3rd and 4th Class Resource Pack for Maths Week

This pack contains five activities that are suitable for either 3rd or 4th class pupils. The numbers in the questions may have to be adapted to suit the class and the time of year that they are completed. These five activities are suitable for use in the classroom but can be adapted for use outdoors.

Prior to completing the activities teachers should pre-plan their questions ensuring that the questions they ask will promote mathematical thinking. Examples of questions are given with each activity but the list below also shows some question stems:

- ⇒ Explain how you….
- ⇒ What would happen if I changed this number….
- ⇒ Is there another way you could do it? Show me.
- ⇒ If you did it again what would you do differently/keep the same?
- ⇒ Draw it.

One of the main emphasis of these activities should be on **language** and allowing pupils to talk about what they are doing using the correct mathematical vocabulary. The teacher needs to lead by example by always modelling the correct language and reason their own mathematical thoughts out loud.

Remember to register your school at www.mathsweek.ie and check for any events that may be happening in your area!

Activity 1:

Digging Deep

Resources: A variety of concrete resources to support pupils

Strands: Addition, subtraction, multiplication and division

Activity: Give this problem to students and allow them time to explore how they need to solve the problem. Use the questions below as prompts if they are unsure what to do next. Display the problem and read it aloud: A snail falls into a well that is 12 m deep. Every day he climbs up 2 m but each night he slips back down 1 m. How long will it take the snail to crawl out of the well?

Questions: At the end of the first day how far had the snail climbed?

What about at the end of the second day?

On what day was the snail half way out of the well?

Challenge Questions:

* Could you write down what you did using an equation?
* What distance did the snail travel in total? (Remember to add the amount he slipped as well!)

Variations:

1. Change the measurements, for example, to 30 m deep, he climbs 3m each day and slips 2 m, how long will it take him now to crawl out of the well?

Activity 2:

Shapes, shapes, shapes

Resources: A selection of 2-D shapes, branching database template

Strands: Data, shape and space

Activity: This task looks at the similarities and differences between 2-D shapes. Explain to pupils that we are going to use a branching database to sort the shapes. A branching database uses questions to help distinguish the shapes. Show pupils the branching database template and read the first question. Ask pupils to decide where the shapes should go and sort them accordingly. Some pupils could complete the branching database independently and others may benefit from working in pairs or in a teacher led group. Continue to sort all the shapes according to the questions provided.

Questions: Why does this shape not go over there?

