

Maths and Me: Senior Infants – Short-Term Plan, Unit 5: Numbers to 15 (November: Weeks 1&2)

Strand(s) > Strand unit(s)

Number > Place Value and Base Ten; Uses of Number; Numeration and Counting. Algebra > Patterns, Rules and Relationships.




Learning Outcome(s)

Through appropriately playful and engaging learning experiences children should be able to develop a sense of ten as the foundation for place value and counting; 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; explore, recognise and create patterns and sequences.

Lesson	Focus of Learning (with Elements)	CM	Learning Experiences	Assessment
1	More Numbers to 10: Recalls the number sequence and counts forwards and backwards from 0 to at least 20, starting at any given number using verbal, concrete and pictorial supports (U&C); Establishes the number immediately before or after another number without having to start at 1 (R)		(D) Notice & Wonder L1-2 (D) Reason & Respond L1-2, 4-6 (D) Think-Pair-Share L1-3, 6 (C) Show Me! L1-4 (D) Choral Counting L2-3, 6 (P) Bigger than 10 L2 (C) Build It! L2-3	Intuitive Assessments: responding to emerging misconceptions
2	Numbers to 12: Discusses the grouping and swapping of ten ones to 'make a group of ten' (C); Explores mathematical representation of tens and ones (C); Explores how the names of numerals reflect their relationships to 10 (R)		(D) Quick Images L3, 5 (D) Write-Hide-Show L3, 5 (D) Concept Cartoon L3 (C) Paper Plate Bonds L3 (D) Three-Act Task L4	Planned Interactions: responding to insights gleaned from children's responses to learning experiences
3	Numbers to 14: Participates in grouping and swapping activities involving making tens (A&P); Partitions sets of 2-10 into two or more subsets and recognises that this does not affect the total (R)		(D) Would This Work? L5 (D) (C) Build it; Sketch it; Write it L5 (C) Get in Line! L6 (C) Ordering Toys L6	Assessment Events: information gathered from completion of the unit assessment in the Progress Assessment Booklet pages 12-13
4	Numbers to 15: Explores the relationship between the numbers 11-15 (U&C); Matches numerals and number words to sets and to other numerals in a variety of contexts (A&P)		Print resources Pupil's Book pages 25-30 Home/School Links Book pages 14-15 PCMs 13-14	
5	Tens and Ones to 15: Represents amounts of tens and ones as two-digit numbers (U&C); Describes observable changes in quantitative terms (C); Describes similarities and differences between sets in terms of quantity (C)			
6	Ordering Numbers: Recognises the use of ordinal numbers first, second, third, last in everyday life contexts (U&C); Explains ordinality, using the language of after, before and in-between (C)			
7	Review and Reflect: Reviews and reflects on learning (U&C)			

Key: Elements: (U&C) Understanding and Connecting; (C) Communicating; (R) Reasoning; (A&P) 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

 Progression Continua	See 'Senior Infants <i>Maths and Me</i> Progression Continua Overview' for a detailed breakdown of how all progression continua are covered.
 Maths Language	See 'Senior Infants <i>Maths and Me</i> Maths Language Overview', individual lesson plans and Unit 5 Maths Language Cards.
 Equipment	See 'Senior Infants <i>Maths and Me</i> Maths Equipment Overview' and individual lesson plans.
Inclusive Practices	<ul style="list-style-type: none"> ● See Let's Strengthen and Let's Deepen suggestions throughout lesson plans. ● See Unit 5 Let's Strengthen Suggestions for Teachers. (These address the Common Misconceptions and Difficulties listed below.) ● See Unit 5 Let's Strengthen PCM. ● See Unit 5 Let's Deepen PCM.
Integration	See individual lesson plans.

Background and rationale

- While this unit is concerned largely with the strand unit of Place Value and Base Ten, it also includes learning experiences primarily from Numeration and Counting and Uses of Number; and, to a lesser extent, from Sets and Operations and Patterns, Rules and Relationships. This has been designed to help the children to make rich and meaningful connections between learning experiences in different strand units.
- In this unit, the children will identify numbers up to 15 and will be introduced to the concept of Place Value with Base Ten (i.e. a group of ten and leftover ones).
- The children continue exploring addition and the number bonds of 10, in order to build 10 and work out how many ones (units) are left over. This is explored using a variety of representations, including ten frames, branching bond plates, rekenreks, fingers, number shapes and tally marks.
- In keeping with the *Primary Maths Curriculum 2023*, *Maths and Me* uses the terminology of tens and ones, as opposed to tens and units.
- Continue to use and integrate ordinal numbers into everyday classroom activities (e.g. Who is first/second/last in the line?).

