

## Maths and Me: Senior Infants – Short-Term Plan, Unit 1: Numbers to 10 (September: Weeks 1&amp;2)

**Strand(s) > Strand Unit(s)**

Number &gt; Numeration and Counting; Uses of Number; Sets and Operations. Algebra &gt; Patterns, Rules and Relationships.




**Learning Outcome(s)**

Through appropriately playful and engaging learning experiences children should be able to: develop an awareness that numbers have a variety of uses; develop an awareness that the purpose of counting is to quantify; use a range of counting strategies for a range of purposes.

Lesson	Focus of Learning (with Elements)	CM	Learning Experiences	Assessment
1	<b>Counting:</b> Estimates the number of objects in a set up to 5 (R); Reads, writes and orders numerals (U&C); Recalls the number sequence forwards and backwards, from zero to at least 10 (U&C)		D Choral Counting L1, 3, 4 D Notice and Wonder L1, 5 D C Reason and Respond L1, 5 C Sorting Manipulatives L1 D Quick Images L1, 3 D Write-Hide-Show L1, 3, 5 C Number of the Day L1-4	<b>Intuitive Assessments:</b> responding to emerging misconceptions
2	<b>Bonds of 5:</b> Accurately counts and compares sets from 1 up to at least 5 and establishes which set has more or less (R); Partitions sets of 5 into two subsets and recognises that this does not affect the total (R)		D 1, 2, 3, 4, 5, Once I Caught a Fish Alive L2, 4 C D Think-Pair-Share L2, 3, 5 D Three-Act Task L2 D Concept Cartoon L3	<b>Planned Interactions:</b> responding to insights gleaned from children's responses to learning experiences
3	<b>Numbers to 10:</b> Partitions sets of 10 into two subsets and recognises that this does not affect the total (R); Demonstrates an ability to subitise various arrangements or models of numbers to 10 (U&C)		C D Build it; Sketch it; Write it L4, 5 C Sensory ("Feely") Bag L4 D Comparing Cubes L4 C Listening and Counting L4, 5 P C Number Cards L5 P Game: Can You Get in Order? L5	<b>Assessment Events:</b> information gathered from completion of the unit assessment in the Progress Assessment Booklet pages 6-7
4	<b>Comparing Numbers:</b> Orders and compares numerals 1-10 with each other (R); Reads, writes and orders numerals up to 10 (U&C)		<b>Print resources</b> Pupil's Book pages 4-9 Home/School Links Book pages 6-7 PCM 8	
5	<b>Ordering:</b> Establishes the number immediately before or after another number (R); Explains ordinality, using the language of after, before and in-between (C); Recognises the use of ordinal numbers first, second, third and last in everyday life contexts (U&C)			
6	<b>Review and Reflect:</b> Reviews and reflects on learning (U&C)			

**Key: Elements:** (U&C) Understanding and Connecting; (C) Communicating; (R) Reasoning; (A&PS) Applying and Problem-Solving. **CM:** *Cuntas Míosúil*: please tick when you have completed the focus of learning. **Learning Experiences:** C concrete activity; D digital activity; P activity based on printed materials, followed by lesson numbers.

## Additional information for planning

 <b>Progression Continua</b>	See 'Senior Infants <i>Maths and Me</i> Progression Continua Overview' for a detailed breakdown of how all progression continua are covered.
 <b>Maths Language</b>	See 'Senior Infants <i>Maths and Me</i> Maths Language Overview', individual lesson plans and the Unit 1 Maths Language Cards.
 <b>Equipment</b>	See 'Senior Infants <i>Maths and Me</i> Maths Equipment Overview' and individual lesson plans.
<b>Inclusive Practices</b>	<ul style="list-style-type: none"> <li>● See Let's Strengthen and Let's Deepen suggestions throughout lesson plans.</li> <li>● See Unit 1 Let's Strengthen Suggestions for Teachers. (These address the Common Misconceptions and Difficulties listed below.)</li> <li>● See Unit 1 Let's Strengthen PCM.</li> <li>● See Unit 1 Let's Deepen PCM.</li> </ul>
<b>Integration</b>	See individual lesson plans.

## Background and rationale

- Numbers to 10, the first unit in *Maths and Me* for Senior Infants, is designed to revise and develop the content of Unit 10 in Junior Infants.
- For the children to develop their mathematical modeling skills, they also need to be familiar with the concrete materials that are available for them to choose in the classroom, especially if it is a new classroom. This unit specifically provides activities to develop that familiarity.
- Children should become aware of the following principles of counting:
  - one-to-one
  - stable-order
  - cardinality
  - order irrelevance
  - abstraction.
- To help the children make rich and meaningful connections between learning experiences in different Learning Outcome Labels, this unit combines learning experiences primarily from: Uses of Number; Numeration and Counting; Sets and Operations.
- The progression continua statements for this unit largely refer to skills relating to numbers up to 20. This unit will develop all of the skills for numbers up to 10, and Unit 8 will complete this work with numbers up to 20.
- The + symbol features in the Pupil's Book pages of this lesson. This may be the first time that the children have formally encountered this symbol to mean 'and' or 'add'. The + symbol should be explicitly highlighted and explained to the children.

