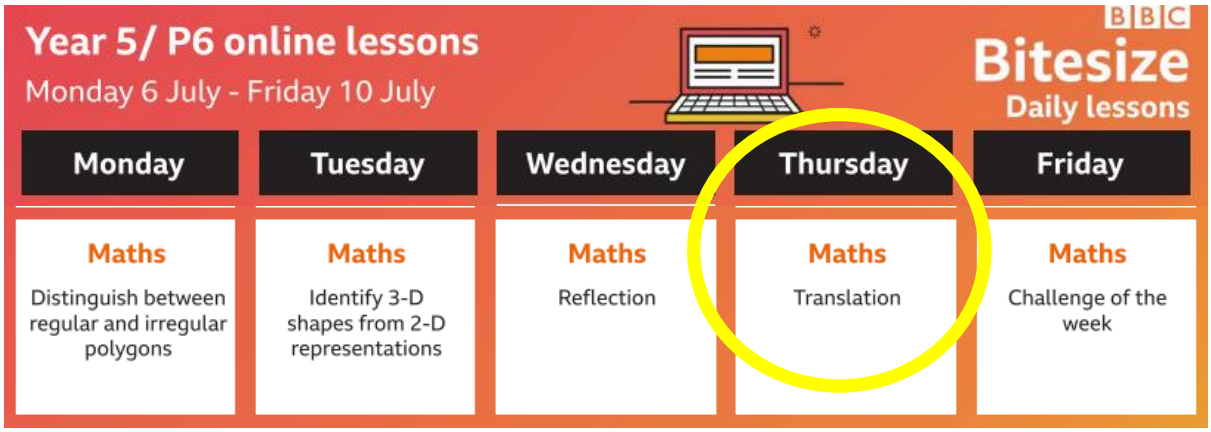
Summer 2 Week 6 Maths Day 4

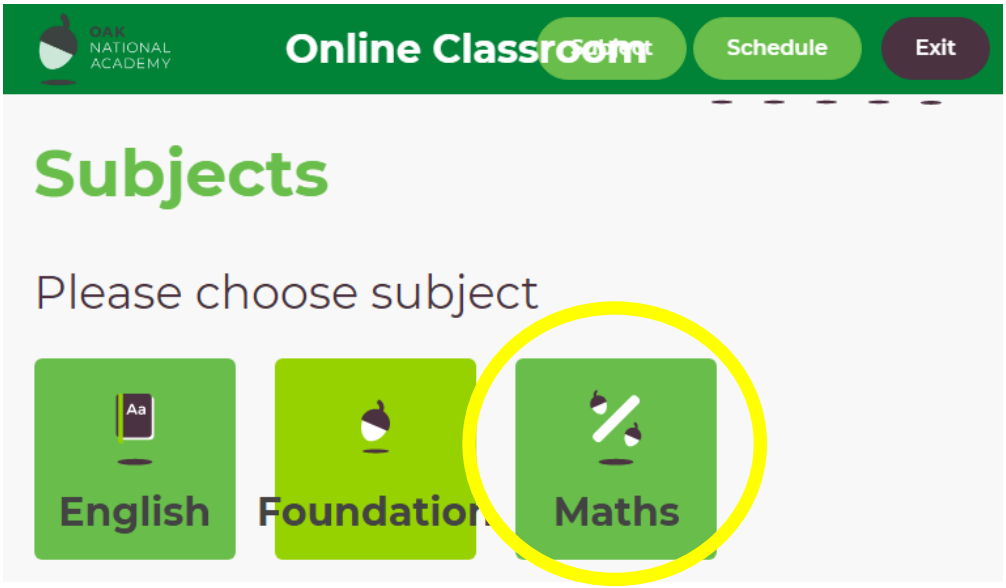
Try BBC Bitesize for daily lessons

https://www.bbc.co.uk/bitesize/dailylessons



Try the National Academy online classroom for lessons

https://www.thenational.academy/online-classroom/year-5/#subjects



Don't forget TT Rockstars!

