Maths and Me: 1st Class – Short-Term Plan, Unit 5: Time 1 (November: Weeks 1&2)

Strand(s) > Strand unit(s)	Measures > Time.
Learning Outcome(s)	Through appropriately playful and engaging learning experiences children should be able to understand how time is measured, expressed and represented; explore equivalent expressions of time.

Lesson	Focus of Learning (with Elements)	CM	Learning Experiences	Assessment
1	**Units of Time:** Articulates and shares prior understanding of time concepts and vocabulary (U&C); Identifies, compares and sequences units of time (R); Begins to identify equivalent units of time (R)		D Notice & Wonder L1–6 D Think-Pair-Share L1–2, 4 D C P Reason & Respond L1–7 D C Write-Hide-Show L1–7 D Days of the Week L3 D Months of the Year L3 C P Sorting and Sequencing Days, Months, Days and Seasons L3 D Days in Each Month L4 C P Create a Calendar L4 C P The Calendar Game L4 D Quick Images L6–7 C Half of the Clock L6 C P Exploring and Sequencing Time Cards L6 **Print resources** Pupil's Book pages 32–37 Home/School Links Book pages 14–15 PCMs 19, 20, 21, 22, 23, 24, 25	**Intuitive Assessment:** responding to emerging misconceptions **Planned Interactions:** responding to insights gleaned from children's responses to learning experiences **Assessment Events:** information gathered from completion of the unit assessment in the Progress Assessment Booklet pages 13–14
2	**Estimating and Measuring Time:** Establishes and makes reasonable estimations and measures of time (R); Communicates the sequence of events (C)			
3	**Days, Months and Seasons:** Communicates the sequence of days of the week, months of the year and seasons (C); Relates months and seasons to each other (R)			
4	**The Calendar:** Explores the functionality of the calendar (month to a page) and identifies dates (U&C); Communicates the number of days in the month (C)			
5	**O'Clock:** Recognises time in hours on analogue clocks (U&C); Reads and records time in one-hour intervals on analogue clocks (C)			
6	**Half Past:** Recognises time in half hours on analogue clocks (U&C); Reads and records time in half-hour intervals on analogue clocks (C); Investigates the fractional representation of time on an analogue clock (R)			
7	**Estimating Time:** Makes approximations of the present time or the time shown on analogue clocks using appropriate language (C); Establishes and makes reasonable estimations and measures of time (R)			
8	**Review and Reflect:** 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

Progression Continua	See 'First Class *Maths and Me* Progression Continua Overview' for a detailed breakdown of how all progression continua are covered.
Maths Language	See 'First Class *Maths and Me* Maths Language Overview', individual lesson plans and Unit 5 Maths Language Cards.
Equipment	See 'First Class *Maths and Me* Maths Equipment Overview' and individual lesson plans.
Inclusive Practices	• 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

- This unit is a two-week block of content, located in November, specifically positioned to come after Fractions (half and halves) and before Transformations (half turns, clockwise, anti-clockwise).
- In Senior Infants, the children were introduced to time, to hour intervals. Therefore, this will be the first time they are introduced formally to half-hour intervals.

Supporting the learning of time throughout the year

Time is an abstract concept and an essential life skill. Managing daily activities and telling the time are vital yet tricky skills for the children to learn. Therefore, it is essential that teachers maximise all opportunities to embed and reinforce understanding of time concepts, for the children to learn about it broadly and naturally – not just during these units on Time, but throughout the school day and school year.

Creating a time-rich learning environment

Where possible, display the following physical resources, in prominent locations, and incorporate them in a meaningful way into the daily routine:

- Display an analogue clock, with all 12 numerals, minute interval markings around the outer edge, with easily distinguishable hands.
- Use images of clocks marking notable times throughout the day, e.g. lunchtime, play time, home time.
- Use sand timers, online timers and/or countdown timers (with visual and audible features) to measure and monitor the time available for completing certain tasks.
- Make a display of the current day, date, month, season and weather, which could be incorporated into the morning routine. For example: 'Today is Monday the 3rd of March. Yesterday was …' Do this as appropriate to the class level; it could start as quite a simple routine and then develop in detail as the school year progresses.
- Current Calendar: At the beginning of each month, co-create a calendar for the month, and on it note any dates of significance (birthdays, school holidays, etc.).
- Use lists (poster, flash cards, etc.) of the days, months and seasons. The months list could also be used to incorporate birthday data.
- Use visual timetables and schedules (whole class and for individuals). Name each part of the daily routine and place it on the timetable each morning, with the help of the children. Some classes benefit from the timetable being further broken up into parts of the day (e.g. before break, after break, after lunch). Include a card that reads 'flexible' to help the children understand that routines always need to be flexible.