The theme of this unit is **The Classroom**. It is meaningful and purposeful for this two-week block of content, given the time of year (the first two weeks of September).

## Common misconceptions and difficulties

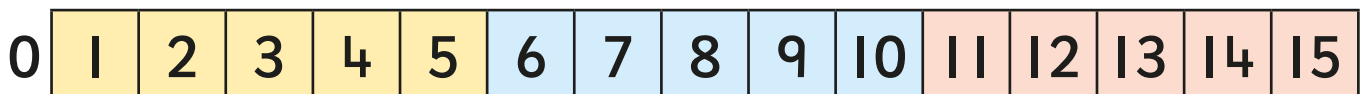
Counting is one of the most important topics in primary maths. Therefore, it is vital that misconceptions are identified as early as possible and appropriate interventions implemented.

- The children may count too many or too few objects.
- They may count the same object more than once.
  - They may repeat a number while counting objects – or miss a number.
  - When using the ten frame, the children may not realise that the counters can be in varying places in the frame, but can still be successfully counted.
  - The children may become confused with words that have the same sound, but different meanings (e.g. *ate* and *eight*).
  - The children may mix up letter symbols and number symbols (e.g. 5 and S, or 8 and B).
  - There is a lot of new vocabulary for children, which might be confusing, e.g. *lot*, *some*, *one more*, *one less*. It can be helpful to make up short stories for this age group. (*There were six dwarfs out for a walk, but then one more joined them. How many were there then?*)
  - The children may struggle to make the link between the numeral, the number word and the objects (concrete and pictorial). Engaging in multiple hands-on activities will reinforce this concept.

The Unit 1 Let's Strengthen Suggestions for Teachers address the common misconceptions and difficulties listed above.

## Mathematical models and representations

- Ten frames
- Counters (two-sided are preferable)
- Number paths
- Fingers
- Dice dots
- Branching bonds



Number path

### Teaching tip

Ten Frame and Branching Bonds manipulative printables are available to support this unit. Click on the resources icon on the *Maths and Me* book cover on [edcolearning.ie](http://edcolearning.ie)

## Days 1 and 2, Lesson 1

## Counting

## Focus of learning (with Elements)

- Estimates the number of objects in a set up to 5 (R)
- Reads, writes and orders numerals (U&C)
- Recalls the number sequence forwards and backwards, from zero to at least 10 (U&C)

## Learning experiences

- D C** Digital activity: Counting Classroom  
**MAM Routines: Notice & Wonder; Reason & Respond**
- D** Digital activity: Forwards and Backwards (1)  
**MAM Routine: Choral Counting**
- C** Concrete activity: Sorting Manipulatives
- D** Digital activity: Dot Patterns (1) **MAM Routines: Quick Images, with Write-Hide-Show**
- C** Number station: Number of the Day
- P** Pupil's Book pages 4–5: Counting

## Equipment

- Manipulatives for counting, such as bears, links, cubes, counters and lollipop sticks
- Ten frames
- Counting supports, such as number paths
- Items for the Number of the Day station
- Unit 1 Maths Language Cards
- Monty the puppet

## Maths language

- zero, one, two, three, four, five, number words, numeral, count, forwards, backwards, ten frame, estimation

## Warm-up

Do one of these warm-up activities on each day.

- D** **Digital activity: Counting Classroom**  
**MAM Routine: Notice & Wonder**

Display the poster and click to play or ask:

- What do you notice?
- What do you wonder?

Record the children's responses to both questions on the board. Allow the children the opportunity to respond to (agree/disagree with or query) others' responses, but do not confirm or reject any of the ideas. Note any 'wonderings' that could become the basis for a subsequent maths investigation.

## Teaching tip

Model the Notice & Wonder routine initially. Then gradually release more responsibility to the children. Introduce Monty the puppet to his new classmates. He says:

- I notice a painting table with children.
- I notice a bookshelf with some books.
- I notice posters on the wall.

- I notice myself (Monty) under the table.
- I notice some children are sitting and some are standing.
- I notice there are no windows.
- I wonder what the children are going to paint.
- I wonder how many colours they will use.
- I wonder what Lexi is doing.
- I wonder how many children are using paint and how many are using pencils.