The theme of this unit is **The Playground**.

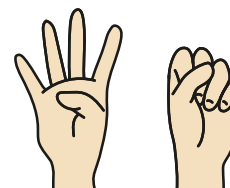
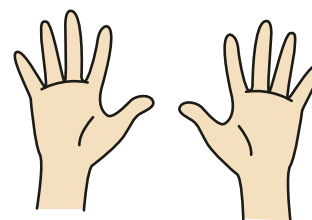
Common misconceptions and difficulties

- The children may find the numbers 11, 12, 13 and 15 hard to remember because they do not follow the same pattern as other teen numbers.
- The children may not recognise the idea of '10 and then some more'.
- When counting, the children may miss out numbers or say the wrong number (e.g. saying 'thirty' instead of 'thirteen', or 'fiveteen' instead of 'fifteen').
- The children may think that two-digit numbers are made up of ones and ones rather than tens and ones (e.g. think that 12 is made up of 1 and 2 rather than 10 and 2).

The Unit 5 Let's Strengthen Suggestions for Teachers address the common misconceptions and difficulties listed above.

Mathematical models and representations

- Assorted countable resources in the classroom (e.g. bears, links, lollipop sticks and counters)
- Groupable materials (e.g. interlocking cubes and links)
- Ten frames
- Rekenreks
- Bead strings
- Fingers
- Number paths
- Number shapes
- Tally marks
- Branching bonds (example of part–whole model)



Fingers showing the number 14

Teaching tip

Ten Frames, Number Paths, Number Shapes and Branching Bond manipulative printables are available to support this unit. Click on the resources icon on the *Maths and Me* book cover on [edcolearning.ie](https://www.edcolearning.ie)

Day 1, Lesson 1

More Numbers to 10

Focus of learning (with Elements)

- Orders, reads and writes numerals up to at least 10 (U&C)
- Establishes the number immediately before or after another number without having to start at 1 (R)

Learning experiences

- D C** Digital activity: The Playground **MAM Routines: Notice & Wonder; Reason & Respond, with Think-Pair-Share**
- C** Concrete activity: Show Me!
- P** Pupil's Book page 25: More Numbers to 10

Equipment

- Manipulatives for counting, such as bears, links, cubes, counters and lollipop sticks
- Counting aids, such as number paths, ten frames, counting beads, rekenreks and number shapes

Maths language

- count, count on, count back, forwards, backwards, represent, show, number bond to 10

Warm-up

 **D** Digital activity: The Playground
MAM Routine: Notice & Wonder

Display the poster and click to play or ask:

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

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.

Main event

 **D C** Digital activity: The Playground
MAM Routines: Reason & Respond, with Think-Pair-Share

Teaching tip

Before this Digital activity, ensure the children have access to a range of concrete manipulatives for counting. Allow the children time to Think-Pair-Share together after each question.

Display the poster and, using Think-Pair-Share to gather feedback, click to play or ask:

- Name some things that you recognise on the poster.
- Do you know what time of year it is?

Before playing Questions 3–6, ask the children to gather concrete manipulatives of their own choosing. Ask them to work in pairs and to use the poster to answer these questions.

- Match the number of children on the slide with your manipulatives.
- Match the number of children on the swings with your manipulatives.
- Match the number of children on the see-saw with your manipulatives.
- Match the number of children on the climbing frame with your manipulatives.

Before moving on to the final four poster questions, ask:

- Which group of children was easiest to match?

Say/ask:

- Now we're going to count the children. Which strategy will you use?

Then click to play or ask Questions 7–10:

- How many children are on the slide?
- How many children are on the swings?

- How many children are on the see-saw?
- How many children are on the climbing frame?

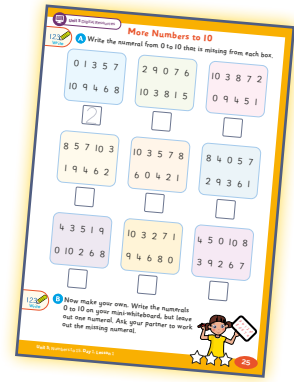
C Concrete activity: Show Me!