- Classroom Displays: Explore broader concepts of time in other subjects, e.g. change, growth, development and life cycles in plant, animal and human life, both in SPHE and Science, Technology and Engineering; planets, weather and seasons in Geography; sequencing events in stories and developing a sense of chronology in Language and History.

Time-rich Maths Talk

Refer to, and talk about, the resources listed above whenever appropriate.

Emphasise/incorporate the vocabulary of time by using it in meaningful contexts, as often as possible. Include the time of the event and/or its duration. For example:

- We have lunch at 12 o'clock (event). It lasts 15 minutes (duration).
- Sam's birthday is on Saturday (event). How many more sleeps until his birthday (duration)?
- We have 15 minutes to do this (duration).
- What will we do first/next/last?

Play and playful learning

- Pretend Play: Incorporate time devices as part of the props and equipment available. This could include shop opening and closing times, recipes for cooking and baking, timers, clocks, watches, illustrations of sequencing steps (e.g. planting in the garden, creating an art piece for the art gallery).
- Physical Play and Games: Use timers and time language for races, obstacle courses and games, e.g. 'Who came first? Who was next? How long does it take to complete the obstacle course? Can we get faster? How many jumps/goals before the timer runs out?'

The theme of this unit is **Cinderella**. The theme was carefully chosen to provide an appropriate and engaging context for exploring the various aspects of time.

Common misconceptions and difficulties

Time is a very abstract concept, and perceiving the passage of time may often depend on the perspective of the individual, e.g. time flies when you're having fun! It is also the only measure taught in primary school that is not on a base ten system.

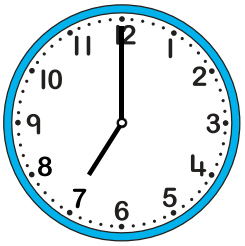
- The children may believe that time passes much slower or faster than in reality.
- They may confuse 'more time taken' as *faster* and 'less time taken' as *slower.*
- They may have difficulty recalling the sequence of familiar units of time (e.g. days, months, seasons) and their equivalents (e.g. the number of hours in a day, days in a week).
- They may incorrectly assume that there are five days in a week; that all months have the same number of days; that all months start on the same day; that the same date will be the same day every year.
- They may incorrectly assume that the calendar is structured like a 100 square, i.e. rows of 10, 1st of the month to be in the top left-hand corner.
- They may confuse language such as *before* and *after*; *quicker* and *slower*; *earlier* and *later*.
- They may incorrectly assume that time is measured on a base ten system, e.g. 100 minutes in an hour.
- They may confuse the purpose of each hand on the analogue clock (i.e. which hand is the hour hand and which is the minute hand), the direction in which it travels and the words *clockwise* and *anti-clockwise*.
- They may incorrectly assume that on an analogue clock, the hour hand only points directly at a number (and not appreciate that it travels slowly from number to number).

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

Mathematical models and representations

- Representations of analogue watches/clocks, timers and time tools on devices, e.g. tablets, phones
- Variety of calendar types

Analogue watch



Analogue clock

Digital clock

Month-by-month calendar

Teaching tip

An Analogue Clock Face and Hands manipulative printable is available to support this unit. Click on the resources icon on the *Maths and Me* book cover on **edcolearning.ie**

Day 1, Lesson 1

Units of Time

Focus of learning (with Elements)

- Articulates and shares prior understanding of time concepts and vocabulary (U&C)
- Identifies, compares and sequences units of time (R)
- Begins to identify equivalent units of time (e.g. 24 hours in a day) (R)

Learning experiences

(D) Animation: The Invitation
***MAM* Routines: Notice & Wonder, with Think-Pair-Share**