It is important that the children's responses are all noted initially, but as they gain confidence in the coming weeks, ask them to give you Maths 'noticings' and 'wonderings' only (i.e. developing Maths Eyes).

- D** **Digital activity: Forwards and Backwards (1)**  
**MAM Routine: Choral Counting**

Display the counting tool. Using the arrow buttons, choose a number between 1 and 12 to begin counting forwards. The children can chant the numbers along

with the audio. The numbers can then be reversed for backwards counting. You have the option to mute the audio, so that the children can chant (or sing) by themselves. Use the Maths Language Cards ‘forwards’ and ‘backwards’ where appropriate.

### Teaching tip

It is recommended to use a Choral Counting activity in the warm-up for every lesson of this unit for daily practice at counting. You can decide which number to use, depending on the needs of your class.

## Main event

Choose to do some or all of these activities over the two days.



### D C Digital activity: Counting Classroom MAM Routine: Reason & Respond

Display the poster and use the audio questions to consider the scene. Estimate first and then count together using one-to-one counting and ten frames. Click to play or ask:

- How many children can you see?
- How many paint brushes can you see?
- How many colours of paint are there to choose from?
- Is there the same amount of paint brushes as children?
- What is on the floor? Can you count them?
- How many crayons can you see on the table?
- How many books can you see? Count them.
- How many red books can you see?
- Are there more paintbrushes or crayons? Count them.
- What else can you see?

### Teaching tip

In pairs, the children could use counters on their ten frames to mirror the image.

### C Concrete activity: Sorting Manipulatives

Distribute a selection of items (counters/ cubes or other manipulatives that will fit easily on the ten frame) in a variety of colours and sizes to each group. Tell the children to sort the items as they wish (i.e. according to self-selected criteria). Ask:



- How have you organised the items?
- Why did you do it this way?
- Did anyone organise them differently?
- What is the same about each set?
- What is different about each set?

Tell the children to place each set on a ten frame, and ask:

- Does this make it easier to count?

### Let's deepen

Challenge some children to identify how many more they will need to make 10.

### D Digital activity: Dot Patterns (1) MAM Routines: Quick Images, with Write-Hide-Show



Display the Quick Images activity, which features different dot patterns. Click to briefly reveal and then hide each image. Individually or in pairs, the children estimate the number of dots they see in each image and write the number on their MWBs and turn it over. When called upon, they show their answers. Ask:

- What did you see? (e.g. a set of 4 dots)
- Did anyone find a different pattern?

### C Number station: Number of the Day

Over the course of this unit, in groups, the children set up a Number of the Day station.

They choose a different number each day and in their groups, discuss how they might show their number (a hand could represent 5, an octopus teddy could represent 8, 7 counters... etc.). Include a large numeral (numeral posters) and the large number word (number words poster printable) on the display table.

### Teaching tip

You know your class best. You may wish to start this activity sequentially. Alternatively, you could use the 0–9 spinner to choose tomorrow's number (with 0 standing for 10). You might set up the words and numerals, or choose a volunteer to find the numeral/word cards. By giving them advance notice of tomorrow's number, a child might choose to bring in an item from home that represents that number.

### Let's deepen

Challenge the children to match the large numerals to the large number words.

**P** Pupil's Book pages 4 and 5:  
Counting



## Optional consolidation and extension possibilities

**Clap and Stamp** Clap hands to a number string, going forwards (e.g. 1, 2, 3, 4, 5). Stamp feet to a number string, going backwards (e.g. 5, 4, 3, 2, 1). You could use this activity at a transition between lessons (e.g. on the way out to the yard or while getting ready for circle time).

**Maths Journal** The children draw an amount of items for the 'Number of the Day' using their choice of representation.

**Hop and Count** (Integration with PE) In the PE hall or yard, tell the children to hop/jump/touch the ground 0–10 times while counting.

**Maths Eyes** For Show and Tell, ask the children to bring in something from home that comes in the same number of packets as tomorrow's number of the day. On their homework, they can write a reminder: *Tomorrow's number will be ...*

### Day 3, Lesson 2

## Bonds of 5

### Focus of learning (with Elements)

- Accurately counts and compares sets from 1 up to at least 5 and establishes which set has more or less (R)
- Partitions sets of 5 into two subsets and recognises that this does not affect the total (R)

### Learning experiences

- D** Animation: 1, 2, 3, 4, 5, Once I Caught a Fish Alive
- C** **D** Sorting activity: Partitioning  
**MAM Routine: Think-Pair-Share**
- D** Digital activity: Crayon Chaos!  
**MAM Routine: Three-Act Task**
- C** Number station: Number of the Day
- P** Pupil's Book page 6: Bonds of 5

### Equipment

- Manipulatives for counting, such as bears, links, cubes, counters and lollipop sticks
- Three paper plates per pair/group for part-whole templates
- Ten frames
- Counting supports, such as number paths
- Items for the Number of the Day station
- Unit 1 Maths Language Cards
- Monty the puppet

### Maths language

- how many?, total, altogether, number bonds, partitioning, add, plus, more, less

### Teaching tip

This lesson may be the first time that the children have formally encountered the + symbol to mean 'and' or 'add' (see Pupil's Book, page 6). This should be explicitly highlighted and explained to the children. Ask them if they have seen this symbol anywhere else before this and what they think it means.