https://play.ttrockstars.com/auth/school/student

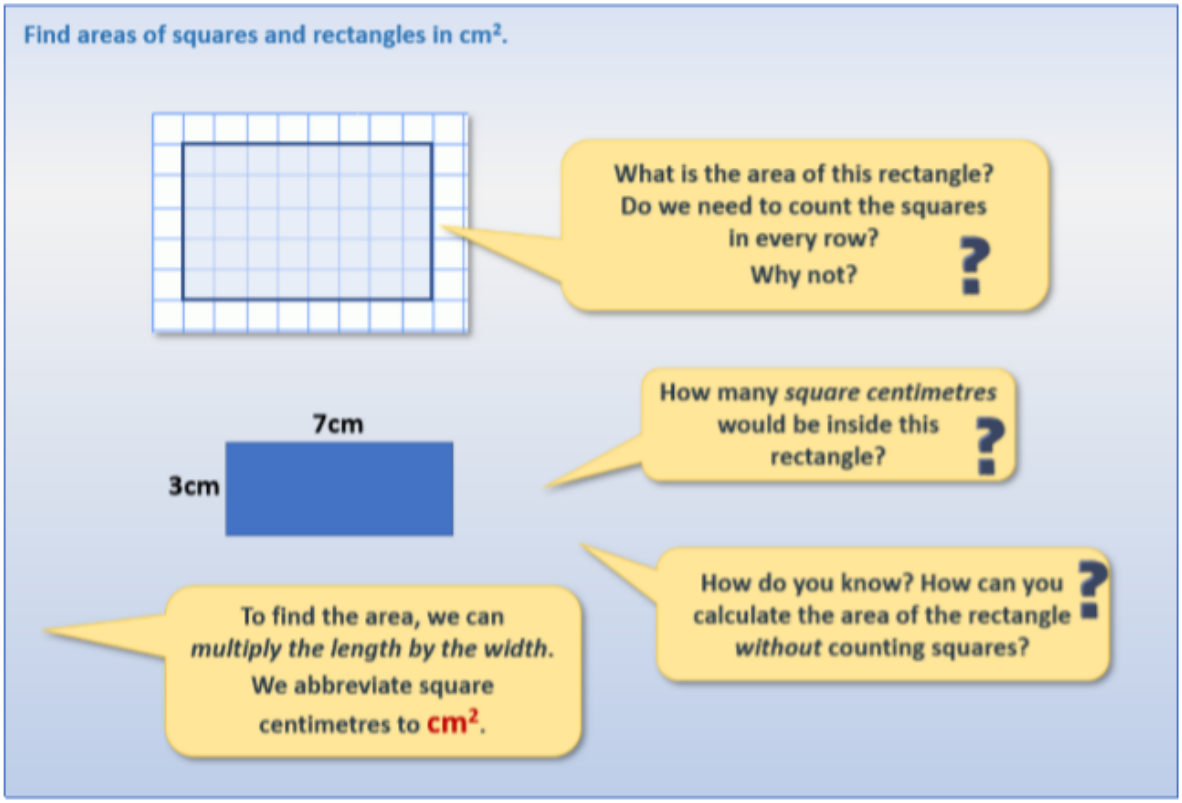
Summer 2 Week 6 Maths Day 4

Find areas of squares and rectangles in cm^2.

Each day covers one maths topic. It should take you about 1 hour or just a little more.

1. Look at the learning reminders.
2. Complete 'Mild' or 'Hot' practice questions
3. Finding it tricky? Have a look at 'A bit stuck' and ask a grown up
4. Completed the practise sheets? Try the investigation!

Learning Reminders



Summer 2 Week 6 Maths Day 4

Find areas of squares and rectangles in cm^2.

If the school hall was having a new floor and the price was based on its area, how could we calculate the area?
Would we measure it in square centimetres?

The hall's length and width would be measured in metres, so the area would be a number of square metres, m^2.