(D) Digital activity: Cinderella's Kitchen ***MAM* Routines: Notice & Wonder; Reason & Respond, with Write-Hide-Show**

(C) (P) Concrete activity: Maths Language Cards
***MAM* Routine: Reason & Respond**

Equipment

- Unit 5 Maths Language Cards

Maths language

- time, clock, second(s), minute(s), hour(s), day(s), week(s), month(s), year(s), season(s), morning, afternoon, evening, night, today, yesterday, tomorrow

Warm-up

(D) Animation: The Invitation *MAM* Routines: Notice & Wonder, with Think-Pair-Share

Play the animation without sound. Using Think-Pair-Share, 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.

Replay the animation, this time with the sound on. Ask the same questions again, and amend or add to the feedback on the board.

Main event

(D) Digital activity: Cinderella's Kitchen
***MAM* Routines: Notice & Wonder; Reason & Respond, with Write-Hide-Show**

Assessment Opportunity

Display the poster and ask or click to play the questions below to prompt the children to consider the scene. The children can use Write-Hide-Show on their MWBs to respond to the questions (some questions may have already been answered in the warm-up). Whenever appropriate, ask the children to give reasons for their response(s).

- What time of the year do you think this is? (autumn: autumnal colours and ripe pumpkins)
- What month is it?
- What things can be seen that can be used to measure time? What is each of them telling us?
- Look at the clock. What time is it? (9 o'clock in the morning. It is 9 o'clock because the long minute hand is pointing to the top of the clock, telling us that it is something o'clock. The short hour hand is pointing straight at 9, telling us that it is 9 o'clock. It is morning because we do not say '9 o'clock in the afternoon', and we typically do not say '9 o'clock in the evening'; we usually say '9 o'clock in the morning' or '9 o'clock at night'. It is most likely to be 9 o'clock in the morning, because it is bright outside and the story in the animation said that Cinderella got up two hours ago.)
- Can you think of different ways to say or write this time? (While the children may not have been formally introduced to digital time, many of them

are likely to have encountered it and may know that they could write this time as *9:00*.)

- If Cinderella got up two hours ago, what time did she get up? (7 o'clock in the morning: one hour before 9 is 8, and two hours before 9 is 7. This can be shown by pointing at the hour numbers on the clock, starting at 9 and going back two jumps.)
- Cinderella lit the fire an hour ago. What time did she light the fire? (8 o'clock in the morning)
- Cinderella is boiling eggs. What can she use to measure the time?
- If the ball is on Saturday and today is Monday, how many days is it until the ball? (5 days)
- If the ball starts at 8 o'clock, what time of day do you think that is? (It must be 8 o'clock in the evening because balls do not start in the morning.)

Teaching tip

These questions can be used to assess the children's understanding and may identify those who are confident or struggling. Encourage the children to justify their responses and to use appropriate evidence and/or models to explain their reasoning. Prompt the children to use accurate language and equivalent expressions of time when suitable.

Concrete activity: MathsLanguage Cards
***MAM* Routine: Reason & Respond**

Teaching tip

This activity is largely to establish what the children already know. Allow the children's existing knowledge to dictate the depth to which these questions and their answers are developed.

Reflecting on the story in the animation, ask the children the following questions, encouraging them to give reasons as relevant:

- What units of time were part of the story? (minutes, hours, days, months)
- What other units of time can you think of?
- Which ones are shorter?
- Which ones are longer?

Display the Unit 5 Maths Language Cards (Units of Time) and ask:

- (For each word) Can you give me a sentence to explain this word, using an example from the story or from your own life?
- Which word would you use to complete these sentences?
  1. Each week I am in school for 5 _____.
  2. I can boil an egg in 5 _____.
  3. Each day, I go to school for 5 _____.
  4. Babies start to eat food when they are around 5 _____ old.
  5. I can count to 10 in 5 _____.
  6. Children start primary school when they are around 5 _____ old.
- Which units of time are closely connected? Can you explain how they are connected?
- (Pick out two of the units of time.) Which is longer? Which is shorter?
- Arrange the units of time in order from shortest to longest. (seconds, minutes, hours, days, weeks, months, seasons, years)

Let's deepen

Challenge the children to compare two of the units of time using the words and/or symbols of greater than (>) and less than (<).

