Reasoning and Problem Solving
Statistics Consolidation – Year 3

About This Resource

This resource is aimed at Year 3 Expected and has been designed to give children the opportunity to consolidate the skills they have learned in Spring Block 3 Statistics.

The questions are based on a selection of the same 'small steps' that are addressed in the block, but are presented in a different way so children can work through the pack independently and demonstrate their understanding and skills.

Small Steps

Pictograms
Bar Charts
Tables

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

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It was the last whole school assembly of the year, and Ms Hawkins and Mr Jiang's Year 3 classes were very excited. They were both in the running for winning Best Overall Attendance, and the prize was a mystery that Headteacher Belding had been talking about all year! After sitting smartly through three songs, twelve awards, and what felt like an eternity, it was time for the big reveal. With a drumroll from the Year 6 class, Mr Belding opened the envelope and smiled.

"Well, well, well! This is a first! The winners are... Ms Hawkins and Mr Jiang's classes! Congratulations, year three! For your prize, I am giving you one full school day to do whatever you like – together!" The school erupted with applause, and the teachers looked cautiously at one another. Their classes were so different! How could they possibly make this work so it was fair?

1. To keep the prize realistic, the teachers chose five options and each class had a vote on what they thought the prize should be. Here are the results from each class:

Ms Hawkins' Class

	Cinema party	Trip to the seaside	Day at the zoo	Swimming party	Camping trip
8 (purple)	6 (blue)	10 (yellow)	4 (red)	2 (green)

Mr Jiang's Class

Cinema party	Trip to the seaside	Day at the zoo	Swimming party	Camping trip
4 (purple)	8 (blue)	2 (yellow)	6 (red)	10 (green)
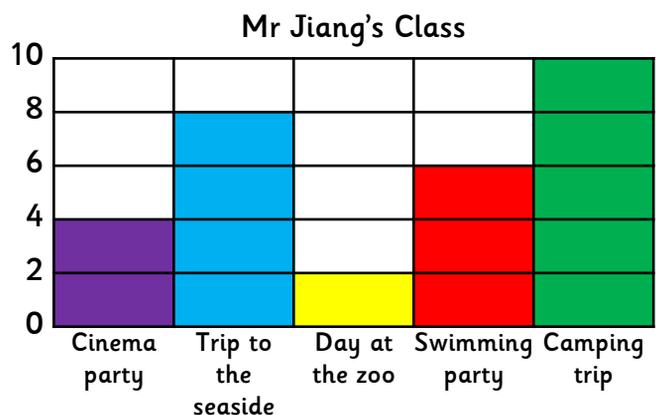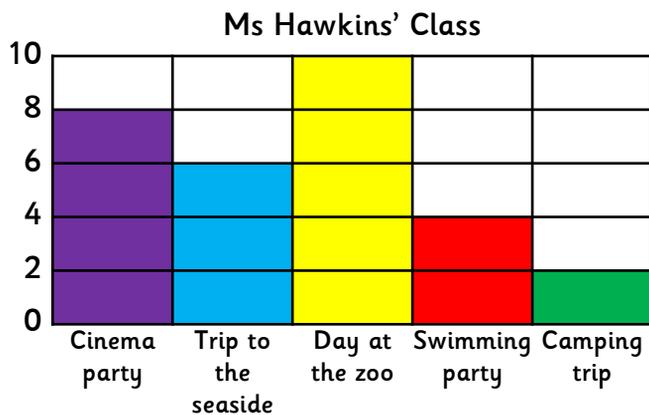
What was the most popular choice in each class?

Looking at these bar charts, what do you think the prize will be?

2. Combine the results and create a new bar chart showing the grand total. Remember to give the chart a title and labels.

What is the prize going to be?

20
18
16
14
12
10
8
6
4
2
0
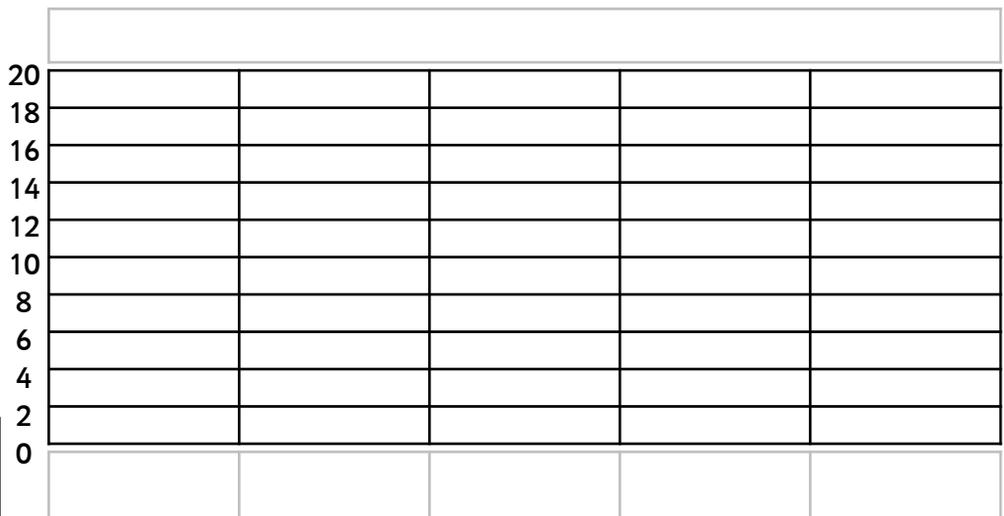
Reasoning and Problem Solving – Year 3 – Consolidation Pack – Expected

"Brilliant!" exclaimed Ms Hawkins. "We could all use the fresh air!" The classes suggested their favourite seaside activities and Mr Jiang pulled five suggestions out of a hat for them to vote on. "We will use this survey to determine which three activities we will spend our day doing," he explained.

