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# Crossing The River 1 - Investigation Guide

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Do the task first.

Use this Guide to find out more.

Prepare a report.

## 1. Generalising

- There are 2 children and 50 Adults on one side.  
Explain how to find the number of trips on the river.
- Explain in a different way if you can.
- If there are 2 children and someone told you **any number of Adults**, explain how you would find the number of trips on the river.
- Write an equation that shows how T (number of *Trips*) is worked out from A (number of **Adults**).

## 2. Substituting

Adults (2 chn.)	Trips
19	
20	
35	
128	
319	
1000	

Copy &  
complete  
these  
tables

## 3. Solving - Working Backwards

Adults(2 chn.)	Trips
	37
	65
	21
	476
	75
	1000

Explain as much as you can about how to find the number of adults if you know there are only two children and someone tells you any number for the trips.

## 4. Making Pairs

- Choose any five numbers up to 20 for the adults. (Still 2 children.)  
For each number find the trips and make five number pairs like this: (A, T)
- Choose any five numbers up to 50 that will work for trips. (Still 2 children.)  
For each number find the adults and make five more number pairs like this: (A, T)
- If you do the same calculation in each pair the answer is always 1.  
Explain the calculation.

## 5. Graphing Pairs

- Show your ten pairs from Question 4 on a graph and explain what you see.
- Make one more dot that you think belongs on your graph. Call it **My Dot**.  
Explain the information My Dot gives about Adults and Trips.

## 6. Graphing in Excel

- Use Excel to record your ten pairs in a table.
- Select the table and use it to insert a chart.  
Use the XY (Scatter) graph with the first sub-type.
- Select the chart and choose Chart/Add Trendline. On the Options Tab select Display equation on chart. Explain how this equation links to the calculation in Question 4.

## 7. What happens if...?

- There are 8 adults and 3 children to cross the river. Find out how many trips.
- Investigate the number of trips if you are given any number of adults and any number of children.