

River Flow Maths Problems 2

During your visit to our Discovery Centre you were Welsh Water Ecologists surveying the river, studying its flow, and assessing pollution levels. Welsh Water takes water from the river, cleans it and sends it through pipes to our taps. Welsh Water also cleans our waste water to make sure we don't pollute the rivers. Think back to your trip to the River Taff. We visited the River Taff and timed our dog biscuits.

Work out these averages for other groups visiting the river and decide whether they were throwing their biscuits into the middle of the river or at the bank.

Challenge: Add up without a calculator!

| | Try 1 | Try 2 | Try 3 | Average time (s) | Bank/Middle |
|---------|-------|-------|-------|------------------|-------------|
| Group 1 | 3.56 | 2.12 | 2.89 | 2.86 | Middle |
| Group 2 | 9.28 | 8.12 | 11.85 | | |
| Group 3 | 12.54 | 10.02 | 11.55 | | |
| Group 4 | 14.18 | 9.45 | 11.24 | | |
| Group 5 | 2.47 | 1.79 | 3.05 | | |
| Group 6 | 3.56 | 1.12 | 3.48 | | |
| Group 7 | 12.15 | 13.05 | 12.89 | | |
| Group 8 | 2.84 | 3.12 | 1.99 | | |

$$\text{Speed} = \frac{\text{Distance}}{\text{Time}} \quad (\text{distance} \div \text{time})$$

Use this formula to answer the questions below. **Challenge: Don't use a calculator!**

| | | |
|---|--|---|
| <p>A car travelled a distance of 900mi and it took 30 hours. What was the average speed? (mph)</p> <p>Tip – to divide by 30 divide by 10 then divide by 3.</p> | <p>A bus travelled a distance of 2400mi and it took 40 hours. What was the average speed? (mph)</p> <p>Tip – to divide by 40 divide by 10 then divide by 4.</p> | <p>A train travelled a distance of 8000mi and it took 50 hours. What was the average speed? (mph)</p> <p>Tip – to divide by 50 divide by 10 then divide by 5.</p> |
| <p>A car travelled a distance of 1100mi and it took 20 hours. What was the average speed? (mph)</p> <p>Tip – to divide by 20 divide by 10 then divide by 2.</p> | <p>Challenge: A bus travelled at an average speed of 45mph for 15 hours. What was the distance travelled?</p> <p>Tip – Can you change the formula above to Distance =</p> | <p>Challenge: A car travelled a distance of 180mi travelling at an average speed of 30mph. How long did it take?</p> <p>Tip – Can you change the formula above to Time =</p> |