$12m^2$, $120m^2$, $12cm^2$, $28cm^2$, $100mm^2$, $28mm^2$

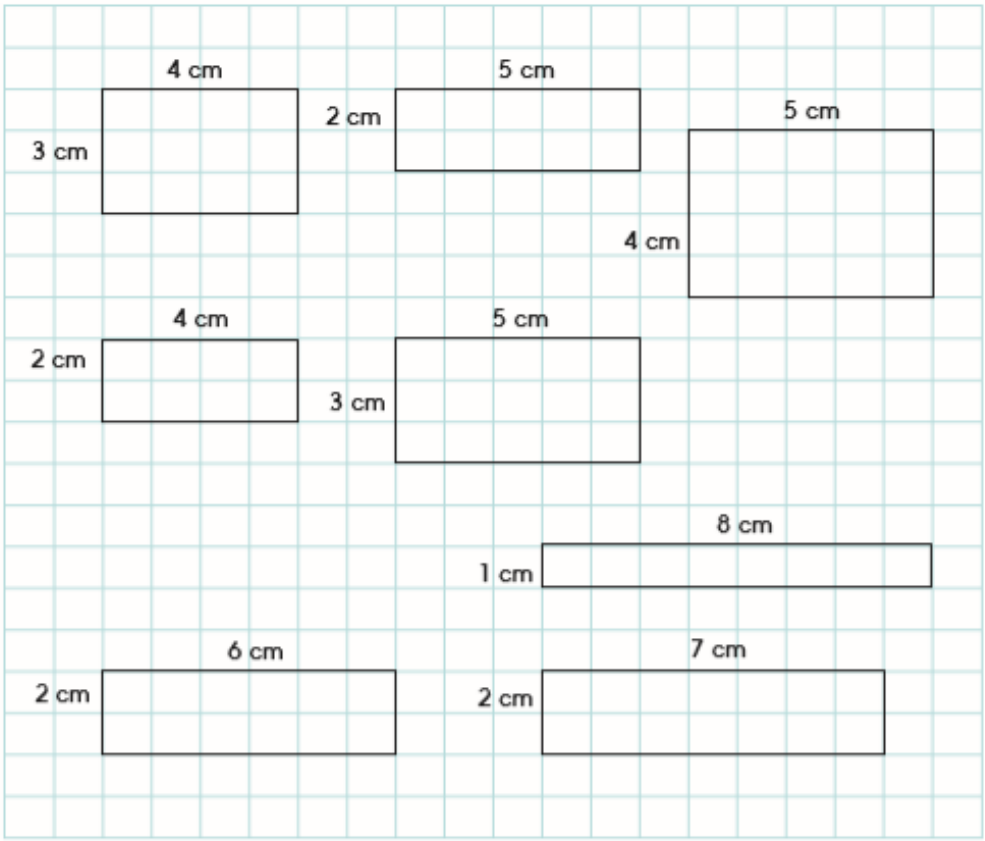
Which of these could be the area of a bedroom floor?
The surface area of a little finger nail?
One face of a credit card?

Answers
Finger nail is $100mm^2$
Credit card is $28cm^2$
Bedroom floor is $12m^2$

Practice Sheet Mild
Finding areas of rectangles

Work out the areas of all these rectangles.

Write the answer inside each rectangle.