Optional consolidation and extension possibilities

Story Read *A Second Is a Hiccup* by Hazel Hutchins, or listen to a reading at: edco.ie/m8u8

Time Display Set up a display for Time in the classroom. This could include examples/images of various time devices, as well as appropriate labels (see the Unit 5 Maths Language Cards). The children could contribute samples of their own work/constructions from this lesson and label them. The children could source real objects from home to add to the display.

My Book of Time Work on PCM 19: My Book of Time at any stage during this unit. When completed it could be added to the display or fixed into the child's Maths Journal.

Day 2, Lesson 2

Estimating and Measuring Time

Focus of learning (with Elements)

- Establishes and makes reasonable estimations and measures of time (R)
- Communicates the sequence of events (e.g. 24 hours in a day) (C)

Learning experiences

- (D) Digital activity: Cinderella's Chores ***MAM* Routines: Notice & Wonder, with Think-Pair-Share**
- (D) Digital activity: Cinderella's Chores ***MAM* Routines: Reason & Respond, with Write-Hide-Show**
- (D) Digital activity: Cinderella's Chores – What Takes Longer? ***MAM* Routines: Reason & Respond, with Write-Hide-Show**
- (P) Pupil's Book page 32: Estimating and Measuring Time

Equipment

- A variety of timers, e.g. digital stopwatch (on a digital watch, mobile phone, tablet, laptop or internet), analogue watch/clock with a second hand, sand timers

Maths language

- 1st, 2nd, 3rd..., longer, longest, shorter, shortest, more/less time, faster, slower

Warm-up

(D) **Digital activity: Cinderella's Chores**
***MAM* Routines: Notice & Wonder, with Think-Pair-Share**

Display the poster, which shows Cinderella's chore list. Using Think-Pair-Share, 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.

Main event

(D) **Digital activity: Cinderella's Chores**
***MAM* Routines: Reason & Respond, with Write-Hide-Show**

Teaching tip

Use this activity as an opportunity to also revise ordinal numbers: 1st, 2nd, 3rd, etc.

Display the poster, which shows Cinderella's chore list, and ask or click to play the questions below. The children can use Write-Hide-Show on their MWBs to respond to the questions. Ask the children to give reasons for their responses (some of these questions may have already been answered in the warm-up):

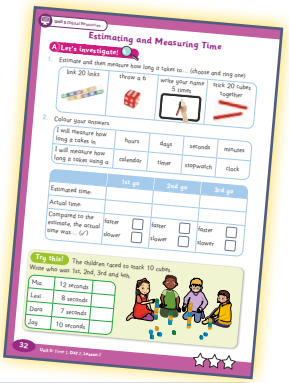
Assessment Opportunity

- What are the chores on Cinderella's list?
- What chores need to be done before others? (Prepare breakfast before dinner.)
- Which chore might take the longest time to do?
- Which chore, do you think, might take the shortest time to do?
- Pick a chore. Would this chore take Cinderella seconds, minutes, hours or days to do?
- Pick a chore. How many seconds, minutes, hours or days do you think this chore might take?
- Which chores might take longer than an hour?
- Which chores might take less than an hour?
- Which chores might take less time to do than the length of our lunch break? (If appropriate, prompt the children to identify approximately how many minutes that is.)
- Are there any chores that Cinderella may need to do more than once a day?

D **Digital activity: Cinderella's Chores – What Takes Longer? *MAM* Routines: Reason & Respond, with Write-Hide-Show**

Display each set of cards in the interactive discussion tool. Ask the children to use their MWBs to suggest which chore takes longer.

P **Pupil's Book page 32: Estimating and Measuring Time**



Teaching tip

Allow the children to choose which task to complete, how to conduct the investigation (e.g. as a whole class, group or individuals), how to time the task and what timer they should choose. This will also depend on the resources available. This can also be completed as stations, i.e. set up the required resources for a task on a table and when the group has completed that task, they could move on to try another one.

Let's deepen

Challenge the children to reflect on the effectiveness and/or accuracy of the available timers in the classroom, e.g. a one-minute sand timer will only be able to give you an approximate time close to the nearest minute.

