

Year 3

Small Steps Guidance and Examples

Block 3: Statistics

White Rose Maths

Year 3 – Yearly Overview

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Autumn	Number – Place Value			Number – Addition and Subtraction				Number – Multiplication and Division			Consolidation	
Spring	Number - Multiplication and Division			Measurement: Money	Statistics	Measurement: length and perimeter			Number - Fractions		Consolidation	
Summer	Number – fractions			Measurement: Time		Geometry – Properties of Shapes		Measurement: Mass and Capacity			Consolidation	

Overview

Small Steps

- ▶ Pictograms
- ▶ Bar Charts
- ▶ Tables

NC Objectives

Interpret and present data using bar charts, pictograms and tables.

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.

Pictograms

Notes and Guidance

Children will build on prior understanding of pictograms from Year 2. They continue to read and interpret information from pictograms, make comparisons and ask questions about data.

It is important that children understand the value of each symbol used and what it means when half a symbol is used.

Mathematical Talk

What is each symbol worth?

How does the pictogram help you understand the information?





Which is the greatest amount?

Which is the smallest amount?


What other questions could you ask about the pictogram?

Varied Fluency


1 The pictogram shows how many books some classes read.

Class	Books read
Class 1	
Class 2	
Class 3	
Class 4	




Key

 = 5 books

- Which class read the most books?
- Which class read the least books?
- How many more books did class 3 read than class 2?
- What other questions could you ask about the pictogram?

2 Use the clues to complete the pictogram to show how many apples each group collect.  = 10 apples.

- Group 6 collected twice as many as group 2
- Group 3 collected 35 more apples than group 5
- Group 1 collected a quarter of the amount group 4 collected.

Group	Apples
1	
2	
3	
4	
5	
6	

Pictograms

Reasoning and Problem Solving

Daniel, Charlotte and Freddie record the scores of six football matches. Unfortunately, Freddie spilt paint on the results.

Help them record the possible results based on their memories of the matches.

Match	Number of goals ⚽ = 2 goals
1	
2	⚽⚽⚽
3	⚽
4	
5	⚽⚽⚽⚽
6	⚽⚽⚽

There were 3 more goals in match 1 than there were in match 3

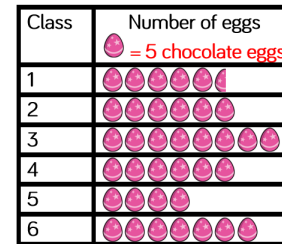
1 less goal was scored in match 6 than match 2

There were at least double the goals scored in match 4 as there were in match 3

Possible answer:

Match	Number of goals ⚽ = 2 goals
1	⚽⚽⚽⚽
2	⚽⚽⚽
3	⚽
4	⚽⚽
5	⚽⚽⚽⚽
6	⚽⚽⚽

Georgia creates a pictogram to show how many chocolate eggs each class won during a fayre.



Joe creates a table to show Georgia's results.

Class	Number of eggs 🍫 = 5 chocolate eggs
1	30
2	30
3	40
4	30
5	20
6	35

Georgia is not happy with Joe's table. Can you explain why?

Possible answer: Georgia is not happy with Joe's table because he has represented class 1's eggs incorrectly. They have 27 and a half, not 30. They've counted half an egg as a whole one.

Bar Charts

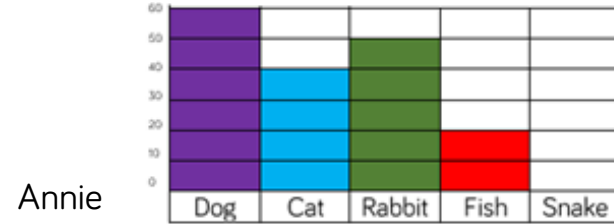
Reasoning and Problem Solving

Which would be more suitable to represent this information, a bar chart or a pictogram? Explain why.

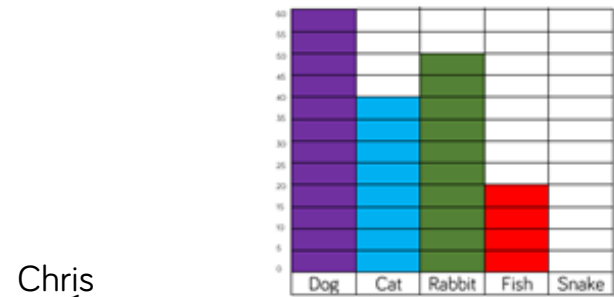
Charity	Amount raised in a year (£)
Donkey Rescue	2,790
Save the Rhinos	5,650
Money for Meerkats	3,000
Collecting for Cats	4,430

Possible answer: I think a bar chart would be the most suitable chart because you can use different scales to show the amount. Pictograms would be more difficult to use because you would have to use a lot of symbols because of the size of the numbers.

Annie and Chris have drawn bar charts to show how many people have pets.



I asked more people because my scale goes up in larger jumps.



I asked more people because my bars are taller.

Possible answer: They are both incorrect as they asked the same amount of people but they have just used different scales on their bar charts.

Who is correct? Explain why.

Tables

Notes and Guidance

Children interpret information from tables to answer both one and two-step problems.

They use their addition and subtraction skills to answer questions accurately and ask their own questions about the data in tables. .

Mathematical Talk

What are we trying to find out?

How does the table help you understand the information?

What other questions could I ask and answer using the information in the table?

Varied Fluency

- 1 The table shows which sport children play.

	Lottie	John	Chris	Ann	Joanne	Jack
Football	✓		✓	✓		✓
Rugby			✓		✓	
Tennis	✓	✓		✓		✓
Cricket			✓		✓	
Basketball		✓	✓	✓		✓

Which children play football and tennis?

Which is the most popular sport?

Which is the least popular sport?

Who plays the most sport?

- 2 The table shows the increase of bus ticket fares.

1 st January	
2016	2017
44p	49p
56p	60p
64p	69p
76p	85p
85p	93p
98p	£1.03
£1.05	£1.11

- The cost of Joel's new ticket is 85p. How much has his fare increased be?
- What was the largest increase in price of any ticket?
- What was the smallest increase in price of any ticket?

Tables

Reasoning and Problem Solving

How many questions can you create for your partner for this set of data?

Day	Number of hours a shop is open for
Monday	8
Tuesday	8
Wednesday	4
Thursday	10
Friday	7
Saturday	12

Possible answers:

How many hours does the shop open for in total?

Which day does it open the longest?

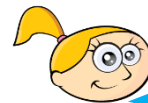
How many more hours does the shop open for on Saturday than Thursday?

Which day was the shop open the shortest amount of time?

Ann and Lily have created a table to show how many boys and girls took part in after school clubs last week.

Day	Boys	Girls
Monday	11	9
Tuesday	18	12
Wednesday	13	11
Thursday	8	8
Friday	9	7

Ann says,



106 boys took part in after school clubs last week.

Lily disagrees with Ann.

Is Ann correct?

Explain why.

Possible answer:

Ann is incorrect.

She has counted all the children rather than just the boys. 59 boys took part in after school clubs last week.