## Warm-up



- D Animation: 1, 2, 3, 4, 5, Once I Caught a Fish Alive**

Play the animation and teach the children to recite the rhyme from the audio.

## Main event



- C D Sorting activity: Partitioning**  
**MAM Routine: Think-Pair-Share**

**Teacher note:** Place a sticker over the six as the children will not have encountered double 6 this early in Senior Infants.

Start by displaying the Branching Bond e-manipulative tool on the board. Place five counters (or items) in the top circle. Ask the children to suggest how you could partition them into the bottom two circles (e.g. they could partition them into 2 and 3). Using their suggestion, partition the counters into the bottom circles. Ask the children:

- Which set has more?
- Which set has less?

Write the corresponding number sentence (e.g.  $2 + 3 = 5$ ) under the branching bond on the board.

Distribute five bears or cubes and three paper plates to each pair. Tell the children to partition their five bears/ cubes in a different way to how you partitioned the counters. Nominate one pair to explain what they did. The teacher shows this on the board. Ask the class:

- Did anyone else partition this way?
- Which set has less?
- Which set has more?
- Did anyone partition differently?

As the children share their answers, use the counters to show their thinking to the rest of the class. Record the information as a number sentence each time and ask:

- Which set has more?
- Which set has less?



- D Digital activity: Crayon Chaos!**  
**MAM Routine: Three-Act Task**

### Teaching tip

If this is your first time using the Three-Act Task routine, this CCT has purposely been divided into three separate acts to allow for Notice & Wonder, Productive Struggle and The Big Reveal. There are suggested prompt questions to encourage discussion and problem-solving.

### Act 1: Notice & Wonder

Play the video, in which a teacher pours two containers of crayons into a larger container on the teacher's desk. Some of the crayons fall on the floor, out of sight. Click to play or ask:

- What do you notice? What do you wonder? (Note any 'wonderings' that could become the basis for a subsequent maths investigation.)
- (Reveal the focus question.) How many red crayons and how many blue crayons fell on the floor?

### Act 2: Productive Struggle

Look at the image and click to play or ask:

- Make an estimate that is too high.
- Make an estimate that is too low.
- Make an estimate that is reasonable.

### Teaching tip

Record their estimates on the board, under the headings *Too high*, *Too low* and *Reasonable*, without giving weight to a correct answer.

The children work in pairs or small groups to answer the focus question. If necessary, prompt them by asking:

- Do you have enough information? What else do you need to know to answer the question?

Once the children explain that they need to see how many crayons are in the container on the teacher's desk, click to reveal the second image, which shows 2 red crayons and 1 blue crayon in the container on the teacher's desk, and 3 red crayons on the floor. Pause to allow the children to work towards an answer. Click to play or ask:

- What do you know?
- To get an answer, what needs to be done?
- How might we do this?

Using Build it; Sketch it; Write it, the children choose their preferred way to mathematically model their strategies/solution(s).

### Let's strengthen

Some children may need the support of PCM 6 Crayon Chaos to work out the solution. However, as this is the first Three-Act Task of Senior Infants, the teacher may decide to provide this PCM for every pair.

**Act 3: The Big Reveal**

The children share and discuss their strategies, solutions and models. Click to play or ask:

- How many crayons altogether?
- How many red crayons are on the teacher's desk?
- How many blue crayons are on the teacher's desk?
- How many red crayons are on the floor?
- How many blue crayons are on the floor?

Then, flip the image to reveal the actual total. Click to play or ask:

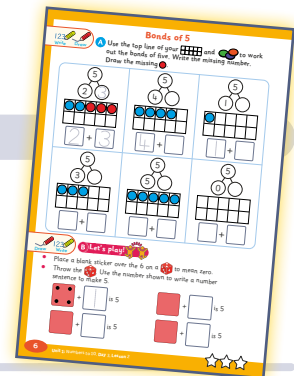
- Is this the answer that you expected? Why or why not?
- What 'I wonder' questions did you answer?
- Do you have any new 'I wonder' questions?