Challenge the children to suggest how they could measure time without a timer, e.g. count how many claps it takes, reciting aloud, 'One banana, two bananas, three bananas...'

Optional consolidation and extension possibilities

Continuing the Learning Maximise opportunities to measure time on an ongoing basis, e.g. use timers as part of regular classroom management; estimate and discuss how long class activities will take; time PE activities, such as races.

Time Display The children could contribute examples of their own work from this lesson and label them.

Story Read *Me Counting Time: From Seconds to Centuries* by Joan Sweeney, or listen to a reading at: edco.ie/6s7g

Let's Deepen Distribute the Unit 5 Let's Deepen PCM. The children measure events in terms of number of claps or jumping jacks. If appropriate, discuss how a standard unit of measurement would be fairer/more accurate.

My Book of Time Work on PCM 19 at any stage during this unit.

Day 3, Lesson 3

Days, Months and Seasons

Focus of learning (with Elements)

- Communicates the sequence of days of the week, months of the year and seasons (C)
- Relates months and seasons to each other (R)

Learning experiences

D Digital activity: Months *MAM* Routine: Reason & Respond

D Digital activity: Cinderella's Calendar *MAM* Routines: Notice & Wonder; Reason & Respond, with Write-Hide-Show

D Video: Days of the Week

D Video: Months of the Year

D Digital activity: Months and Seasons *MAM* Routines: Reason & Respond, with Write-Hide-Show

P C Concrete activity: Sorting and Sequencing Days, Months and Seasons

P Pupil's Book page 33: Days, Months and Seasons

Equipment

- PCM 20

Maths language

- names of days, names of months, names of seasons, earlier, later

Warm-up

D Digital activity: Months
***MAM* Routine: Reason & Respond**

Open the interactive sequencing activity and ask:

- What do you notice?
- Why have these images been chosen for each month?
- What other images could have been used for each month?
- What needs to be done to these months?

Ask individual children to come to the board to order the months correctly.

Repeat activity as required.

Main event

D Digital activity: Cinderella's Calendar
***MAM* Routines: Notice & Wonder; Reason & Respond, with Write-Hide-Show**

Display the poster and ask or click to play the questions below. The children can use Write-Hide-Show on their MWBs to respond to the questions. Whenever appropriate, ask the children to give reasons for their response(s), for example, to explain why or how they think this is. If a recap is necessary, replay the animation from Lesson 1.

Assessment Opportunity

- Look at the calendar. What day is the 7th of October?
- What day comes before this? What comes after?
- What day is the ball?
- How many days are between Monday and the ball?
- What month is shown on the calendar?
- What month comes before this? What comes after?
- What season do you think it is?
- What season comes before this? What month comes after?
- What are the months in autumn? In winter?
- What are the months in spring? In summer?

D Video: Days of the Week

D Video: Months of the Year

Play either, or both, of the songs. Repeat as desired/required.

Choose to do either/both of the following activities:

D Digital activity: Months and Seasons
***MAM* Routines: Reason & Respond, with Write-Hide-Show**

Teacher note: This digital resource is based on the chart on page 33 of the Pupil's Book.

Open the interactive chart to explore the seasons and the months of the year. Start by exploring the months of spring. Ask:

- What is the first month of spring? (Click to reveal the name of the month.)
- What is special about this month? (Click to reveal an icon appropriate to the month.)
- What month of the year is this month? (Click to reveal the number of the month.)

Click on any other section to rotate it to the top of the chart. Then repeat as required, asking similar questions to those above.

Let's deepen

Make this activity more challenging by (a) clicking to hide the names of the seasons, and/or (b) hiding all the details except the numbers of the months and asking the children to identify the matching month name.

P C Concrete activity: Sorting and Sequencing Days, Months and Seasons

Using PCM 20: Sorting and Sequencing Days, Months and Seasons, ask the children in pairs/small groups to cut out and organise the names as they see fit. Afterwards, ask the children:

- How did you sort these? Why did you do it this way?
- What other ways could they be sorted? (by days/months/seasons; by capital letters/small letters; months with their season, etc.)