Tell the children to show you 8, using their fingers. Ask/say:



- Did anyone do it differently?
- Did anyone use two hands?
- Show me 3/7/5 with your fingers.
- Did anyone do it differently?
- Show me 13.
- Why can't you?
- Can you pair up and show me 13 using two pairs of hands?
- Show me 15/11/18.

P Pupil's Book page 25: More Numbers to 10



Let's strengthen

For further support on numbers to 10, use the Unit 5 Let's Strengthen PCM.

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 0–20 times while counting.

Rhyme Recite the rhyme 'Ten In a Bed', or listen to a recording at edco.ie/nrem

Listen and Count The children close their eyes, listen, and count silently as you drop marbles or buttons into a tin, one by one. Ask them how many you dropped. Using Write-Hide-Show, the children use number tallies or other marks to record their responses.

Days 2 and 3, Lesson 2

Numbers to 12

Focus of learning (with Elements)

- Discusses the grouping and swapping of ten ones to 'make a group of ten' (C)
- Explores mathematical representation of tens and ones (C)
- Explores how the names of numerals reflect their relationships to 10 (R)

Learning experiences

- D Digital activity: Same But Different – Numbers to 12
MAM Routine: Reason & Respond
- D Digital activity: Counting to 15 (1) **MAM Routine: Choral Counting**
- P Class discussion: Bigger than 10
- C Concrete activity: Show Me!
- D C Digital activity: The Playground – Swings **MAM Routines: Notice & Wonder; Reason & Respond, with Think-Pair-Share**
- D C Digital activity: The Playground – See-saw **MAM Routines: Notice & Wonder; Reason & Respond, with Think-Pair-Share**
- C Concrete activity: Build It!
- P Pupil's Book page 26: Numbers to 12

Equipment

- Manipulatives for counting, such as bears, links, cubes, counters and lollipop sticks
- Counting aids, such as number paths, ten frames, counting beads, rekenreks and number shapes
- PCM 13
- Representations of 11 and 12 posters (printables)

Maths language

- tens, ones, eleven, twelve, ten frame, part-whole model, whole, part, bead string, rekenrek

Warm-up

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



D Digital activity: Same But Different – Numbers to 12 *MAM Routine: Reason & Respond*

Play the slideshow and ask the children to propose reasons for why the images are the same and why they are different.



D Digital activity: Counting to 15 (1) *MAM Routine: Choral Counting*

Choose a random number between 1 and 15 to begin. Ask the children to say this number and the next

number, and then count forwards from there without the audio.

Let's deepen

As the children become more confident and competent, challenge them further:

- Ask them to count backwards from various starting points.

Main event

Choose to do some or all over Day 2 and Day 3.

P Class discussion: Bigger than 10

Ask the children to count forwards from 10. As they do so, write the numerals 11–20 first, followed by the words for these numbers on chart paper (one below the other, to allow for representations to be added during the following activity, if relevant).

Ask/say:

- What do you notice about these numbers and words?
- Most are ten and 'something', and most have the suffix 'teen' at the end.
- These (pointing out the relevant numbers) are known as teen numbers.

Underline the suffix 'teen'. Practise saying it with the children, ensuring that they hear the final consonant, 'n'. Make the connection between 'teen' and 'ten'. Highlight the inconsistencies of the language, and for fun, explore alternative, silly forms of the teen numbers: 11 – 'oneteen'; 12 – 'twoteen'; 13 – 'threeteen', 15 – 'fiveteen'.

C Concrete activity: Show Me!

Ask the children to show you the numbers 11 and 12, using rekenreks, beads and strings, ten frames, tally marks, number shapes or fingers (a third hand is needed here!). After they show you the numbers using a variety of manipulatives, attach the Representations of 11 and Representations of 12 poster printables to the chart paper.

D C Digital activity: The Playground – Swings *MAM Routines: Notice & Wonder; Reason & Respond, with Think-Pair-Share*



(Recommended on Day 2.)

Display the poster and ask:

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

Record the children's responses to both questions on the board if you wish. 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.

Then use the audio questions to explore the scene.

