

More children travel by car than bike but fewer children go in the car than walk.

Two more children travel by bus than car.

Method of Transport to School

Walk	Car	Bike	Bus

◯ = 2 votes

3b. Fill in the missing data.

There are more Fords than Nissans but fewer Fords than Vauxhalls.

There is 1 more Kia than Nissans.

Make of Cars in the School Car Park

Ford	Vauxhall	Nissan	Kia

◯ = 2 cars

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Reasoning and Problem Solving – Comparison, Sum and Difference – Year 4 Developing

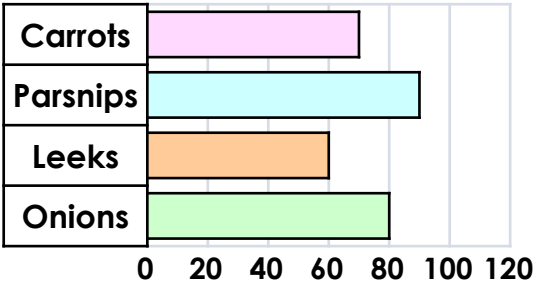# Comparison, Sum and Difference

4a. Melissa says,

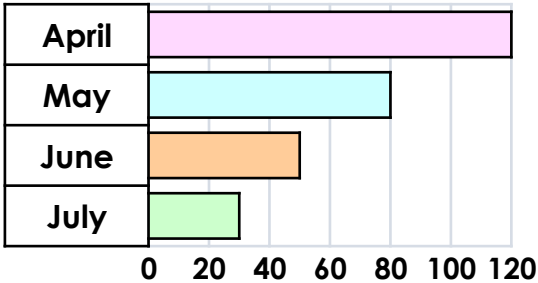There are 20 more parsnips than leeks.

Number of Vegetables in an Allotment

Carrots	
Parsnips	
Leeks	
Onions	

0 20 40 60 80 100 120

Is she correct? Convince me.

R

5a. Circle the odd one out of A, B and C.

Distance to School	Number of Children
0 – 1km	20
1 – 2km	60
2 – 3km	10
3 – 4km	10

A. The data shows the distance to school for 100 children.
B. Most of the children live 0 – 1km away.
C. 60 children live 1 – 2 km away.

Explain your reasoning.

R

6a. Fill in the missing data.

There were fewer votes for Animals than Rainforests but more votes than Romans.

There were 10 fewer votes for Explorers than Romans.

Year 4's Favourite Topic

Romans	Explorers	Rainforests	Animals

◯ = 10 votes

PS

Comparison, Sum and Difference

4b. Darren says,

There is 100mm more rain in April than July.

Average Rainfall in Australia (mm)

April	
May	
June	
July	

0 20 40 60 80 100 120

Is he correct? Convince me.

R

5b. Circle the odd one out of A, B and C.

Museum Exhibit	Number of Visitors
Dinosaurs	70
Egyptians	30
Space	80
Nature	20

A. The least popular exhibit was the Egyptians.
B. 70 people visited the Dinosaur Exhibit.
C. There were 200 visitors altogether.

Explain your reasoning.

R

6b. Fill in the missing data.

There are more poppies than sunflowers but less poppies than roses.

There are 5 more lilies than roses.

Flowers in the Garden Centre

Roses	Poppies	Sunflowers	Lilies

◯ = 10 flowers

PS

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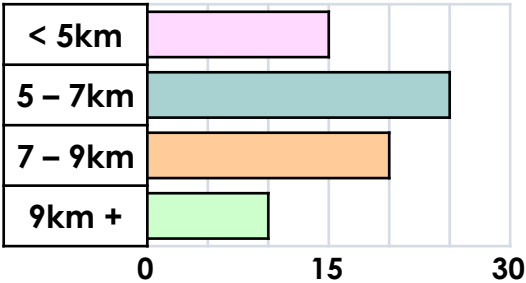**Reasoning and Problem Solving – Comparison, Sum and Difference – Year 4 Expected**

Comparison, Sum and Difference

7a. Sarah says,

> 10 fewer people walk over 9km a day than between 5 and 7km.
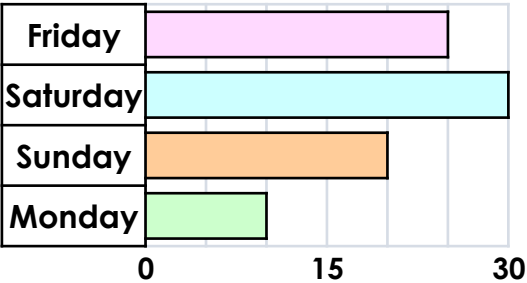
Distance Walked Each Day

< 5km	
5 – 7km	
7 – 9km	
9km +	

0   15   30

GD Is she correct? Convince me.   R

7b. Alex says,

> 15 fewer ice creams were sold on Monday than Sunday.

