Monday: Working Backwards
- When we work backwards we use the inverse operations to 'undo' a calculation. This skill helps you to solve algebra problems when you get older.
- What is the inverse of: a) halving? b) adding? c) dividing?

- Play a I'm thinking of a number game with someone: I'm thinking of a number. I double it, then subtract 5. My answer was 135. What was my number?
- Solve these empty box calculations by working backwards: □ + 578 = 2309   □ x 9 = 270   □ ÷ 4 = 92   □ - £5.99 = £8.76
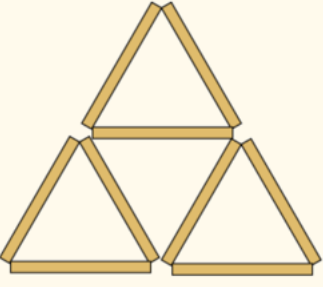
Sticky Triangles

I was exploring a puzzle in which headless match sticks had to be moved to make a different number of triangles.
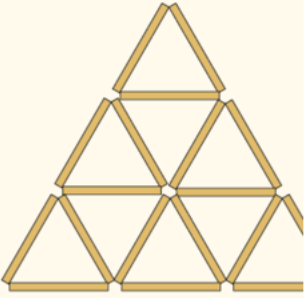
I made one small triangle

3 matches

I made it into 4 small triangles by adding 6 matches.

I added another row and counted the number of small triangles and counted the matches.

How many matches does each triangle in the pattern use?
How can you record your investigation?
What patterns can you see?
Is there a link between the number of rows and the total number of matches?
Is there a link between the number of small triangles and the total number of matches?
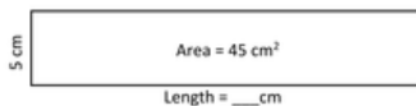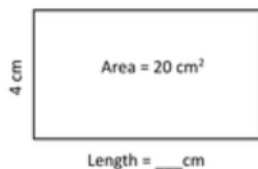Is there a way of predicting how many will be in the 10th pattern without making it?

Thursday: Using algebra for area & perimeter.
- Last Friday you learnt about area & perimeter. The area of a rectangle can be worked out using an algebraic formula: area = length x width. The perimeter of a rectangle can also be worked out: perimeter = (2 x length) + (2 x width)
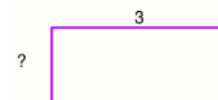- Using this knowledge you can work out missing dimensions on rectangles. Similar to the work on Monday & Tuesday, you will need to substitute what you know into the formula and then work backwards to find the missing information.
- If a rectangle has an area of 36 cm² and the rectangle is 4cm wide, what is its length?
- If a rectangular field has a perimeter of 40 metres and one of the sides is 10m long, how long is the other side?

4 cm

Area = 20 cm²

Length = ____cm

5 cm

Area = 45 cm²

Length = ____cm

Find the missing side length, when the perimeter is 20.

3

?

Plenty of Pens

rainbow pens = 15p each
plain pencils = 10p each

15p

10p

BRONZE: Amy went into the shop with £2.50 to spend. She left with 40p change and some pencils. How many pencils did she buy?

SILVER: Emily went into the shop with £2.50 to spend. She left with 40p change and bought a mixture of pens and pencils. How many of each might she have bought? Can you find more than one solution?

GOLD: Jenny went into the shop with £2.50 to spend. She left with 40p change. She bought four times as many pens as she did pencils. How many of each did she buy?