Lost logic	Skills practised:
Children use their knowledge of inverse operations to solve a logic problem.	• Calculating using all four operations • Using inverse operations

Conjecture: *It is possible to complete the grid, using just the information given.*

What to do:

Children work individually or in pairs.

Look at this diagram. The numbers in each of the boxes are related to the numbers above, below, to the left and right. Each arrow represents an operation and its inverse, e.g. 2 x 10 = 20, 20 ÷ 10 = 2.

12	⇔	2	÷ 10 ⇔ x 10	20
⇕	■	⇕	■	⇕
3	⇔		⇔ x 5	
⇕	■	⇕	■	⇕ - 5
	÷ 4 ⇔	60	⇔	35

1.   Can you work out all of the **missing numbers** and **operations**?
2.   Are there any numbers or operations that could have more than one answer?

HINT: Some of the answers can be worked out in one go, but others might need you to have a bit of a guess, see what happens and then change your idea to get closer to the answer. This is called 'trial and improvement'.

Aims:
  – To use trial and improvement
  – To use logic to solve a problem
	Minimum number of
	calculations expected
	24

Lost logic

Look at this diagram. The numbers in each of the boxes are related to the numbers above, below, to the left and right. Each arrow represents an operation and its inverse.

12	⇔	2	÷ 10 ⇔ x 10	20
⇕	■	⇕	■	⇕
3	⇔		⇔ x 5	
⇕	■	⇕	■	⇕ − 5
	÷ 4 ⇔	60	⇔	35

1. Can you work out all of the **missing numbers** and **operations**?

2. Are there any numbers or operations that could have more than one answer?

2 x 10 = 20

20 ÷ 10 = 2

? ÷ 4 = 60