

BBQ burnout

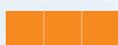
Goal: to practise arranging, manipulating and combining 2D objects or shapes

You need

- > 15 plastic lamb chops



- > 15 plastic sausages



- > 4 plastic BBQ plates (6x4; 8x4; 5x5; 9x5)
- > grid paper
- > a non-permanent marker
- > 1 or more participants



What to do

1. Using **3 chops AND some sausages** cover the **6x4** BBQ plate so there are no gaps or overlaps left on it. (They mustn't hang over the edge!)
How many sausages did you need?
2. Draw your results on the grid paper.
3. There are other ways to arrange these 3 chops and sausages on the BBQ plate.
How many different ways can you find?
4. Are there different **combinations** of chops and sausages that fit on the 6x4 BBQ plate? (That is, use different numbers of chops and sausages.)

Challenge yourself further

- > Repeat the above steps using different sized BBQ plates (eg the 9x5 plate).
- > What happens when you use a square BBQ plate (5x5) rather than a rectangular one (6x4; 8x4; 9x5)?

Where the task came from

Whether it's for a family get-together, a birthday party or just an evening meal during the summer, barbeques can be regular events. Lots of food needs to be prepared quickly for hungry mouths.

The numeracies include...

- > applying spatial reasoning and logic to cook a barbeque efficiently.

The mathematics include...

- > analysing and understanding the uses and purposes of flips (reflection), slides (translation) and rotations to explore geometric relationships and alternative preferred possibilities in the physical world
- > developing understanding of perimeter, number, fractions, patterning.

Curriculum framework key ideas

- > developing understanding of the four operations (addition, subtraction, multiplication and division) and the relationships between them. Learners use mathematical terminology, symbols and conventions to communicate their understanding to others
- > understanding and appreciating the extent to which shape and structure help make sense of the world
- > exploring and communicating the ideas and language of geometric change and transformation. Learners use combinations of mathematical transformations
- > developing capacity to think about and describe geometrical form, using a variety of spatial attributes, in more abstract and precise formulations
- > exploring and analysing features in the immediate and extended environment in geometric terms. Learners compare perspectives of spatial sense and geometric reasoning in order to understand different human interactions with the environment

Educator options

- > Monitor and assess to inform future practice:
 - what questions are the learners asking?
eg 'If I have x chops, how many sausages will I need?'
 - what do you hear the learners talking about?
eg covering the plate with just chops or just sausages
 - what strategies are the learners using? *eg making regular shapes first (ie 2 chops together to make a rectangle); working out the formula; using trial and error.*
- > Have a barbeque!
- > Discuss with learners where else these skills and strategies could be used (eg garden beds, biscuit trays, tiling).
- > Suggest learners reconfigure their arrangement by flipping the chops and sausages.
- > Some of the mathematics are linked to pentominoes and tessellations.
Pentominoes: Shapes made by joining 5 squares, where the squares are joined by edges (not corners only) and there are no gaps or overlaps.
Tessellations: Patterns of shapes that fit together without any gaps or overlaps.
- > Use a formula to work out different combinations eg (no. chops \times 4) + (no. sausages \times 3).

Learner options

- > Explore other food shapes to put on a different sized barbeque plate.
- > What if no-one likes chops? How many sausages can you cook at the one time?
- > Which sized plate will cook the most chops?



Link to CD: Family organisation
> Next > Catering

Digital tasks software:
BBQ burnout