Click to play or ask:

- How many children are sharing a swing?
- How many children have a swing to themselves?
- How many children are on the swings altogether?
- What number bond can we make? (6 and 5 equals 11.)
- Is there another way of saying this number bond? (Yes, its turnaround fact is: 5 and 6 equals 11. Is this a new number bond?)
- How many children are sitting?
- How many children are not sitting?
- How many children are holding on using two hands?
- How many children are holding on using one hand?

- How many more children could go on the swings if every swing had two children?

Teaching tip

For the last question, the teacher can draw a second child on each swing. Together, counting in twos, count the total amount of children.



D C Digital activity: The Playground – See-saw MAM Routines: Notice & Wonder; Reason & Respond, with Think-Pair-Share

(Recommended on Day 3.)

Display the poster and 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.

Then use the audio questions to explore the scene.

Then click to play or ask:

- How many children are up in the air?
- How many children are on the ground?
- What number bond can we make? (7 and 5 equals 12.)
- Is there another way of saying this number bond? (Yes, its turnaround fact is: 5 and 7 equals 12. Is that a new number bond?)
- How many children are wearing runners?
- Which side of the see-saw has more children?
- How many more children are needed to have the same amount on both sides?
- Is there any other way to make the groups even?
- If 5 children are on one side of the see-saw, how many more children do we need to make 10?
- If 7 children are on one side of the see-saw, how many more children do we need to make 10?

For the last question, distribute PCM 13 The See-saw and cubes to each child. Tell the children that we are going to work out this question using the PCM and cubes. Using Think-Pair-Share for feedback, ask:

- If we put 7 'children' (cubes) on one side of the see-saw, how many more children do we need to make 10? (Remember our bonds of 10.) Put this number of cubes on the other side of the see-saw.

- How many more do we need to match the poster? (We need 2 more.)

Teaching tip

On the poster, ring the 7 children and the 3 children and write $7 + 3 = 10$. Ask 'How many more children are there?' Then add 2 to the number sentence so it reads: $7 + 3 = 10 + 2 = 12$.

Remember to highlight the bond of 10 and then point out **how many more** are needed to make 12.

C Concrete activity: Build It!

Ask the children to count out 11 interlocking cubes. They link ten cubes together, in whatever bond of 10 they wish to use ($9 + 1$, $7 + 3$, etc.). Ask:

- What bond did you use?
- Did anyone use a different bond?
- What do you notice? How many cubes are left over?
- So we have a 10 and a 1. How many is that altogether?

Ask the children to repeat the activity above, this time with 12 cubes and using a different bond of 10. Ask:

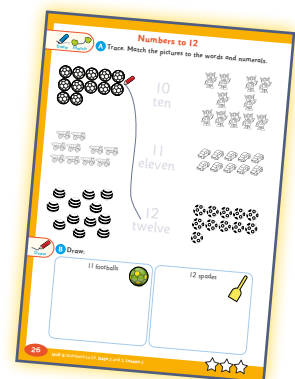
- What bond did you use?
- Did anyone use a different bond?
- What do you notice? How many cubes are left over?
- So we have a 10 and a 2. How many is that altogether?



Let's strengthen

Some children may require cubes of two different colours to show the bond of 10, and a third colour to see leftover cubes, in order to see how to build 11 and 12.

P Pupil's Book page 26: Numbers to 12



Optional consolidation and extension possibilities

Games Bank Play 'Teen Pairs'.

Strategy Wall Add the 'Number Bonds of 10' and 'Turnaround Facts' calculation strategy wall cards to the class strategy wall. Refer to them 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.

Classroom Display If you have not already added 11 and 12 from your poster pack to your number path, do so during this lesson.

Classroom Display Create display posters for 11 and 12. Write the numeral and word for each number on sugar paper. Cut out the different representations from the Representations of 11 and 12 printables. Ask the children to suggest ways of representing each number (e.g. number frame, tallies). As they suggest them, stick the relevant picture on the poster.

Building Numbers 11 and 12 The children use a variety of manipulatives to build the numbers 11 and 12.

Building Tens The children use a variety of manipulatives to build sets/groups of ten and leftovers.