**C Number station: Number of the Day**

Ask the children if they remember today's number. Allow Monty to show the numeral card and for the children to agree or disagree with him. Do the same with the word card. Each group can choose one set of items to display.

**P Pupil's Book page 6: Bonds of 5****Teaching tip**

Draw the children's attention to the + symbol on this page and ask them to explain what they think it means.

**Optional consolidation and extension possibilities**

**Bowling** Play with five skittles. If you knock down three, how many more to knock down all five? (part-whole model)

**Beanbag Throw** Throw five beanbags into a hula hoop. How many landed inside/outside the hula hoop? (part-whole model)

**Split** Play in groups of five, splitting into: 2 and 3; 4 and 1; and 0 and 5.

**Story** Read *Eight Silly Monkeys* by Steve Haskamp, or listen to a reading at: [edco.ie/juke](http://edco.ie/juke)

**Games Bank** Play 'Number Towers'.

**Strategy Wall** Add the 'Number Bonds of 5' calculation strategy wall card to the class strategy wall. Refer to it throughout this and subsequent units. The children could also add their own sketches of this strategy, both to the strategy wall and their maths journals.

**Days 4 and 5, Lesson 3****Numbers to 10****Focus of learning (with Elements)**

- Partitions sets of 10 into two subsets and recognises that this does not affect the total (R)
- Demonstrates an ability to subitise various arrangements or models of numbers to 10 (U&C)

**Learning experiences**

- D** Digital activity: Forwards and Backwards (2)  
**MAM Routine: Choral Counting**
- D** Digital activity: Dot Patterns (2)  
**MAM Routines: Quick Images, with Write-Hide-Show**
- D** Digital activity: Building Blocks **MAM Routine: Concept Cartoon**
- D** Digital activity: Linking Cubes **MAM Routine: Quick Images, with Write-Hide-Show**
- C** Sorting activity: Partitioning **MAM Routine: Think-Pair-Share**
- C** Number station: Number of the Day
- P** Pupil's Book page 7: Numbers to 10

**Equipment**

- Manipulatives for counting, such as bears, links, cubes, counters and lollipop sticks
- Counting supports, such as ten frames, number paths and rekenreks
- Items for the Number of the Day station





Maths language

- six, seven, eight, nine, ten, same, different, group, sets, parts, whole, part-whole model

Warm-up



**D Digital activity: Forwards and Backwards (2)**  
**MAM Routine: Choral Counting**

See Lesson 1.



**D Digital activity: Dot Patterns (2)** **MAM Routines: Quick Images, Write-Hide-Show**

Distribute manipulatives to each pair. Display the Quick Images activity, which contains images showing different amounts (1–10) of dots. In pairs,

the children estimate the number of dots they see in each slide and represent that number using concrete materials and a ten frame. They then write the number on their MWBs and turn it over. When called upon, they show their answers. Ask:

- What did you see that helped you to count? (a set of 1 and a set of 3; two sets of 2, etc.)
- Did anyone find a different pattern?

Main event

Choose to do some or all of these activities over the two days.



**D Digital activity: Building Blocks**  
**MAM Routine: Concept Cartoon**

(Recommended for Day 4)

Display the Concept Cartoon, which shows the characters using building blocks. Each of the characters thinks there is a different amount of blocks. Click each character to hear their statement. Ask:

- What do you think? Why?
- Do you agree with any of the characters?
- What counting strategy did you use?

They then write the number on their MWBs.

- What pattern did you see to help you count?
- Did anyone find a different pattern?
- Would anyone use someone else’s strategy/representation next time? Give it a go!

Focus on the children’s strategies/representations – but if certain strategies are not mentioned, use a tally, a ten frame, a rekenrek and fingers to prove the answer correct.

Let’s strengthen

Some children may benefit from building a structure similar to the one in the Concept Cartoon to help them count, therefore using the Count All strategy.

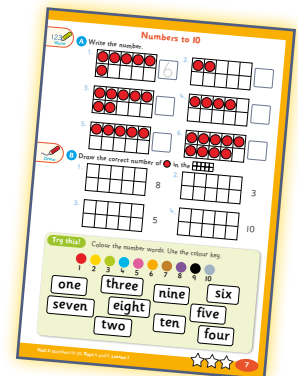
**C Concrete activity: Partitioning**  
**MAM Routine: Think-Pair-Share**

Use a selection of counting materials and ask the children to partition to make stories up to 10. The children choose a method of recording the information, using Think-Pair-Share.

**C Number station: Number of the Day**

Update the Number of the Day station with today’s number. Each group can choose one set of items to display.

**P Pupil’s Book page 7: Numbers to 10**



The teacher can then write the answer on the board using multiple representations, e.g. a ten frame, a rekenrek.



