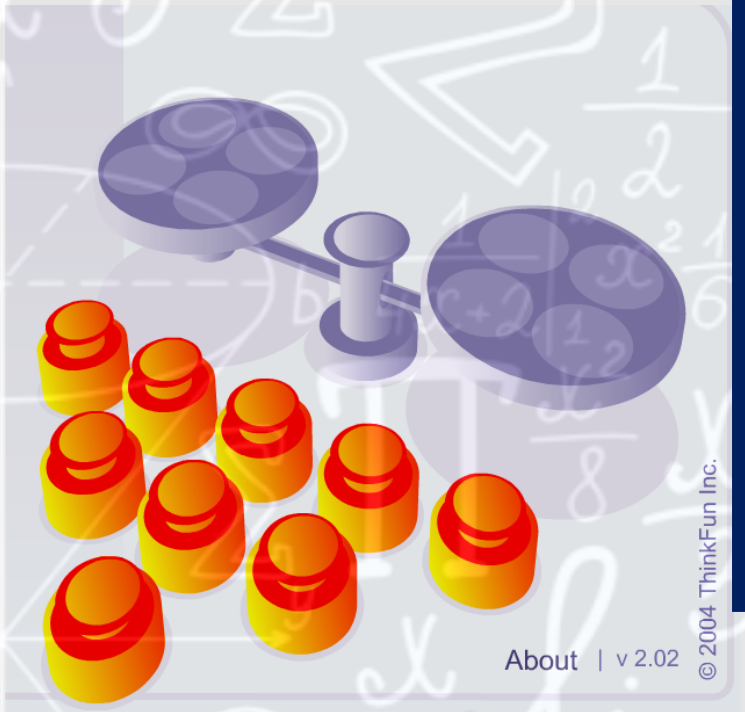
NUMERACY CHALLENGE

ACCESS MATHS

LEVEL 1 LEVEL 2

ACCESS MATHS

NUMERACY CHALLENGE



There are 9 weights, and a set of scales.
Eight of the weights are identical.
One weight is very slightly heavier than the rest.

How can you identify the heavier weight using the scales to weigh **twice only**?

LEVEL 1

ACCESS MATHS

NUMERACY CHALLENGE

1	2	4	8
5	3	2	3
7	7	1	6
2	6	3	9

Cross out two numbers so that all the rows and all the columns add up to a multiple of 5.

LEVEL 2

NUMERACY CHALLENGE LEVEL 1

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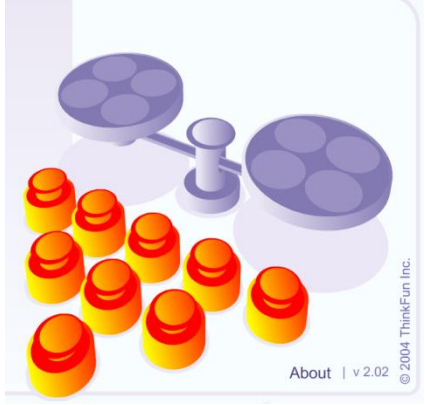

NUMERACY CHALLENGE LEVEL 1

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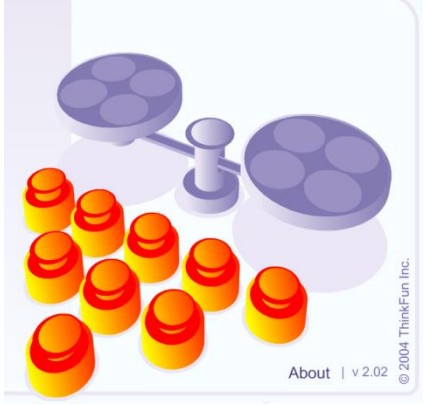

NUMERACY CHALLENGE LEVEL 2

1	2	4	8
5	3	2	3
7	7	1	6
2	6	3	9

Cross out two numbers so that all the rows
and all the columns add up to a multiple of 5.

NUMERACY CHALLENGE LEVEL 2

1	2	4	8
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7	7	1	6
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Cross out two numbers so that all the rows
and all the columns add up to a multiple of 5.

LEVEL 1

Answer:

Put any 6 weights on the scales, 3 on each side.
Your heavier weight is now in **one of 3 groups of 3.**

If the scales balance, the heavier weight is in the group NOT on the scales.
If not, it is in the heavier group.

From the group you now know has the heaviest weight in

Put one of the 3 weights on each side of the scales, and leave one off.
If the scales balance, it's the one off the scales. If they don't balance, it's the heavier one!

LEVEL 2

1	2	4	8	15
5	~~3~~	2	3	10
7	7	1	~~6~~	15
2	6	3	9	20
15	15	10	20	

ACCESS MATHS