If not done already, tell the children to place the months with their season. Say:

- Describe what you did. Put each season in order.

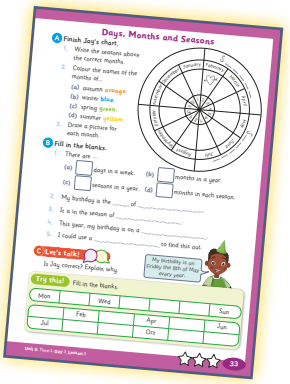
Emphasise that the days start with Monday. Perhaps display these in linear fashion, left to right, leading into calendars in Lesson 4. Ask:

- What day/month/season is it now?
- What day/month/season comes before/after this month/day/season?
- Which day/month/season is earlier/later than this month/day/season?

Begin the What-Did-I-Take? activity. Turn away while one of the words is removed. Turn back, ask:

- Can you say what is missing?
- What strategy could you use to work out the missing month? (e.g. month before/month after, rather than starting at January each time)
- What month follows March? Prove it. (e.g. recite months, point to calendar, sing our month song)
- In which month is your birthday?
- In which season is that month?

P **Pupil's Book page 33: Days, Months and Seasons**



Optional consolidation and extension possibilities

Time Display The children could contribute examples of their own work from this lesson and label them.

Continuing the Learning Maximise on opportunities to refer to calendars on an ongoing basis, e.g. asking the current day, date, month, season. Use opportunities to explore the concepts of days, weeks, months, seasons and years in other subjects, e.g. change, growth, development and life cycles in plant, animal and human life, both in SPHE and Science, Technology and Engineering; planets, weather and seasons in Geography; chronology in History.

Integration The seasons provide opportunities for integration with Arts Education, e.g. responding to the seasons via art, music, drama and dance.

Story Read *Game Time!* by Stuart J. Murphy, or listen to a reading at: edco.ie/mj6z

Story Read *Pepper's Journal: A Kitten's First Year* by Stuart J. Murphy.

Maths Journal The children could paste the days, months and seasons (see PCM 20) in order into their Maths Journals.

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

Days 4 and 5, Lesson 4

The Calendar

Focus of learning (with Elements)

- Explores the functionality of the calendar (month to a page) and identifies dates (U&C)
- Communicates the number of days in the month (C)

Learning experiences

- D Digital activity: The Calendar *MAM* **Routines: Notice & Wonder, with Think-Pair-Share**
- D Digital activity: The Calendar *MAM* **Routines: Reason & Respond, with Write-Hide-Show**
- D Video: Days in Each Month
- C P Concrete activity: Create a Calendar
- C P Concrete activity: The Calendar Game
- P Pupil's Book page 34: The Calendar

Equipment

- A variety of calendar types
- PCM 21
- PCM 22

Maths language

- calendar, date

Warm-up

D Digital activity: The Calendar *MAM* Routines: Notice & Wonder, with Think-Pair-Share

Display the poster and, using Think-Pair-Share, 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.

Main event

D Digital activity: The Calendar *MAM* Routines: Reason & Respond, with Write-Hide-Show

Display the poster and ask or click to play the questions below. The children can use Write-Hide-Show on their MWBs to respond to the questions. Whenever appropriate, ask the children to give reasons for their response(s), for example, to explain why or how they think this is (some of these questions may have already been answered in the warm-up):

Assessment Opportunity

- What patterns can be seen on a calendar?
- How many days in this month?
- Does every month have the same number of days?
- What do we call the days that we are not at school?
- What do we call the days that we are at school?
- What day and date is the first day of this month? Show the date using just numbers.
- What day and date is the last day of this month? Show the date using just numbers.
- On what date is the Royal Ball? Write this in different ways.
- Look at the date of each of the Mondays in this month. What do you notice? Explain why this is.
- How many full weeks in this month?

You can also ask the following questions:

- What month comes before/after this month?
- Does every month have this number of days?
- How many months are there in a year?
- How is this calendar the same or different from other calendars you have seen?

Let's strengthen

The children may need extra practice sorting and sequencing days, months and seasons (see the Unit 5 Let's Strengthen Suggestions for Teachers and PCM 20).