Days 4 and 5, Lesson 3

Numbers to 14

Focus of learning (with Elements)

- Participates in grouping and swapping activities involving making tens (A&PS)
- Partitions sets of 2–10 into two or more subsets and recognises that this does not affect the total (R)

Learning experiences

- **D** Digital activity: See-saw **MAM Routines: Quick Images, with Write-Hide-Show**
- **D** Digital activity: Counting to 15 (2) **MAM Routine: Choral Counting**
- **C** Concrete activity: Show Me!
- **D** Digital activity: Mystery Number (1) **MAM Routines: Concept Cartoon, with Think-Pair-Share**
- **C** Concrete activity: Build It!
- **C** Concrete activity: Paper Plate Bonds
- **P** Pupil's Book page 27: Numbers to 14

Equipment

- Manipulatives for counting, such as bears, links, cubes, counters and lollipop sticks
- Counting aids, such as number paths, ten frames, counting beads, rekenreks and number shapes
- One large paper plate and two smaller paper plates (per pair) for branching-bond templates
- Representations of 13 and 14 posters (printables)

Maths language

- thirteen, fourteen, more, less, fewer

Warm-up

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

- **D** **Digital activity: See-saw MAM Routines: Quick Images, with Write-Hide-Show**

Play the Quick Images slideshow. Click to briefly reveal and then hide the image(s), and use Write-Hide-Show to collect feedback. Ask:

- How many children did you see?

Ask the children to write their estimates on their MWBs. When a number of children have given their estimates, reveal the image again and ask:

- How many children are up?
- How many children are down?
- How many children are there altogether?

Repeat for the remaining images.

**D Digital activity: Counting to 15 (2)****MAM Routine: Choral Counting**

Choose a random number between 1 and 15 to begin. Ask the children to say this number and the next number, and then count forwards from there without the audio.

Main event

Choose to do some or all over the two days.

C Concrete activity: Show Me!

Ask the children to show you the numbers 13 and 14 using rekenreks, beads and strings, ten frames, tally marks, number shapes or fingers (a third hand is needed here!). After they show you the numbers using a variety of manipulatives, attach Representations of 13 and Representations of 14 poster printables to the chart from Lesson 2.

**D Digital activity: Mystery Number (1)****MAM Routines: Concept Cartoon, with Think-Pair-Share**

Display the Concept Cartoon, in which the characters are guessing what number is in the box. Click each character to hear their thoughts. Use Think-Pair-Share for feedback.

Let's strengthen

Some children may need the support of a number path.

Let's deepen

Ask some children to find more than one answer that they agree with or disagree with.

C Concrete activity: Build It!

Ask the children to count out 13 interlocking cubes. They link ten cubes together, in whatever bond of 10 they wish to use (9 + 1, 7 + 3, etc.). Ask:

- What bond did you use?
- Did anyone use a different bond?
- What do you notice? How many cubes are left over?
- So we have a 10 and a 3. How much is that altogether?

Let's deepen

As the children become more confident and competent, challenge them further:

- Ask them to count backwards from various starting points.

Let's strengthen

Some children may require cubes of two different colours to show the bond of 10, and a third colour to see leftover cubes, in order to see how to build 13 and 14.

C Concrete activity: Paper Plate Bonds

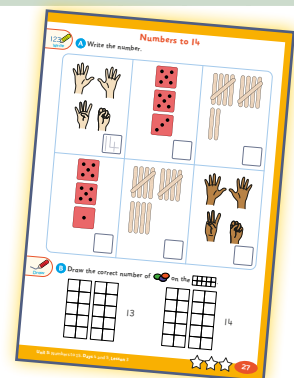
Distribute three paper plates to each pair. Using their choice of manipulatives, the children create as many number bonds for 13 and 14 as they can.

Let's strengthen

Some children may need the support of a ten frame.

Let's deepen

Ask some children to find a bond for each of 13 and 14, using three numbers.

P Pupil's Book page 27: Numbers to 14

Optional consolidation and extension possibilities



Story Read *Ten Little Ladybirds* by Melanie Gerth, or listen to a recording at edco.ie/cmvr8

Home/School Links Book Page 14 can be completed at any time after this lesson.

Classroom Display Create display posters for 13 and 14. Write the numeral and word for each number on sugar paper. Cut out the different representations from the Representations of 13 and 14 printables. Ask the children to suggest ways of representing each number (e.g. number frame, tallies). As they suggest them, stick the relevant picture on the poster.