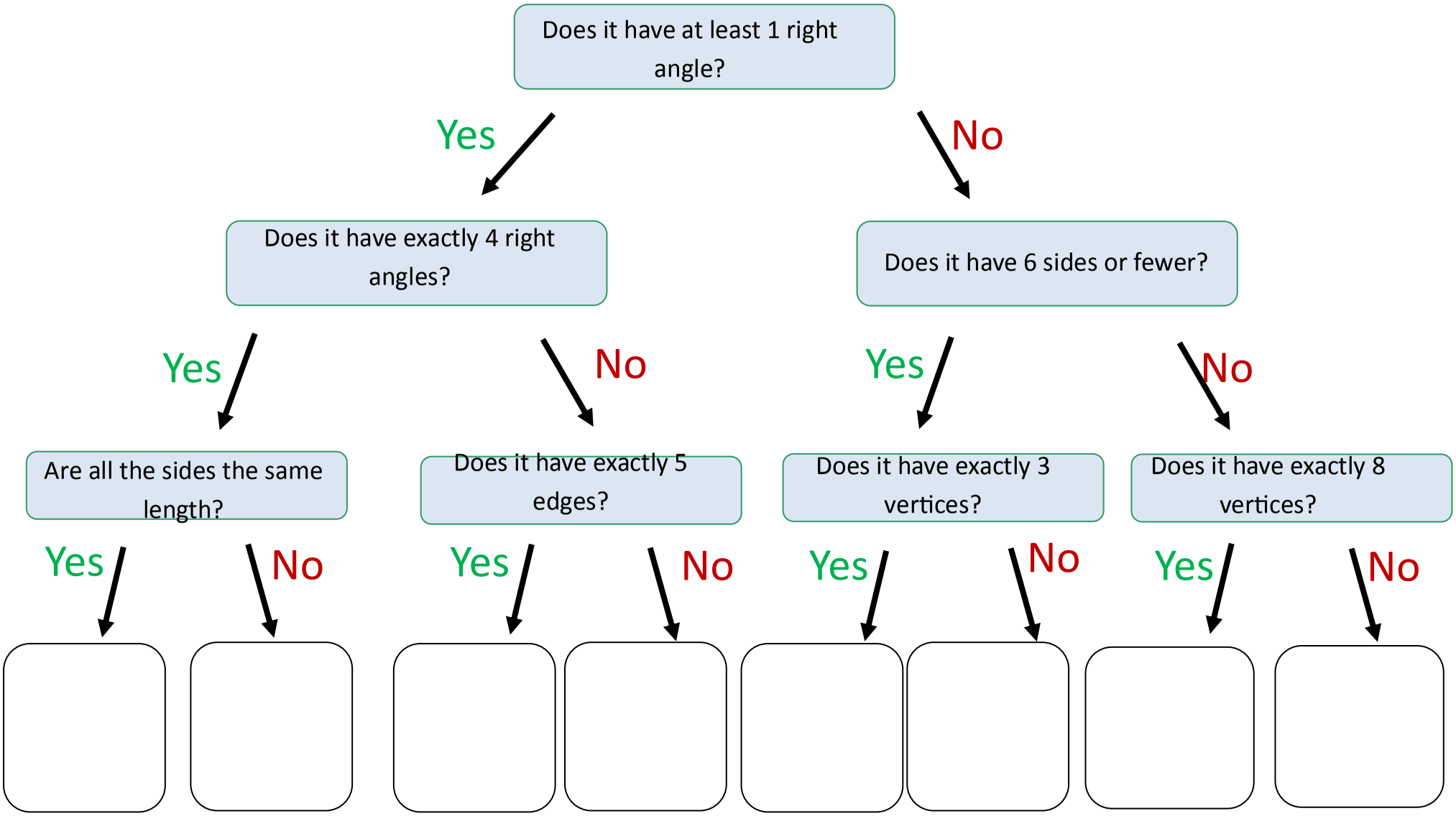
What's the same and what's different between these two shapes?

Challenge Questions:

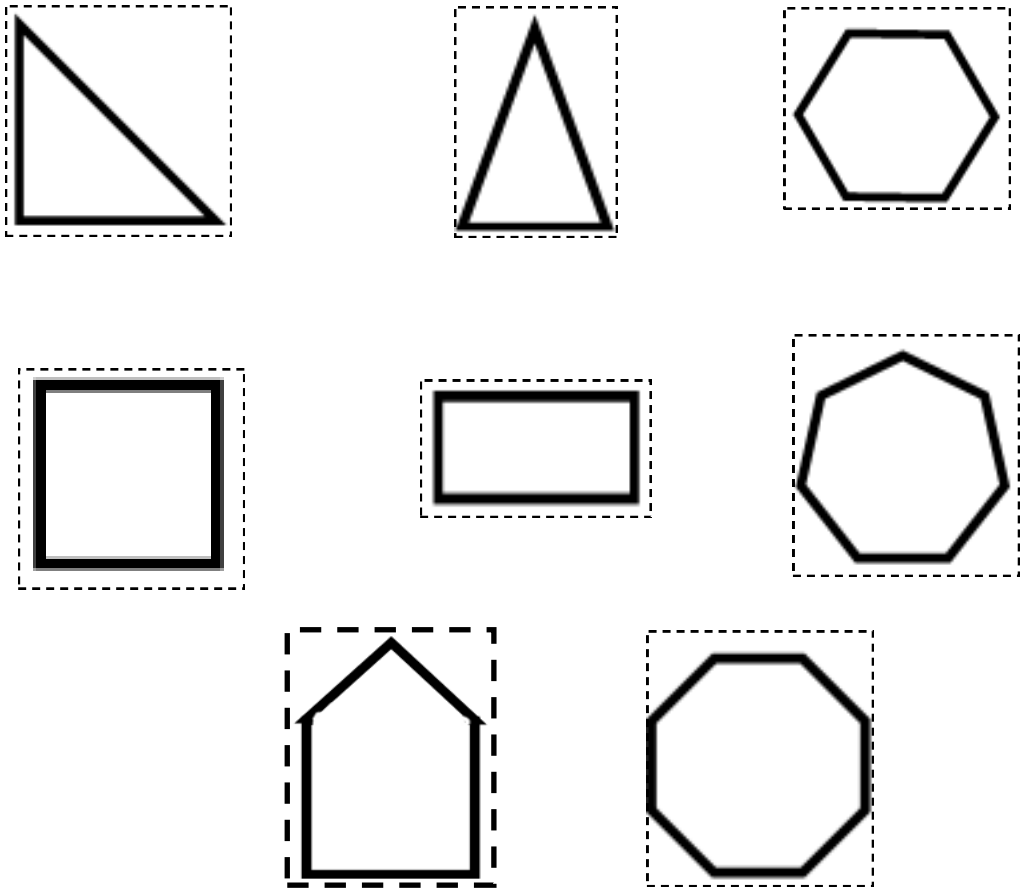
* What other shapes, that are not here, could fit into this branching database?
* Could you sort the shapes and questions a different way?

