



THEBP Number Partners Challenge 2016 Partner Tip Sheet



Round Two: Playground Shapes

This challenge looks at measurement and regular shapes. You should **spend no more than 30 minutes** on the challenge as a whole – try and get as far as you can, but incomplete entries can still be submitted. The extension question is especially brain-bending!

You will need:

- Entry sheet
- Scrap paper/grid paper for your working out



All of the activities featured in the challenge this year are adapted from resources from nrich at the University of Cambridge - <http://nrich.maths.org>

Playground Shapes

Sumona and Ben went outside school to draw some large shapes on the playground with chalk. Teams must work out how many of each shape was drawn using the following statements.

1. None of the shapes shared sides with any other shapes.
2. The children each had a box of ten sticks of chalk. Each stick drew 10 metres before it was completely worn away.
3. Both of them drew shapes with all sides measuring one metre long.

Sumona drew squares and octagons, sixteen shapes altogether, and used up all her chalk. How many of each shape did she draw?

For groups that are able, there is an extension question which will enable them to earn bonus points.

Ben drew triangles, hexagons and squares. He drew 20 shapes and still had two sticks of chalk left. How many of each shape did he draw?

Tips for volunteers

- Ask pupils to calculate the number of sides that Sumona can draw in total if she used all of her chalk, e.g. 10 pieces of chalk, each can draw 10 metres.
- If Sumona only drew squares, how many could she draw? Work from here to swap squares for octagons until you have 16 shapes in total.
- Encourage them to be methodical; draw the shapes as you go or record workings out in a table.
- Discuss the properties of each of the shapes mentioned in the problem.

Send your entry to:

Anita Kessie, Curriculum Project Coordinator

Email: Anita.Kessie@thebp.co.uk

Fax: 020 7375 2323

Tower Hamlets Education Business Partnership

First Floor, Norvin House

45-55 Commercial Street

London, E1 6BD

Final deadline for all three activities is Friday 20th May 2016.



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Round Two: Playground Shapes

Sumona went outside school to draw some large shapes on the playground with chalk.

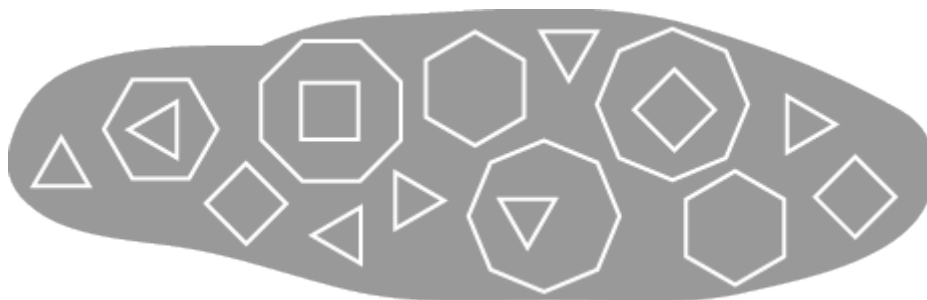
1. None of the shapes are touching.
2. Sumona used a box of ten sticks of chalk. Each stick drew 10 metres before it was completely worn away.
3. She drew shapes with all sides measuring one metre long.
4. Sumona drew only squares and octagons, sixteen shapes altogether, and used up all her chalk.

How many of each shape did she draw?

Use the grid paper to draw the shapes if you want to. How could you record your workings out? Think about how many sides each shape has.

Extension question (if you have time)

Ben joined Sumona outside, with another box of ten sticks of chalk. He drew triangles, hexagons and squares. He drew 20 shapes and still had two sticks of chalk left. How many of each shape did he draw?



Tips

- If Ben used 80 metres of chalk, and only drew squares how many would be on the playground?
- Now replace squares for triangles and hexagons adjusting as you go, until you have at least one of each shape and 20 shapes in total.
- More than one combination is possible, but you only need to give one answer.



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Team Entry Sheet Round Two

Team Name:		
School Name	Pupil Names	Volunteer Company

How many sides to each of the shapes have?	Square	
	Octagon	
	Triangle	
	Hexagon	/4
How many of each shape did Sumona draw?		/2
Using the grid paper, draw accurately each of the shapes listed above.		/5

Extension

How many of each shape did Ben draw? (More than one combination is possible but you only need to show one)		/3
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TOTAL SCORED	/14
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Don't forget to submit this entry form!

Don't forget to tweet us during the Number Partners Challenge – why not send us photos of your team taking part, feedback on the activities or some encouragement for your team using #CountMeIn @NumberPartners

Send your entry to:

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