Classroom Display If you have not already added 13 and 14 from your poster pack to your number path, do so during this lesson.

Building Numbers 13 and 14 The children use a variety of manipulatives to build the numbers 13 and 14.

Building Tens The children use a variety of manipulatives to build sets/groups of ten and leftovers.

Day 6, Lesson 4

Numbers to 15

Focus of learning (with Elements)

- Explore the relationship between the numbers 11–15 (U&C)
- Matches numerals and number words to sets and to other numerals in a variety of contexts (A&PS)

Learning experiences

- D** Digital activity: Same But Different – Numbers to 15 **MAM Routine: Reason & Respond**
- C** Concrete activity: Show Me!
- D** Digital activity: Scrambled Eggs **MAM Routine: Three-Act Task**
- P** Pupil's Book pages 28–29: Numbers to 15

Equipment

- Manipulatives for counting, such as bears, links, cubes, counters and lollipop sticks
- Counting aids, such as number paths, ten frames, counting beads, rekenreks and number shapes
- Three paper plates per pair for branching-bond templates
- PCM 14
- Representations of 15 poster (printable)

Maths language

- fifteen, how many?, altogether

Warm-up



D **Digital activity: Same But Different – Numbers to 15** **MAM Routine: Reason & Respond**

Play the slideshow and ask the children to propose reasons for why the images are the same and why they are different.

Main event

C **Concrete activity: Show Me!**

Ask the children to show you the number 15 using rekenreks, beads and strings, ten frames, tally marks, number shapes or



Assessment Opportunity

fingers (a third hand is needed here!). After they show you the number using a variety of manipulatives, attach the Representations of 15 poster printable to the chart from Lesson 2.



D Digital activity: Scrambled Eggs

MAM Routine: Three-Act Task

Act 1: Notice & Wonder

Play the video, in which Mia drops two cartons of eggs on the kitchen floor. 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 eggs did not break?

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

The children may pick numbers in the hundreds or thousands for their 'too high' estimate. Encourage them to pick a more reasonable 'too high' estimate (anything in the twenties or thirties is reasonable here).

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 do you need to know?

Once the children explain that they need to see how many eggs they started with, and how many eggs broke, flip the image and play the video, which shows the number of eggs in the cartons before they were dropped (15).

Teacher note: Pause the video when the 15 eggs are on screen. Show them PCM 14 Scrambled Eggs. Press play to reveal the broken eggs (11). Pause to allow the children to work towards an answer, then click to play or ask:

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

Ask the children to choose their preferred way to mathematically model their solution(s) using Build it; Sketch it; Write It, using PCM 14 if they wish.

Act 3: The Big Reveal

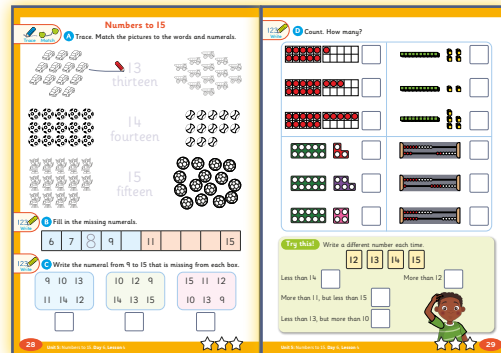
The children share and discuss their strategies, solutions and models. Click to play or ask:

- What answer did you get?
- How did you get that answer?
- What was difficult? What was easy?

Next, flip to display the 'big reveal' image, which shows the 4 unbroken eggs. 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?

P Pupil's Book page 28 and 29: Numbers to 15



Optional consolidation and extension possibilities

Building Number 15 The children use a variety of manipulatives to build the number 15.

Maths Journal Write the numerals 13–15 or 11–15 in order. Write the number words.

Science Collect fallen leaves/twigs/chestnuts to create the numbers 11–15. Drop them on the ground outside and put a hula hoop around them. Ask if they have a 'teen' number of items. These can also be photographed and used as a classroom display.

Classroom Display Create a display poster for 15. Write the numeral and word on sugar paper. Cut out the different representations from the Representations of 15 printable. Ask the children to suggest ways of representing 15 (e.g. number frame, tallies). As they suggest them, stick the relevant picture on the poster.

Classroom Display If you have not already added 15 from your poster pack to your number path, do so during this lesson.