Variations:

1. *Pupils could have some or none of the questions placed on the branching database so that they need to sort the shapes and the questions. The shapes could be arranged at the end of the branching database and pupils must arrange the questions in accordance with where the shapes are placed.*
2. *Pupils are given the shapes and they must devise questions to sort them. Pupils sort a collection of 2-D and 3-D shapes using the branching database.*



Activity 2—Shapes, shapes, shapes



Activity 2—Shapes, shapes, shapes

Activity 3:

Place value battle

Resources: Place value grid, 0-9 number cards (0-9 die)

Strands: Place value

Activity: Each pair of pupils has a place value grid and a set of number cards 0-9. The take it in turns to select a number card, which are all face down on the table, and each player must decide where to place the digit card. The person who makes the greatest number wins.

Questions: Why did you place the '2' there?

If you selected '1' where would you ideally like to place it?

Challenge Questions:

* If your partner selects the nine first and places it in the thousands column can you still beat him? Why /why not?
* Your partner has already picked the digit '8' card and placed it in the hundreds column—can you still beat him? How?

Variations:

1. *Pupils could have two of each digit card.*
2. *Pupils aim to make the number with the least value using the digit cards.*

Hundreds	Tens	Units

Player 1

Player 2

Thousands	Hundreds	Tens	Units

Player 1

Player 2

0	1	2
3	4	5
6	7	8
	9	

Activity 4:

How many…?

Resources: How many template

Strands: Place value, addition

Activity: Give each pupil a copy of activity template. Pupils must read each clue and use them to find out how many medals Ireland has won in the Olympics since 1924.

Questions: Which clue was the most helpful? Why?

Which clue was it important to start with? Why?

Which clue did not help? Why?

Challenge Questions:

* Could you have found the answer if you started with any of the clues or did you have to start with the first one given?

Variations:

1. *Ask pupils to make up the clues for a number of their choice and their partner must find the number.*
2. *Change the clues as needed to focus solely on addition, subtraction, multiplication, division, place value, etc.*

How many…?

15	3	24	1	30
43	9	20	31	41
11	14	32	6	23
10	12	5	18	21
27	55	40	8	17

Clues:

- The number is odd.
- The units digit is less than the tens digit.
- The number is less than 100.
- The sum of the digits is greater than three.
- The 8th month of the year has this many days.

Ireland has won _____ Olympic medals.

Activity 5:

What's the question?

Resources: A variety of concrete resources to support pupils

Strands: Addition, subtraction, multiplication, division, fractions, decimals

Activity: Give pupils any number between one and ten, for example, 6. Explain that '6' is the answer but you do not know what the question is. Ask pupils what the question might have been if it was an addition question? What if it was a subtraction question? How about a multiplication or division question? Give pupils the opportunity to come up with lots of different possibilities for what the question might have been using different operations.

Questions: What other multiplication question might it be?

Can you think of another one?

Challenge Questions:

* Have you found all possibilities? How do you know?
* Can you find all possibilities if all the numbers used in the question were less than 20?

Variations:

1. What might the sum be if one of the numbers was odd? Is it possible? Why not?
2. What might the subtraction question be if the two numbers were even?

Teacher's note:

This is an open activity where there an infinite number of answer that pupils can give. Explore how all pupils can achieve at this task by using any of the four operations: addition, subtraction, multiplication and division. Encourage pupils to use fractions and decimals with the operations.