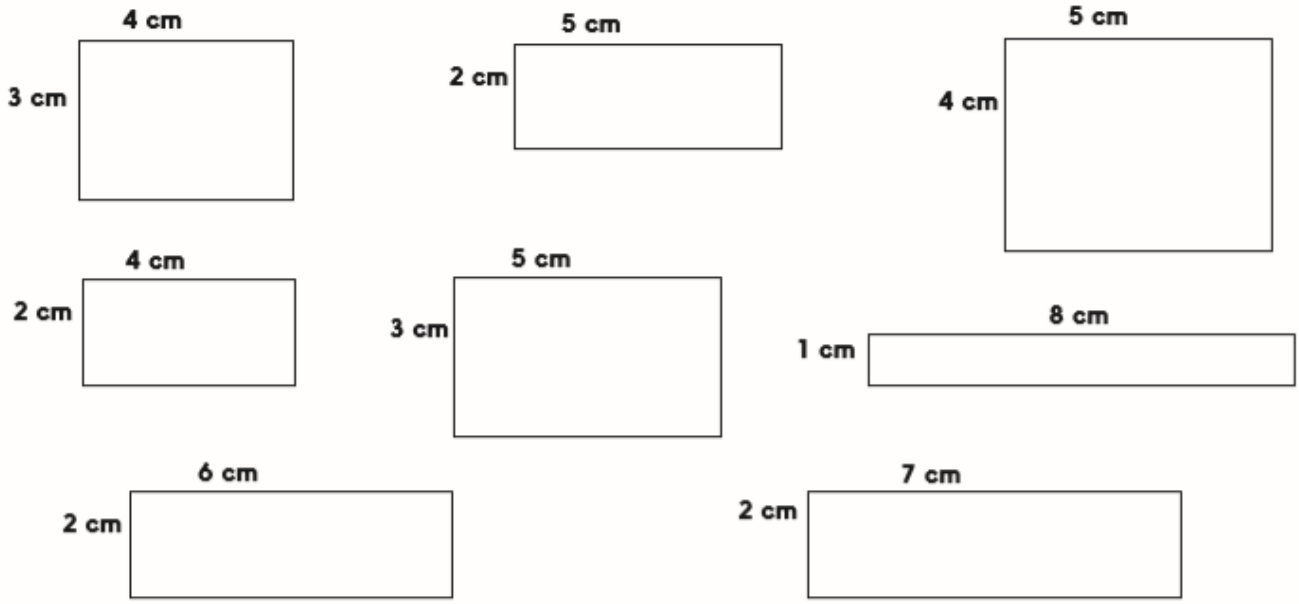


milton Trust. Explore more Hamilton Trust Learning Materials at https://urht.org.uk/hamilton

Summer 2 Week 6 Maths Day 4

Practice Sheet Hot
Finding areas of rectangles

Work out the areas of all these rectangles. Write the answer inside each rectangle.



Challenge

Draw at least three different rectangles with an area of 24cm². Which has the greatest perimeter?

A bit stuck?

Rapid rectangles

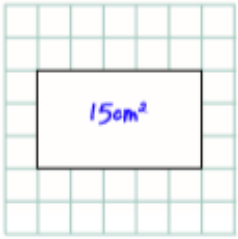
Summer 2 Week 6 Maths Day 4

Work in pairs, but draw and label your own rectangles

Things you will need:
- 3-6 cards and 2-9 cards
- cm^2 paper
- A ruler
- A pencil

What to do:

- Write 'Across' on the top left of a piece of paper, and 'Down' on the top right side.
- Shuffle a set of 3, 4, 5 and 6 cards and place face down under the title 'Across'. Shuffle a set of 2 to 9 cards and place face down under the title 'Down'.
- Turn the top card over in each pile.
  Draw a rectangle on the squared paper. The first card tells you how far across the rectangle needs to go.
  The second card tells you how far down the rectangle needs to go.
- How many squares are in the top row?
  Use clever counting to work out the area of the rectangle.
  Write the area inside the rectangle.



S-t-r-e-t-c-h:

Work out the areas of these two rectangles:
Now check your answers by drawing them on squared paper.

Learning outcomes:
- I can use 'clever counting' to find the area of a rectangle.
- I am beginning to calculate the areas of rectangles not drawn on squared paper.

Summer 2 Week 6 Maths Day 4

Summer 2 Week 6 Maths Day 4

2	3	4	5	6

	2	3	4	5
6	7	8	9	

Summer 2 Week 6 Maths Day 4

Investigation

Investigating area and perimeter

Things you will need:

- Centimetre squared paper

Remember

The perimeter is the distance around all sides of a 2-D shape.
To find the perimeter of a rectangle, add the length and width, then double.

e.g.

Perimeter is (7cm + 3cm) doubled
so, perimeter= 20cm
Area is 3cm x 7cm = 21cm^2

- Use the squared paper to draw a rectangle 16cm by 8cm.
- What is its perimeter?
- Now draw as many rectangles as you can with a perimeter of 48cm.
- Each side should be a whole number of centimetres.
- Find the area of each. Which has the largest and which the smallest area?
- List the rectangles systematically, starting with the one with the longest length, what do you notice?
- What is the maximum and minimum possible areas for a rectangle with a perimeter of 48cm?