Days 7 and 8, Lesson 5

Tens and Ones to 15

Focus of learning (with Elements)

- Represents amounts of tens and ones as two-digit numbers (U&C)
- Describes observable changes in quantitative terms (C)
- Describes similarities and differences between sets in terms of quantity (C)

Learning experiences

- D** Digital activity: Dot Patterns (5)
MAM Routines: Quick Images, with Write-Hide-Show
- D** Digital activity: Which One Doesn't Belong? (4)
MAM Routines: Reason & Respond, with Think-Pair-Share
- D** **C** Digital activity: Tens and Ones **MAM Routines: Would This Work?, with Build it; Sketch it; Write it**
- C** Concrete activity: Representing Numbers
MAM Routine: Build it; Sketch it; Write it
- D** Digital activity: Matching Numerals to Representations (1)
MAM Routine: Reason & Respond
- P** Pupil's Book page 30: Tens and Ones to 15

Equipment

- Manipulatives for counting, such as bears, links, cubes, counters and lollipop sticks
- Counting aids, such as number paths, ten frames, counting beads, rekenreks, number shapes and part-whole models

Maths language

- largest, smallest, order, compare

Warm-up

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

- D** **Digital activity: Dot Patterns (5)** **MAM Routines: Quick Images, with Write-Hide-Show**

Play the slideshow, which contains dots in a range of subitising patterns. Click to briefly reveal and then hide the image(s), and use Write-Hide-Show to collect feedback. Ask:

- How many dots?

Ask the children to write their estimate on their MWBs. When a number of children have given their estimates, reveal the image again and discuss the counting strategies used.

- D** **Digital activity: Which One Doesn't Belong? (4)** **MAM Routines: Reason & Respond, with Think-Pair-Share**

(Use one or two of these slides a day as a warm-up activity.)

Display a slide and ask:

- Which one doesn't belong?

Tell the children to record the number on their MWBs. Use Think-Pair-Share for feedback, asking the children to give reasons for their answers.

Main event

Choose to do some or all over the two days.

- D** **C** **Digital activity: Tens and Ones** **MAM Routines: Would This Work?, with Build it; Sketch it; Write it**

Display the activity, in which one part of a part-whole model is missing (12 is the whole and one

part is 7). First, ask the children to use Build it; Sketch it; Write it. First, to model and solve the question. Allow time for the children to share how they did it. Then, click to see the characters show a variety of ways to work out the other part. Ask:

- Do they work?
- Who do you agree with?
- Would you choose any different strategies to help?

C Concrete activity: Representing Numbers
MAM Routine: Build it; Sketch it; Write it

Ask the children to work in pairs or small groups to represent and compare various numbers from 10 to 15, using at least one mathematical model from those below.

- **Build it:** Can you use classroom resources to represent the number? Show us.
- **Sketch it:** Can you represent the number as a sketch? Show us.
- **Write it:** Can you use words, branching bonds or number sentences to represent the number? Show us.

Teaching tip

Send the children on a gallery walk to see other groups' representations. Then discuss the differences and draw the children's attention to the quantitative differences between the numbers (e.g. Group A represented 11 and Group C represented 12 using the same tally marks. But what was different?).

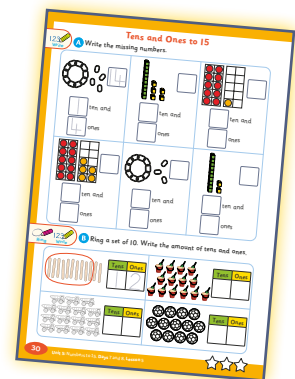
D Digital activity: Matching Numerals to Representations (1)

MAM Routine: Reason & Respond

Play the interactive matching game, in which the children must match the numerals to their representations. To create a match, click and drag to draw a line to connect the two images.



P Pupil's Book page 30: Tens and Ones to 15



Let's deepen

For further challenge with tens and ones, use the Unit 5 Let's Deepen PCM.

Optional consolidation and extension possibilities

Maths Journal Use catalogues from supermarkets. Cut out numerals to create the numbers 11–15. Or cut out pictures of people from catalogues and order them at a bus stop, 1st, 2nd, 3rd, last.

Home/School Links Book Page 15 can be completed any time after this lesson.

Games Bank Play 'Teen Pairs'.

