1st and 2nd Class Resource Pack for Maths Week

This pack contains five activities that are suitable for either 1st or 2nd 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!

Maths Week
Ireland

Activity 1:

<u>What's the question?</u>

Resources: A variety of concrete resources to support addition and subtraction

Strands: Addition, subtraction, algebra

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? 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 addition question might it be?

What subtraction 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?

Activity 2:

<u>Baking time!</u>

Resources: 100 g of play dough for each child/per pair, scales or balances

Strands: Measures, fractions

Activity: Explain that a friend has asked you to bake four cupcakes for you but she has insisted that they all have to be exactly the same size. Ask pupils to discuss with a partner how you could ensure that the five cupcakes would be all equal. Do not refer to the scales straight away. Divide the play dough in half and check using the balance that both halves are the same. Now you have two cupcakes that are the same—how could I make four that are the same? Allow pupils to discuss this with their partner again and take suggestions. Divide one part of the play dough into half again and use the balance to check that they are equal. Repeat with the other part. Give pupils balances to explore this themselves.

Questions: How do you know that they are equal?

Show me using the balance.

How can you make sure your cakes are the same? Can you do this by guessing?

Challenge Questions:

* *How many parts did we make from the whole (the big piece of playdough)?*

* *What fraction of the whole is this piece? (one half/quarter)*

* *In the real world why might a baker need to make sure that the cakes are all the same size?*

Variations:

1. *Change the amount of playdough to 20 g so pupils could use the scales to find that each cake would need to be 5 g.*

Activity 3:

Three in a row

Resources: Number grid per pair of pupils, two dice per pair, counters

Strands: Addition, subtraction, position and direction

Activity: Give each pair of pupils a number grid, two dice and some counters. Pupils take it in turns to throw the two dice. They must then decide if they will add or subtract using the two numbers. If their answer appears on the grid they can cover it with a counter. The first person to cover three numbers in a row (vertically, horizontally or diagonally) is the winner.

Questions: What does vertical/horizontal/diagonal mean? Show me using the grid.

Why did you subtract the two numbers?

What could have happened if you added instead?

What's the highest number you can get while playing? What's the lowest?

Challenge Questions:

* Do you have a plan while playing? Would it be important to have a plan? Why?

* Why did no one win in that game? (For example, the other person blocked my path).

* Now that you've played it once what might you do differently the next time?

Variations:

1. *Give the pupils number cards greater than 6 instead of dice and change the number grid to include higher numbers.*

2. *Give pupils three dice instead of two.*

11	8	5	9
1	0	3	4
7	2	6	10
12	8	4	9
5	11	0	3

Activity 3—Three in a row

Activity 4:

Patterns

Resources: Template for patterns per pair of pupils, counting resources

Strands: Algebra, counting

Activity: Show pupils the blue and red coloured wall on the template for Activity 4 and ask "how many blue blocks do you see? How did you count them?" How many red blocks? Ask pupils "is there another way you could count them? Is there a pattern?" highlight to pupils how the coloured blocks are in groups of two. Count each colour using skip counting to do so. Repeat this process with the remaining two walls skip counting in five and ten.

Show pupils the blank wall and explain that they are now going to colour the blocks in groups of two, five or ten (teachers to select which is appropriate or allow pupils to choose).

Questions: Are you counting in two, fives or tens?

Why do you think it's easier to skip count in twos/fives/tens?

Challenge Questions:

∗   If I keep counting in twos will I say the number 43? Why/why not?

Variations:

1. *For first class it would be advisable to focus on skip counting using only one of the wall templates to allow pupils time to consolidate the learning.*

2. *Create a wall where some blocks are coloured in groups of two, five and ten and ask pupils to check how many there are, for example,*