Average Number of Ice Creams Sold

Friday	
Saturday	
Sunday	
Monday	

0   15   30

GD Is he correct? Convince me.   R

8a. Circle the odd one out of A, B and C.

Tuck Shop Snacks	Number Sold
Bread Sticks	~~IIII~~ ~~IIII~~ ~~IIII~~ III
Raisins	~~IIII~~ ~~IIII~~ IIII
Crackers	~~IIII~~ ~~IIII~~ II
Fruit Pot	~~IIII~~ ~~IIII~~ ~~IIII~~ I

A. 50 snacks were sold at the tuck shop altogether.
B. Crackers were the least popular snack.
C. Bread sticks were the most popular snack.

GD Explain your reasoning.   R

8b. Circle the odd one out of A, B and C.

Team Name	Quiz Points
Wizards	~~IIII~~ ~~IIII~~ IIII
Unicorns	~~IIII~~ ~~IIII~~ ~~IIII~~ I
Wolf Pack	~~IIII~~ ~~IIII~~ ~~IIII~~ III
Rainbows	~~IIII~~ ~~IIII~~ ~~IIII~~ II

A. The teams scored a total of 65 points between them.
B. Rainbows were the losing team.
C. Wizards scored 14 points altogether.

GD Explain your reasoning.   R

9a. Fill in the missing data.

There were fewer votes for winter than spring, but more for winter than autumn.

There were 225 votes for summer and autumn altogether.

Favourite Season of the Year

Spring	Summer	Autumn	Winter

GD ◯ = 50 votes   PS

9b. Fill in the missing data.

There were more votes for jazz than classical, but fewer for jazz than pop.

There were 200 votes for rock and classical altogether.

Favourite Type of Music

Pop	Rock	Jazz	Classical

GD ◯ = 50 votes   PS

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Reasoning and Problem Solving – Comparison, Sum and Difference – Year 4 Greater Depth

Developing

1a. Georgia is not correct because there are 12 ducks and 3 squirrels, so there are 9 more ducks than squirrels.

2a. A is the odd one out because it is incorrect. Fourteen houses were sold altogether.

3a.

Walk	Car	Bike	Bus

Developing

1b. Frankie is not correct because there are 8 votes for sci-fi and 4 votes for mystery, so there are 4 more votes for sci-fi than mystery.

2b. A is the odd one out because it is incorrect. The most common bird in the garden was the pigeon.

3b.

Ford	Vauxhall	Nissan	Kia

Expected

4a. Melissa is not correct because there are 90 parsnips and 60 leeks, so there are 30 more parsnips than leeks.

5a. B is the odd one out because it is incorrect. Most of the children live 1 – 2km away.

6a.

Romans	Explorers	Rainforests	Animals

Expected

4b. Darren is not correct because there is 120mm of rain in April and 30mm of rain in July, so there is 90mm more rain in April than July.

5b. A is the odd one out because it is incorrect. The least popular exhibit was Nature.

6b.

Roses	Poppies	Sunflowers	Lilies

Greater Depth

7a. Sarah is not correct because 10 people walk over 9km a day and 25 people walk between 5 and 7km a day so 15 fewer people walk over 9km a day than between 5 and 7km.

8a. A is the odd one out because it is incorrect. 60 snacks were sold at the tuck shop altogether.

9a.

Spring	Summer	Autumn	Winter

Greater Depth

7b. Alex is not correct because 20 ice creams were sold on Sunday and 10 ice creams were sold on Monday, so 10 fewer ice creams were sold on Monday than Sunday.

8b. B is the odd one out because it is incorrect. Wizards were the losing team.

9b.

Pop	Rock	Jazz	Classical

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Reasoning and Problem Solving – Comparison, Sum and Difference ANSWERS