3. The classes were surveyed and Victoria recorded the votes on a tally chart. She used her chart to create a pictogram to display how many votes each activity got.

Activity	Votes
Sandcastle competition	卌 卌 卌 I
Swimming	卌 IIII
Penny Arcade	卌 卌 III
Donkey rides	卌 卌 IIII
Kite flying	卌 III

Activity	Votes ☀ = 5
Sandcastle competition	☀ ☀ ☀
Swimming	☀
Penny Arcade	☀ ☀
Donkey rides	☀ ☀
Kite flying	☀

How many students were surveyed?

What mistake has Victoria made on her pictogram?

4. Use the tally chart recreate Victoria's pictogram so it is accurate.

Activity	Votes = 2

"The results are in: we will be enjoying a sandcastle competition, donkey rides on the beach, and a stop at the penny arcade!" Mr Jiang said enthusiastically. The classes buzzed with excitement! The students began designing their sandcastles and the teachers sat down to figure out the cost of the trip.

5. "We need to go on the trip before Friday because that's the last day of school," Ms Hawkins mumbled, "and we can't go on Monday because that's Sports Day." Use the clues to help you fill in the values in the table below.

Day	Child ticket	Adult ticket
Monday		£1 and 25p
Tuesday	75p	£1 and 60p
Wednesday	84p	
Thursday	£1 and 25p	£3 and 50p
Friday		£3 and 50p
Saturday	£1	

- An adult ticket costs twice the amount of a child ticket on Wednesday.

- A child ticket costs the same price on Friday as it does the day before.

- A child ticket on Monday is half the price of a child ticket on Saturday.

- An adult ticket is three times the price of a child ticket on Saturday.

6. Use your completed table to answer the questions below about the trip to the seaside.

When are the most expensive tickets sold?

What is the difference in price between an adult and child ticket on Thursday?

How much will it cost for 10 adults to accompany Year 3 on a trip on Tuesday?

According to Ms Hawkins, on what days can the trip take place?

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1. Ms Hawkin's class chose a day at the zoo, and Mr Jiang's class chose a camping trip.
Accept any reasonable answer for the potential prize.

2.

Year 3 Attendance Reward Votes

Cinema party	Trip to the seaside	Day at the zoo	Swimming party	Camping trip
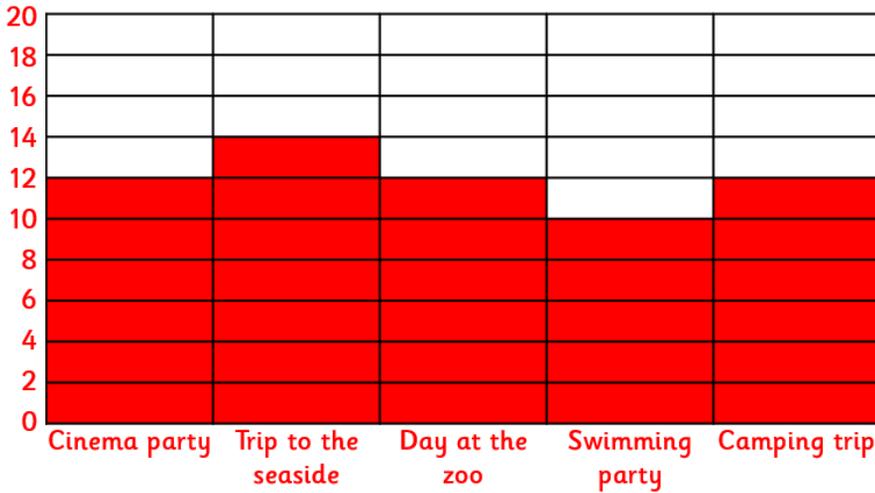
Based on the number of votes, the prize is a trip to the seaside.

3. 60 students were surveyed.

Victoria has used one sun to represent every set of 5, but has left off the single votes from each section.

4.

Activity	Votes ☀ = 2
Sandcastle Competition	☀ ☀ ☀ ☀ ☀ ☀ ☀ ☀
Swimming	☀ ☀ ☀ ☀ ◖
Penny Arcade	☀ ☀ ☀ ☀ ☀ ☀ ◖
Donkey rides	☀ ☀ ☀ ☀ ☀ ☀ ☀
Kite Flying	☀ ☀ ☀ ☀

5.

Day	Child ticket	Adult ticket
Monday	50p	£1 and 25p
Tuesday	75p	£1 and 60p
Wednesday	84p	£1 and 68p
Thursday	£1 and 25p	£3 and 50p
Friday	£1 and 25p	£3 and 50p
Saturday	£1	£3

6. The most expensive tickets are sold on Thursdays and Fridays.
There is a difference of £2 and 25p in the price of adult and child tickets on Thursday.
It will cost £16 for 10 adults to travel on Tuesday.
The trip can take place on Tuesday, Wednesday or Thursday.

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