Patterns—Activity 4
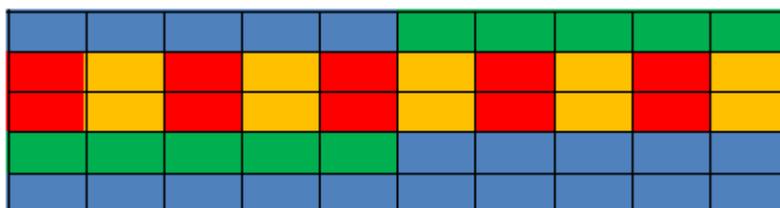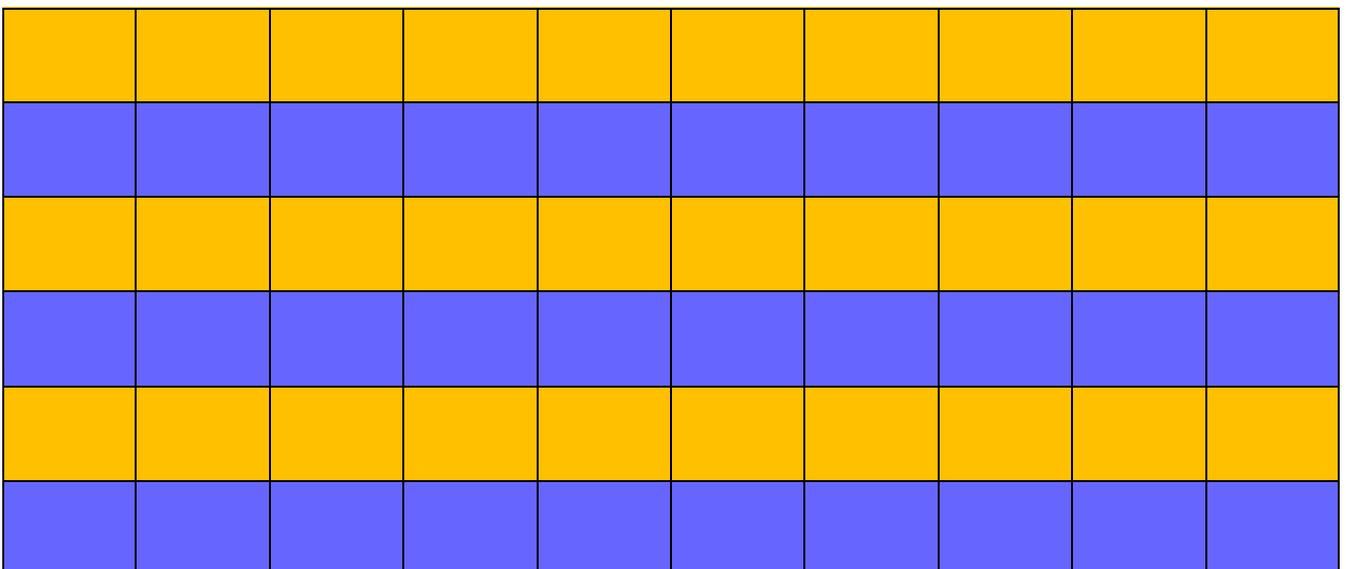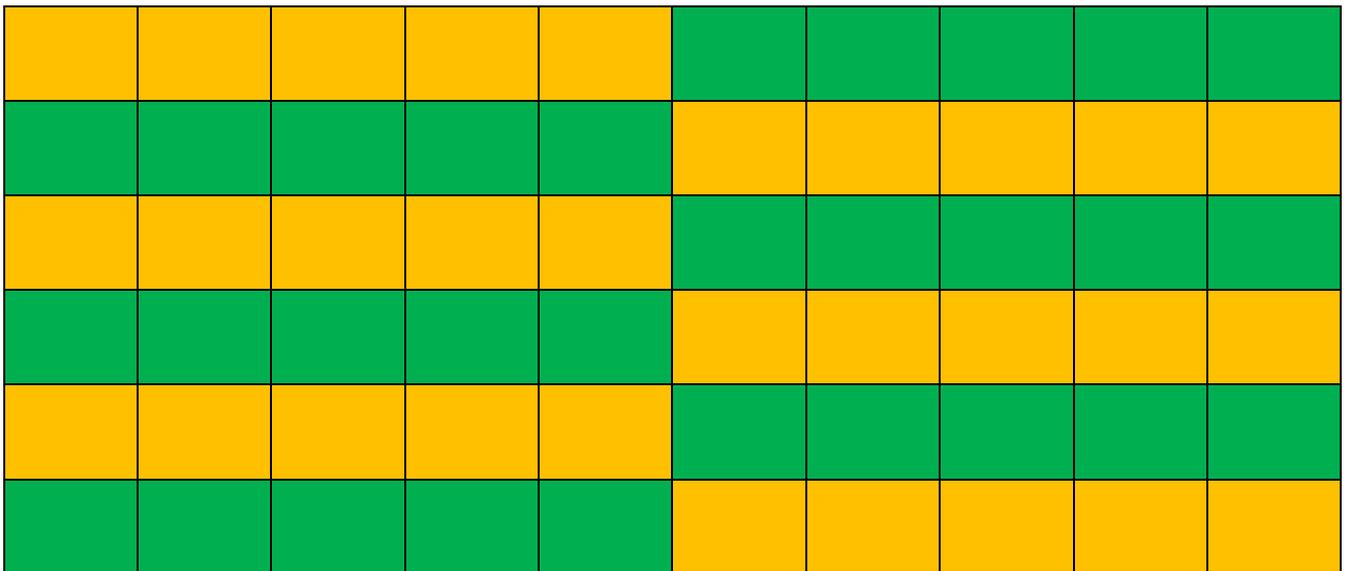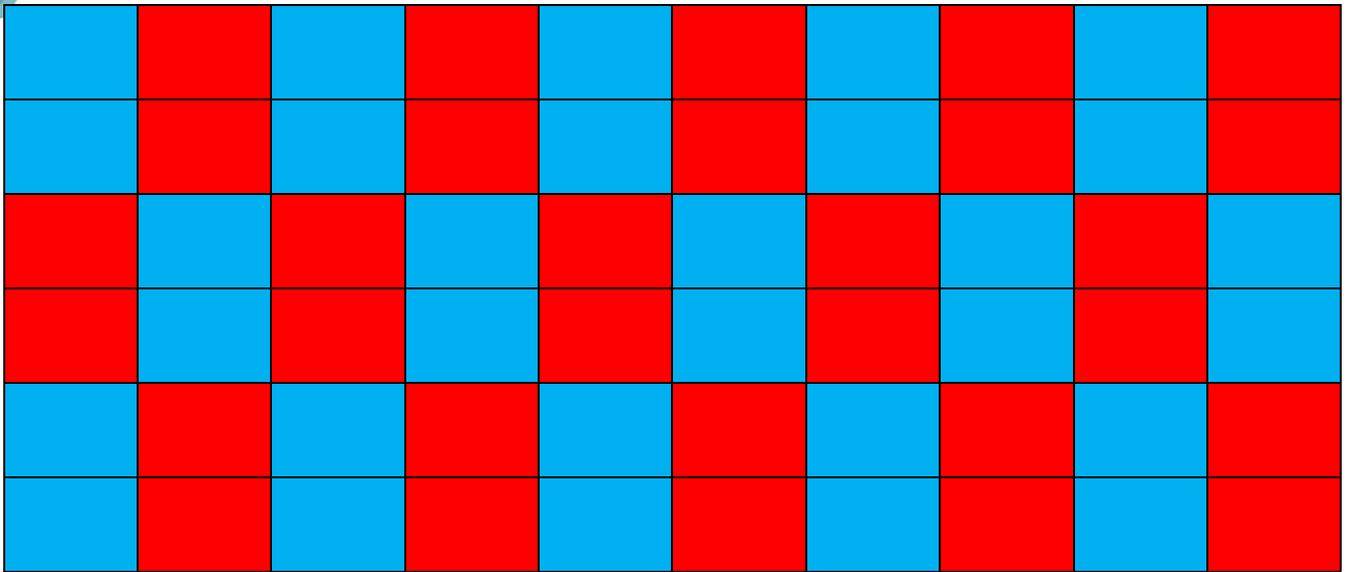
Activity 5:

Legs, Legs, Legs

Resources: A variety of concrete materials to support pupils

Strands: Problem solving, addition, subtraction

Activity: Display and read aloud this problem to pupils:

Some dogs and ducks were in the garden. There were ten legs altogether in the garden, how many dogs and ducks might there have been? Explain your answer. Allow pupils time on their tables to count out ten objects to represent the legs and explore how many of each there might have been.

Then ask what if there were only ducks in the garden and still ten legs how many ducks would there be? Allow time for pupils to explore this and ensure they can explain how they know there would be five ducks.

Questions: How many legs does a dog/duck have?

                 Could you write a sum to show how many dogs and ducks you have?

Challenge Questions:

* Could there be only two dogs in the garden if there were ten legs? Explain your answer.

* Could there only be dogs in the garden? Why/why not? Show me.

* Could you have a total of nine legs in the garden with dogs and ducks? Why/why not?

Variations:

1. *Change the context of the question so that pupils explore grouping of threes, fives, etc.*

2. *Give pupils more cryptic clues about the total number, for example, it is an odd number, it is less than 15 but greater than 11, etc.*