**D Digital activity: Linking Cubes** **MAM Routines: Quick Images, with Write-Hide-Show**

(Recommended for Day 5)

In pairs, the children should write the number of cubes they see in each slide and represent that number using concrete materials and a ten frame.

Optional consolidation and extension possibilities

**Hop and Count** (Integration with PE). In the PE hall or yard, tell the children to hop/jump/touch the ground 0–10 times while counting.

**Sensory (‘Feely’) Bag** The children count a variety of items by feeling.

**Listening and Counting** The children close their eyes and listen as you drop marbles or buttons into a tin, one by one. Ask them how many you dropped.

**Maths Eyes** For Show and Tell, ask the children to bring in something from home that comes in the same number of packets as tomorrow's number of the day. On their homework, they can write a reminder: *Tomorrow's number will be ...*

**Maths Journal** The children draw an amount of items for the 'Number of the Day' using their choice of representation.

**Games Bank** Play 'Number Towers'.

**Strategy Wall** Add the 'Count All' calculation strategy wall card to the class strategy wall. Refer to it throughout this and subsequent units. The children could also add their own sketches of this strategy, both to the strategy wall and their maths journals.

**Story** Read *1, 2, 3 to the Zoo: A Counting Book* by Eric Carle, or listen to a reading at: [edco.ie/8anw](http://edco.ie/8anw)

**Home/School Links Book** Page 6 can be completed any time after this lesson.

**Let's Deepen** Complete the Unit 1 Let's Deepen PCM.



## Days 6 and 7, Lesson 4

# Comparing Numbers

### Focus of learning (with Elements)

- Orders and compares numerals 1–10 with each other (R)
- Reads, writes and orders numerals up to 10 (U&C)

### Learning experiences

- D** Digital activity: Forwards and Backwards (3)  
**MAM Routine: Choral Counting**
- D** Animation: 1, 2, 3, 4, 5, Once I Caught a Fish Alive
- C** Concrete activity: Sensory ('Feely') Bag
- C** Concrete activity: Listening and Counting
- D** **C** Digital activity: Patterns with Cubes  
**MAM Routine: Build it; Sketch it; Write it**
- D** Digital activity: Comparing Cubes
- C** Number station: Number of the Day
- P** Pupil's Book page 8: Comparing Numbers

### Equipment

- Manipulatives for counting, such as bears, links, cubes, counters and lollipop sticks
- Ten frames
- Counting supports, such as number paths and rekenreks
- Items for the Number of the Day station
- Sensory ('feely') bag made of opaque fabric and large enough to fit small manipulatives and allow a child's hand to move around inside
- An empty tin
- Marbles or buttons
- Monty the puppet

### Maths language

- more than

## Warm-up

Choose to do one of these warm-up activities on each day.

- D** **Digital activity: Forwards and Backwards (3)**  
**MAM Routine: Choral Counting**

See Lesson 1.

- D** **Animation: 1, 2, 3, 4, 5, Once I Caught a Fish Alive**

Play the animation and teach the children to recite the rhyme from the audio.



## Main event

Choose to do some or all of these activities over the two days.

### C Concrete activity: Sensory ('Feely') Bag

This activity should initially be Monty/teacher-led with pupil volunteers, and later carried out in pairs/groups, depending on how many sensory bags are available. Monty could ask:

- How many objects can you feel?

Count to check if the answer was accurate. Ask:

- Was that more than the last number?
- Was that less than the last number?

OR

### C Concrete activity: Listening and Counting

The children close their eyes and listen as you drop a number of marbles or buttons into a tin, one by one. Ask them how many you dropped. Count to check if the answer was accurate. Ask:

- Was that more than the last number?
- Was that less than the last number?



### D C Digital activity: Patterns with Cubes

**MAM Routine: Build it; Sketch it; Write it**

(Recommended for Day 6.)

The slideshow shows linking cubes in various patterns. Reveal the first image.

Using Build it; Sketch it; Write it, the children choose their preferred way to mathematically model the pattern they see. For the first slide, ask:

- What colour is on the top?
- What colour is on the bottom?
- What colour(s) is/are in-between?
- What colour is between orange and green?

Reveal the second image. Compare the first pattern with the second. Ask:

- Which one used more cubes?
- Prove it by building/sketching/writing.

Reveal the third image. Dismantle the first pattern and build the third pattern. Compare this with the second pattern. Ask:

- Which one used more cubes?
- How did the pattern change?

Continue with the pattern slideshow to a level that suits your class.

### Let's deepen

For the children that require a challenge, ask them to continue the pattern. They will need to remove the extra cubes before moving on to the new slide.

