

TEACHER NOTES

Mathematics

Working Mathematically - Solving Problems

Contextual Summary

This is a post-visit maths resource that engages students with their visit to Red Funnel ferries. The resource task enables them to practise reading and recording data, creating graphs and charts as well as creating individual solutions to a problem.

Students are asked to complete a maths challenge using the Red Funnel ferries as their stimulus material.

The task is designed to appeal to students of mid-high abilities in key stage 3-4.



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RED FUNNEL

SUBJECT

Mathematics

UNIT

Solving Problems

OPPORTUNITIES FOR USE

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

Peripheral Task

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It is anticipated that students will have an enriched experience as they will be actively involved during the visit and will be able to use the knowledge gained during their school visit activities in a practical way, thus reinforcing these all important mathematical skills.

Ability Levels

This resource is suitable for key stage 3 and 4 students of mid-high ability.

There is one mixed ability resource for key stage one and also one for key stage 2 students.

Page 2 of the resource contains a help sheet that teachers can distribute to those students who need support. Graph paper is also provided on page 3.

Key skills practised in this unit:

- ▶ Reading 24hr timetables to collect data
- ▶ Recording multiple data on a chart
- ▶ Interpolating data from the chart
- ▶ Creating their own response to a challenge.

Relationship to Curriculum

The above skills are required to be taught and practised as per the National Curriculum / Curriculum for Excellence, for key stage 3 and 4 mathematics.



S1-S5

CURRICULUM / SYLLABUS

- ✓ National Curriculum 2014
- ✓ Curriculum for Excellence

Applies to Resource numbered:

107451
107452

Learning Opportunities

Pre-Visit

- ▶ Before the visit, students could revise how to record and interpolate different sorts of data in various graphs.

During the Visit

- ▶ Students can be given a copy of the Red Funnel ferry timetable. They should be able to find the times of the ferries used for the visit.

Post-Visit

- ▶ Students to complete tasks within the Mathematics resource linked to this document: *Ferry Crossing Maths Challenge!*

Resource ID: [107451](#) (KS3 mixed ability) [107452](#) (KS4 mixed ability)

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- ▶ They subsequently interpolate required data to complete the task.
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- ▶ It is hoped that students will use their own resourcefulness and creativity to solve the problem with as little help as possible from adults.

Enrichment Opportunities

- ▶ Students use what they have learned about the ferry crossing (including positioning) to help them solve a problem using mathematics.

Learning Outcomes

- ✓ Students will demonstrate evidence of various skills in the collection and handling of data.
- ✓ Moreover, they will demonstrate their understanding of data handling, and recording.

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