Discussion Problems
Step 2: Counting Squares

National Curriculum Objectives:

Mathematics Year 4: (4M7b) Find the area of rectilinear shapes by counting squares

About this resource:

This resource has been designed for pupils who understand the concepts within this step. It provides pupils with more opportunities to enhance their reasoning and problem solving skills through more challenging problems. Pupils can work in pairs or small groups to discuss with each other about how best to tackle the problem, as there is often more than one answer or more than one way to work through the problem.

There may be various answers for each problem. Where this is the case, we have provided one example answer to guide discussion.

We recommend self or peer marking using the answer page provided to promote discussion and self-correction.

More Year 4 Area resources.

Did you like this resource? Don't forget to review it on our website.

Counting Squares

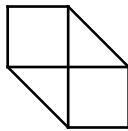**1. Brad the Builder is designing a driveway.**

The customer has decided that they want to use a combination of bricks A, B and C to fill their drive.

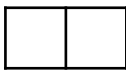**Brad knows that the drive has a total area of 30 squares and is a rectilinear shape.**

> **I need to make sure the combination of bricks that I choose covers the whole area of the drive!**
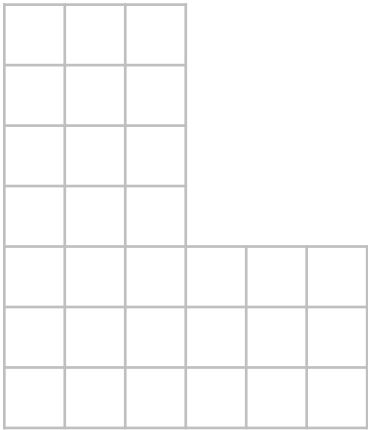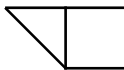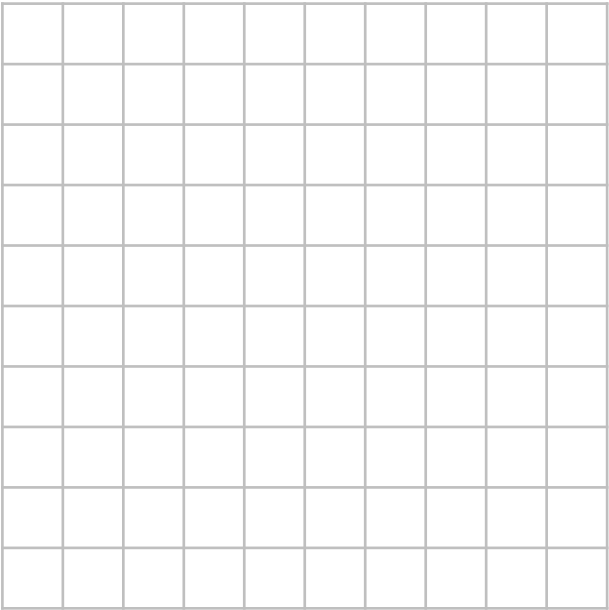
Brick A　　　　**Brick B**　　　　**Brick C**

Investigate the different combinations of bricks A, B and C that can be used to cover the driveway. You can rotate the bricks to fit in the shape.

DP

2. Using the clues below, draw a house on the grid.

> **1. The total area of the windows is between 4 and 10 squares.**
>
> **2. The total area of the door is less than 7 squares.**
>
> **3. The house can be no more than 8 squares wide and 6 squares tall, not including the roof.**
>
> **4. The roof uses at least 4 half squares.**

Explore the different house designs that can be made and their total area.

DP

Counting Squares
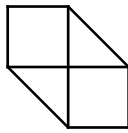
1. Brad the Builder is designing a driveway.

The customer has decided that they want to use a combination of bricks A, B and C to fill their drive.

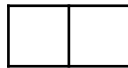Brad knows that the drive has a total area of 30 squares and is a rectilinear shape.

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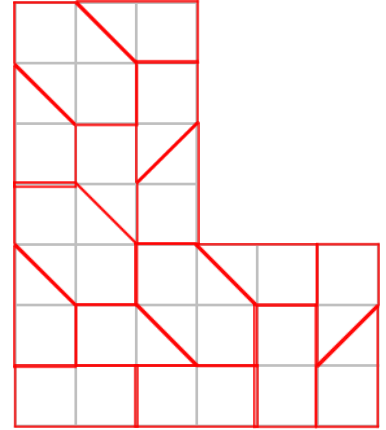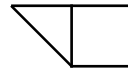
Brick A   **Brick B**   **Brick C**

Investigate the different combinations of bricks A, B and C that can be used to cover the driveway. You can rotate and flip the bricks to fit in the shape.

Various answers, one example is shown above.

DP

2. Using the clues below, draw a house on the grid.

> 1. The total area of the windows is between 4 and 10 squares.
>
> 2. The total area of the door is less than 7 squares.
>
> 3. The house can be no more than 8 squares wide and 6 squares tall, not including the roof.
>
> 4. The roof uses at least 4 half squares.
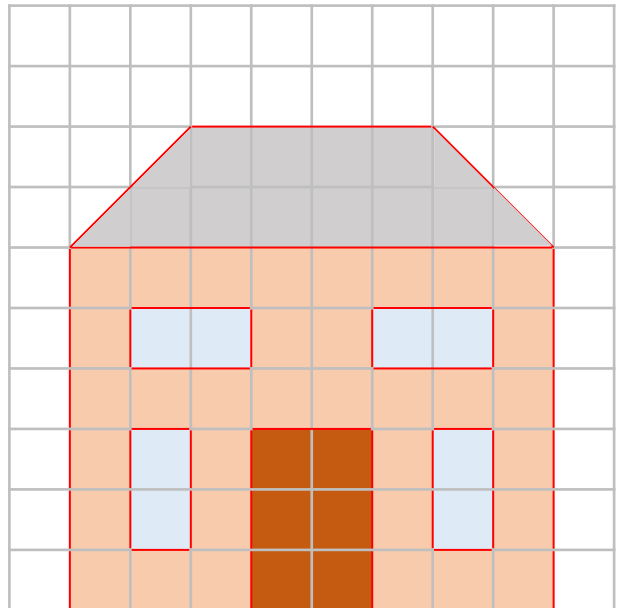
Explore the different house designs that can be made and their total area.

Various answers, one example is shown above. The total area of the house is 60 squares.

DP