### D Digital activity: Comparing Cubes

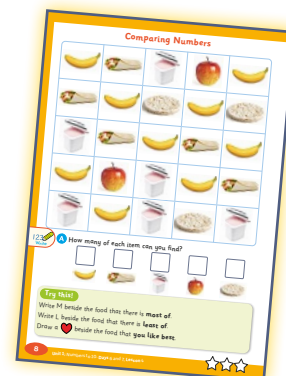
(Recommended for Day 7.)

Play the multiple-choice game to explore different compositions of number. Ask the children to select the picture that shows a specific number (see the question at the top of the screen).

### C Number station: Number of the Day

Update the Number of the Day station with today's number. Each group can choose one set of items to display.

### P Pupil's Book page 8: Comparing Numbers



## Optional consolidation and extension possibilities

**What Time Is It, Mr Wolf?** As they play this game, the children count their steps. Monty the puppet calls out the time with Mr Wolf.

**Split** Play in groups of ten (or fewer), splitting into two groups. Ask:

- How many did you start with?
- How did you partition?

**Bowling** Play with up to ten skittles. If you knock down three, how many more to knock down all ten? (part-whole model)

**Beanbag Throw** Throw ten beanbags into a hula hoop. How many landed inside/outside the hula hoop? (part-whole model)

**Games Bank** Play 'Build A Wall'.

**Story** Read *Ten Black Dots* by Donald Crews, or listen to a reading at: [edco.ie/44xn](http://edco.ie/44xn)

**Home/School Links Book** Page 7 can be completed any time after this lesson.

## Days 8 and 9, Lesson 5

## Ordering

## Focus of learning (with Elements)

- Establishes the number immediately before or after another number (R)
- Explains ordinality, using the language of after, before and in-between (C)
- Recognises the use of ordinal numbers first, second, third and last in everyday life contexts (U&C)

## Learning experiences

- D C** Digital activity: Making Numbers **MAM Routines: Build it; Sketch it; Write it, with Write-Hide-Show**
- P C** Number Cards
- C** Concrete activity: Listening and Counting
- D** Digital activity: Bookshelf **MAM Routines: Notice & Wonder, with Reason & Respond**
- D C** Digital activity: Would You Rather ...? **MAM Routines: Reason & Respond, with Think-Pair-Share**
- P** Game: Can You Get in Order?
- P** Pupil's Book page 9: Ordering

## Equipment

- Scissors
- Manipulatives for counting, such as bears, links, cubes, counters and lollipop sticks
- Ten frames
- Number paths with some numbers missing/blank
- Items for the Number of the Day station
- An empty tin
- PCM 8

## Maths language

- first, last, second, third, fourth, fifth, in-between, before, after

## Warm-up

Choose to do some or all of these warm-up activities over the two days.

- D C** **Digital activity: Making Numbers**  
**MAM Routines: Build it; Sketch it; Write it, with Write-Hide-Show**

Display the activity. Click a button on the grid to hear a random number. Ask the children to choose a way to represent the number, using their choice of manipulatives or on their MWBs (Write-Hide-Show). After the number has been revealed (image), ask:

- Is your answer correct? Prove it!
- Is there another way to represent this number?

Focus on the children's strategies/representations – but if certain strategies are not mentioned, use a tally, a ten frame, a rekenrek and fingers to prove the answer correct.

## Let's deepen

Some children should be encouraged to represent the number in two or three different ways, while allowing everyone enough thinking time and ensuring productive thinking from all.

- P C** **Number Cards**

Distribute scissors and a copy of PCM 8: Ordering Numbers 0–10 to each child. The children cut out the cards and sequence the numbers in order of 0–10.

## Let's strengthen

Some children may benefit from ordering only the numbers 0–5 initially.

## Let's deepen

Challenge the children to sequence the numbers in order of 10–0. They could also sequence the words using the maths language cards (*ten to zero*).

- C** **Concrete activity: Listening and Counting**

The children close their eyes and listen as you drop a number of marbles or buttons into a tin, all at the same time. Ask:

- How many did I drop?
- Have we any way of knowing how many?

Write down estimates for the children to analyse.

Ask:

- Do we have any estimates that are unreasonable?

- Would any information help us reach a better estimate? (size of item, shape of item, etc.)

## Main event

Choose to do some or all of these activities over the two days.



### D Digital activity: Bookshelf **MAM Routines: Notice & Wonder, with Reason & Respond**

Display the activity, which features a bookshelf with rows of different-coloured books. Ask:

- What do you notice?
- What do you wonder?
- What colour is the first book on the top shelf?
- What colour is the third book on the bottom shelf?
- What colour is the last book on the middle shelf?
- Are the books organised well?
- How might we organise them better?