Matching Match number cards 11–15 to the photographs of nature items if you did the Science activity yesterday. Otherwise match the number cards to a variety of sets created using classroom items.

Building Tens The children use a variety of manipulatives to build sets/groups of ten and leftovers.

Day 9, Lesson 6

Ordering Numbers

Focus of learning (with Elements)

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

Learning experiences

- D** Digital activity: Counting to 15 (3) **MAM Routine: Choral Counting**
- D** Digital activity: Which One Doesn't Belong? (5)
MAM Routines: Reason & Respond, with Think-Pair-Share
- D** Digital activity: Where in the Queue? (1)
MAM Routine: Reason & Respond
- C** Concrete activity: Get in Line!
- C** Concrete activity: Ordering Toys

Equipment

- Manipulatives for counting, such as bears, links, cubes, counters and lollipop sticks
- Counting aids, such as number paths, ten frames, counting beads, rekenreks, number shapes
- Toys

Maths language

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

Warm-up

- D** Digital activity: Counting to 15 (3)
MAM Routine: Choral Counting

Choose a random number between 1 and 15 to begin. Ask the children to say this number and the next number, and then count forwards from there without the audio.

Let's deepen

As the children become more confident and competent, challenge them further:

- Ask them to count backwards from various starting points.

- D** Digital activity: Which One Doesn't Belong? (5)
MAM Routines: Reason & Respond, with Think-Pair-Share

(Use one or two of these slides as a warm-up activity.)

Display a slide and ask:

- Which one doesn't belong?

Tell the children to record the number on their MWBs. Use Think-Pair-Share for feedback, asking the children to give reasons for their answers.

Main event

- D** Digital activity: Where In the Queue? (1)
MAM Routine: Reason & Respond

Play the slideshow, in which the characters are standing in different queues. Click to play the audio questions about the characters' positions in each queue.

- C** Concrete activity: Get in Line!

Tell the children to stand in line in their group. Ask, for example:

- How many children are there in the line/queue?
- Who is first?
- Who is last?
- Where is *Sarah* in the line?
- Where is *Jamie* in the line?
- Who is standing between *Karl* and *Izzy*?



- Who is standing in front of *Amir*?
- Who is standing behind *Tara*?
- Which two children is *Jenny* standing in-between?

- C** Concrete activity: Ordering Toys

In groups, tell the children to make a line of toys and to ask each other questions similar to those above, such as:

- How many toys are there in the line/queue?
- Which toy is first?
- Which toy is last?
- Which toy is between the car and the teddy?
- Which toy is in front of the doll?
- Which toy is behind the dinosaur?
- What two toys is the tractor in-between?

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 0–20 times while counting.

Rhyme Recite ‘One, Two, Buckle My Shoe’ (until at least 9, 10...), or listen to a recording at edco.ie/y795

Games Bank Play ‘Teen Pairs’.

Story Read *How Many Feet In the Bed?* by Diane Johnston Hamm, or listen to a recording at edco.ie/wwpq



Day 10, Lesson 7

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>Let’s talk!</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>Let’s play!</p> <p>Games Bank Play ‘Teen Pairs’ or ‘Cross-out Totals’.</p>
<p>Maths language</p> <p>Ask the children to represent the numbers 11–15, using representations on their MWBs. Use the maths language cards for this unit to revise the key terms. For example: if the image and text are cut apart, can the children match them?</p>	<p>Let’s create!</p> <p>Ask the children to create one of the numbers 11–15 in their own choice of art medium (collage, paint, clay, etc.).</p>
<p>Progress Assessment Booklet</p> <p>Complete Questions 18–22 on pages 12–13. Alternatively, these can be left to do as part of a bigger review during the next review week.</p>	<p>Maths strategies and models</p> <p>Ask the children to give examples of the strategies they used in this unit. For the various problem tasks and investigations, how did they record their findings? What did they build, sketch, write, etc.? Which strategies and models did they prefer and why?</p>
<p>Let’s strengthen</p> <p>Identify children who might benefit from extra practice with some of the key concepts or skills in this unit. Consult the Unit 5 Let’s Strengthen Suggestions for Teachers and/or use the Unit 5 Let’s Strengthen PCM.</p>	<p>Let’s deepen</p> <p>Use the Unit 5 Let’s Deepen PCM.</p>

