

Activity Plan & Guidance (KS2 & KS3)

Overview: As a group, learners will explore the calculations used to prepare for a canal journey. In pairs, they will plan their own holiday according to provided specifications (family size and budget).

Learning Objectives

- To consider the mathematical elements involved with planning a narrowboat journey/holiday.
- Use formulae to solve calculation problems i.e. $\text{Time} = \text{distance} \div \text{speed}$.
- To conduct monetary calculations and budgeting.

Resources

- Birmingham Holiday on the Water PowerPoint Presentation
- Birmingham Holiday on the Water Activity Pack (factfile & printables)
- [Canal & River Trust Black Country ring map](#)

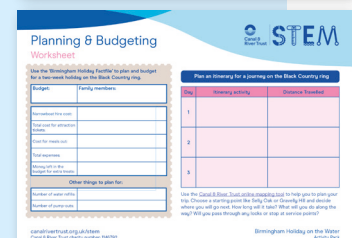
Activity

- Starter**
- Use the 'Birmingham Holiday on the Water PowerPoint Presentation' to introduce the topic of narrowboat holidays and canal cruising. As a class, use slides 6 & 7 to problem solve how long it will take to travel a specific stretch of the Birmingham & Fazeley Canal. The slides contain notes to support you through each step.
 - Use slides 8-10 to perform a similar calculation for cruising the whole Black Country ring.
 - Use slides 11-13 to encourage students to think about other aspects of canal cruising and introduce the planning & budgeting task.

- Prepare the task**
- Cut up the cards for the planning & budgeting task. There are 16 budget cards and 16 family cards. These could be put into containers for students to pick their own at random or distributed by the teacher.
 - Print out the 'Planning & Budgeting Worksheet' from the activity pack.
 - Display the 'Birmingham Holiday Factfile' for the class to see.



- Run the Task**
- Split the class into pairs or small teams. Each pair should be given a budget card and a family card along with a 'Planning & Budgeting Worksheet'.
 - Students use the 'Birmingham Holiday Factfile' to plan and cost-up a two-week holiday for their given family, cruising the Black Country ring.
 - Challenge students to create the best holiday they can for their budget. They should aim to visit different Birmingham attractions and have some meals out.
 - Students should complete the 'Planning & Budgeting Worksheet' with their final figures (the reverse side or scrap paper can be used for working-out).
 - Students should then complete an itinerary grid to plan out **3 days** of the holiday. Use the [Canal & River Trust map](#) or other online mapping tool to help them to plan their journey. Encourage students to **estimate** the distances they will travel and how long it will take. Ask students to look out for locks and service points to stop for water or to 'pump-out'. Click the red *i* on the map interface for a symbol key.



Differentiation

- Some learners may need you to model an example itinerary entry. Alternatively, you may wish to do the same journey as a whole class and start from a canal location near to your school. Display the route on the whiteboard using the [Canal & River Trust map](#).
- Other learners may prefer to work more independently and choose their own starting point.
- Some learners will be able to add in extra time for passing through locks or stopping off at services.
- For a more advanced task remind students that in busy urban areas cruising can take 25% more time. Ask students to adjust their cruising time for urban areas like Birmingham City Centre.

Suggestions

- Ask each team to present their holiday to the rest of the class. Encourage them to describe their family, their budget and what they were able to do on their holiday. How much money did they have left over?
- You could ask students to also research what other attractions there are along the the Black Country ring and how much they would cost for their family to visit. How about suggesting a visit to the Grand Theatre in Wolverhampton? How much would the tickets cost for their family?

Plenary

- Ask learners to use the [Canal & River Trust map](#) to count up locks, bridges and waste points along two or three different canals on the Black Country ring. Click the red *i* on the map interface for a symbol key. Ask learners to produce a bar chart or pictogram to compare the different canals.

Curriculum Links

KS2 Maths (Measurement):

- Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate.
- Pupils could be introduced to compound units for speed, such as miles per hour, and apply their knowledge in science or other subjects as appropriate.

KS3 Maths (Number):

- Use standard units of mass, length, time, money and other measures, including with decimal quantities.

KS3 Maths (Ratio, proportion and rates of change):

- Use compound units such as speed, unit pricing and density to solve problems.

Useful Websites and Resources

- [Build a Canal Learning Bundle](#)
- [How a Lock Works video](#)
- [Birmingham Canal Navigations Information](#)
- [Google Maps](#)
- [On the Go Map](#) (A useful tool for plotting cycling and walking routes)