

# TEACHER NOTES

## Mathematics

### Handling Data / Statistics



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RED FUNNEL

## Contextual Summary

This is a maths resource that engages students with their ferry crossing on Red Funnel ferries. The resource task enables them to practise their data handling skills.

Pupils are asked to read and handle data about the Red Funnel ferries.

The task is designed to appeal to students in upper key stage 2.

## Task Implementation

This resource can be completed in the classroom pre-visit or post-visit. It can also be used as a revision tool or for data handling practice.

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It is anticipated that students will have an enriched experience as they will be reflecting on their school visit activities in a creative way, and this will reinforce how the effective handling of data can provide solutions to problems.

## Ability Levels

This resource is suitable for upper key stage 2 students. There are three versions: one for low ability (in kilometres) and one each for mid and high ability (in nautical miles). The higher resource will require use of a calculator.

### Key skills practised in this unit:

- ▶ Investigating and comparing statistics
- ▶ Asking and answering various mathematical questions relating to given data
- ▶ Identifying appropriate calculation strategies to solve a problem
- ▶ Reading and writing numbers with up to 7 digits
- ▶ Use of a calculator (high ability resource only).

## Relationship to Curriculum

The above skills are required to be taught and practised as per the National Curriculum / Curriculum for Excellence, for upper key stage 2 mathematics: read, write, order and compare numbers up to 1 000 000 and determine the value of each digit; solve number problems.

### SUBJECT

Mathematics

### UNIT

Handling Data / Statistics

### OPPORTUNITIES FOR USE

- ✓ Pre-Visit
- ✗ On-Site Activity
- ✓ Post-Visit

Peripheral Task

### CURRICULUM / SYLLABUS

- ✓ National Curriculum 2014
- ✓ Curriculum for Excellence

Applies to Resource numbered:

1	0	7	3	3	1
1	0	7	3	3	2
1	0	7	3	3	3

## Learning Opportunities

### Pre/Post Visit

- ▶ The tasks are presented in such a way that they can be simplified or made more complex depending on the ability of the pupils.
- ▶ The intention is that the tasks are worked on in mixed ability groups offering opportunity for discussion about processes, operations, strategies and evaluations.

Resource ID: **107331** (KS2U mid-low ability)

**107332** (KS2U mid-high ability)

**107333** (KS2U alternative low ability) - in kilometres rather than nautical miles

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### Enrichment Opportunities

- ▶ There is an opportunity for developing fluency in using mathematical language, especially in making comparisons.
- ▶ The pupils are also given time to create their own presentation of the data collected and calculated.

### Learning Outcomes

- ✓ Students will demonstrate their data handling skills leading to a fluency demanded in the programs of study.
- ✓ They will show evidence of data collection, various recording methods, comparisons and the subsequent use of this data to provide solutions.

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## TEACHER ANSWERS (for low ability sheet)

Which is the newest ferry?

Red Eagle

What is the difference between the age of Red Eagle and Red Falcon ?

2 years

How old is Red Osprey?

20 years old in 2014

Which ferry has had the most recent refit?

Red Falcon (2015)

Which ferry do you think will be next to have a refit?

Red Eagle (last refit was in 2005)

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How many passengers does Red Jet 5 carry?

190

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Which passenger ferry carries the most passengers?

Red Jet 4

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How many fewer passengers does Red Jet 5 carry?

88 (275-187)

Write down the Ferries in order, oldest first.

R Falcon & R Osprey, R Eagle, RJ3, RJ4, RJ5

## TEACHER ANSWERS (for high ability sheet)

1. 875nm (45,500/52)
2. 125nm (45,500/364) OR (45,500/52)/7
3. 77 (4000/52) rounded up to nearest whole number
4. 11 (77/7)
5. 10 hours (11 x 55mins)/60 rounded to nearest whole number
6. 449,650kg = 449.650 metric tons (895 x 70kg) + (215 x 1800kg)

### Red Jets

1. 168.3 nm per day 1178.1 nm per week
2. 119 crossings per week 6188 crossings per year
3. 7 hours (17 x 25) /60 rounded to nearest whole number
4. Red Jet 5  
Red Jet 4  
Red Jet 3  
Red Eagle  
Red Osprey and Red Falcon



10733

Instructions for use in Bingo starter game:

- Use only a 2 or a 3
- Only write one digit in a box
- Fill the boxes **from the right** (starting with U)

HTh	TTh	Th	H	T	U

HTh	TTh	Th	H	T	U

HTh	TTh	Th	H	T	U

HTh	TTh	Th	H	T	U

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HTh	TTh	Th	H	T	U

HTh	TTh	Th	H	T	U

HTh	TTh	Th	H	T	U

HTh	TTh	Th	H	T	U

HTh	TTh	Th	H	T	U

HTh	TTh	Th	H	T	U



Instructions for use in Bingo starter game:

- Use only a 2 or a 3
- Only write one digit in a box
- Fill the boxes **from the right** (starting with U)
- You do not need to use the TTh boxes

TTh	Th	H	T	U
TTh	Th	H	T	U

TTh	Th	H	T	U
TTh	Th	H	T	U

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TTh	Th	H	T	U

TTh	Th	H	T	U

TTh	Th	H	T	U
TTh	Th	H	T	U

TTh	Th	H	T	U
TTh	Th	H	T	U