The children take turns reordering the books. Ask:

- What colour is the first book on the top shelf now?
- What colour is the third book on the bottom shelf now?
- What colour is the last book on the middle shelf now?

### Let's strengthen

Some children may benefit from the additional support of a number path (see inside cover of Pupil's Book and printables).



### D C Digital activity: Would You Rather ...? **MAM Routines: Reason & Respond, with Think-Pair-Share**

Use this flipcards activity to compare and discuss different sets of cubes. For each two sets, ask the children:

- Would you rather have A or B?

The children choose the bigger amount and write A or B on their MWBs. Some sets will have the same amount, but the aim is to encourage Maths Talk and the use of comparison strategies.

Collect manipulatives to match the sets and get the children to use Think-Pair-Share. *Which set has more?*



### P Game: Can You Get in Order?

Divide the class into groups. Using PCM 8, give each child a number (in whatever way best suits the class numbers). Say/ask:

- Look at your number and without speaking, get into the correct order.
- What number did you get?
- How do you know that you are in the right place?
- What number comes before/after you?
- Look at the green group. Who is first in the line?
- Look at the blue group. Who is last/third in the line?

### Teaching tip

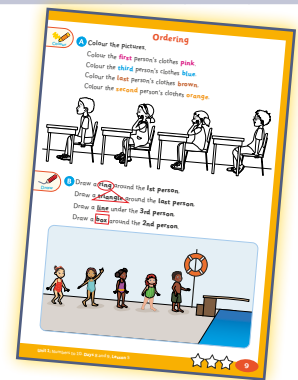
Try to use ordinal language as often as possible outside Maths lessons. When children are in the line for the sink/the yard/home, ask:

- Who is first in this line?
- Who is fourth?

When handing out books, say:

- Amy's is first in this pile. Karl's is second. Bethany's is last today.

### P Pupil's Book page 9: Ordering



### Let's strengthen

Some children may benefit from using the Unit 1 Let's Strengthen PCM, which has the same items as page 9 of the Pupil's Book but is less challenging.

## Optional consolidation and extension possibilities

**Number Word Cards** Sequence the words 0-10 correctly using PCM 7: Words 0–10.

**Beanbag Throw** Throw ten beanbags into a hula hoop. How many landed inside/outside the hula hoop? (part-whole model)

**Have You Too Many?** Pick a number card from the 0-10 pile and count that number of objects from a larger group of objects. When should you stop counting?

**Games Bank** Play 'Build A Wall'.

**Story** Read *Ten Monkey Jamboree* by Dianne Ochiltree.

### Day 10, Lesson 6

## Review and Reflect

### Focus of learning (with Elements)

- Reviews and reflects on learning (U&C)

### Warm-up

Carry out a warm-up activity of your choice from one of the lessons in this unit.

### Main event

Choose from this menu of activity ideas, or choose your own way to best structure this last lesson to suit your needs and the needs of your class.

<p><b>Let's talk!</b></p> <p>Use Think-Pair-Share to review the unit. Individual children could present examples of their own drawings/work/constructions to the class, and talk about what they have learned.</p>	<p><b>Let's build!</b></p> <p>Using a choice of building materials, ask the children to build structures, using:</p> <ul style="list-style-type: none"> <li>● Five (or fewer) pieces</li> <li>● More blue than yellow pieces</li> <li>● More than five pieces.</li> </ul>
<p><b>Maths language</b></p> <p>Ask the children to explain some of the key language from the unit, perhaps using examples or drawings on their MWBs.</p> <p>Use the Unit 1 Maths Language Cards to revise the key terms. For example: if the image and text are cut apart, can the children match them?</p>	<p><b>Let's play!</b></p> <ul style="list-style-type: none"> <li>● Play or use some of the digital resources referenced in the unit.</li> <li>● Play a game from the Games Bank.</li> <li>● Counting circle: sit in a circle. Each child says a number, consecutively counting forwards. When the teacher rings a bell / blows a whistle, the circle switches to counting backwards.</li> </ul>
<p><b>Progress Assessment Booklet</b></p> <p>Complete Questions 1–4 on pages 6–7. Alternatively, these can be left to do as part of a bigger review during the next review week.</p>	<p><b>Maths eyes</b></p> <p>Go for a walk around the school. Ask:</p> <ul style="list-style-type: none"> <li>● Where can you see counting collections?</li> </ul>
<p><b>Let's strengthen</b></p> <p>Identify children who might benefit from extra practice with some of the key concepts or skills in this unit. Consult the Unit 1 Let's Strengthen Suggestions for Teachers.</p>	<p><b>Let's deepen</b></p> <p>Use the Unit 1 Let's Deepen PCM if it hasn't been completed already.</p>