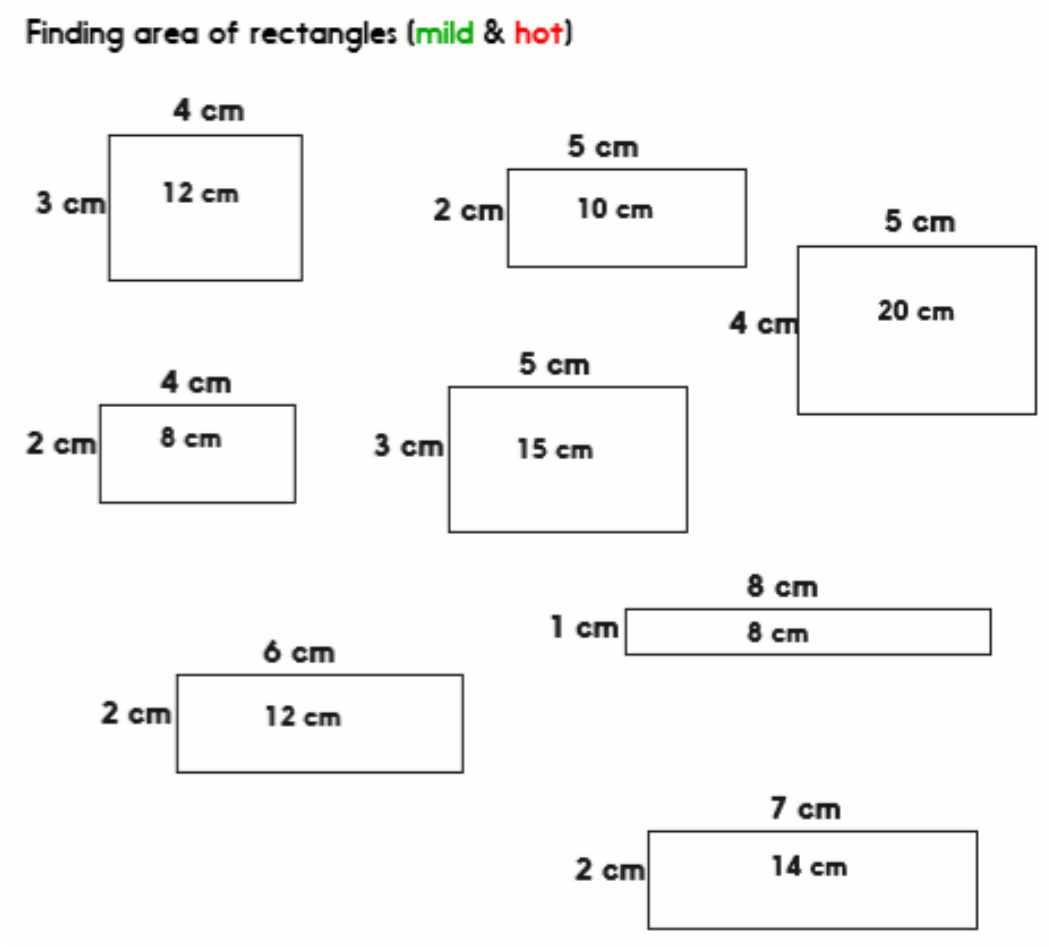
Summer 2 Week 6 Maths Day 4

Challenge

A farmer has **60m** of fencing in 1m pieces. What is the largest rectangular area he can create for his chickens?

For a perimeter of 48cm, where each side is a whole number of centimetres, the greatest area is 144cm² (for a 12 × 12 square); the least is 23cm² (for a 1 × 23 rectangle).
For a perimeter of 60m, the largest rectangular area is a square measuring 15m x 15m (225m²).
The largest area ***possible*** with 60 x 1m straight pieces of fencing is actually a 60-sided regular polygon!

Summer 2 Week 6 Maths Day 4

Summer 2 Week 6 Maths Day 4

Answers