D Video: Days in Each Month

Play the video, repeatedly if required. Check for understanding: ask the children to repeat and/or show a way to remember the number of days in each month.

C P Concrete activity: Create a Calendar

Provide the children with a range of calendars. Ask:

- Look carefully at the different calendars. In what ways are the calendars similar or different?
- Which calendar do you prefer? Why?

Distribute PCM 21: Blank Calendar Month to each pair/group of three, and ask them to work together to create the calendar for the current month. Ask the children:

- What is missing from the calendar? (month and dates)
- What month is it now? Fill this in.
- What should go in the empty boxes? (numbers)
- On what day did the 1st of this month occur?
- What is today's day and date?
- Where would you write today's number? In what column? In what row?
- How many days in this month? If you do not know for sure, what number(s) would be a good guess? Why?
- How could you find out? (ask someone, check a calendar, check on the internet)
- How can you check that your calendar is correct when finished?

Teaching tip

After the activity, the children could paste their calendars into their Maths Journals or add them to the class time display.

Let's strengthen

The children may require the support of a sample calendar to complete the task.

Let's deepen

Challenge children who are finished before others to create the calendar of the month after the given month. Do they realise that the days and dates at the start of the next calendar month must align with the days and dates at the end of the given month?

C P Concrete activity: The Calendar Game

Play as a whole class, with one half of the class playing against the other. For this game, the children need to be able to refer to a month from a calendar, for which they could use the one they created above, or alternatively, display any month calendar on the IWB.

- Cut up the questions on one copy of PCM 22: The Calendar Game and lay them face down on a table.
- Nominate a child from one team to select a question to ask the other team; if there is a blank, that player must choose a word/date from those suggested.
- If the question is answered correctly, the answerer keeps the card.
- If the question is answered incorrectly, the questioner keeps the card.
- At the end, the team with the most cards wins the game.

When confident, the children could play this independently, one against one, or two against two. Distribute a copy of PCM 22 to each group of two or four.

P Pupil's Book page 34: The Calendar

Optional consolidation and extension possibilities

Time Display The children could contribute examples of their own work from this lesson and label them.

Continuing the Learning For each subsequent month, the class can co-create a calendar for that month, on which events of significance to the children can be marked, e.g. birthdays, school events, holidays, occasions. Every time a new month starts, the children can replay 'The Calendar Game' described above, either as a whole class or in groups.

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

Day 6, Lesson 5

O'Clock

Focus of learning (with Elements)

- Recognises time in hours on analogue clocks (U&C)
- Reads and records time in one-hour intervals on analogue clocks (C)

Learning experiences

D Digital activity: Days and Dates
MAM **Routines: Reason & Respond, with Write-Hide-Show**

D Digital activity: Time to the Hour
MAM **Routines: Notice & Wonder; Reason & Respond**

D Video: O'Clock
MAM **Routines: Reason & Respond, with Write-Hide-Show**

C Concrete activity: O'Clock Times
MAM **Routines: Reason & Respond, with Write-Hide-Show**

P Pupil's Book page 35: O'Clock

Equipment

- Teaching clocks for children (preferably geared, i.e. so that the hour hand moves when the minute hand moves) or online clocks

Maths language

- analogue, short hour hand, long minute hand, o'clock

Warm-up

D **Digital activity: Days and Dates** ***MAM* Routines: Reason & Respond, with Write-Hide-Show**

This resource shows the calendar months for October, November and December. Select one of the months to display. Show the image and use the audio buttons to ask the children questions. Use the children's MWBs and Write-Hide-Show to collect answers to the questions. Whenever appropriate, prompt the children to give reasons for their responses.

Let's strengthen

Encourage the children to pay particular attention to the question. For example: If the question asks 'What day...?', the answer must be the name of a day. If the question asks 'What date...?', the answer must be a number or an ordinal number.

Let's deepen

When looking at a particular month, challenge the children to answer questions based on the neighbouring months. For example: What day will be the 1st (2nd/3rd...) day of the next month? What day was the last day (30th/29th...) of the month before? If I go on a week-long holiday on the last day of the month, on what day and date will I return?

Main event

D **Digital activity: Time to the Hour** ***MAM* Routines: Notice & Wonder; Reason & Respond**

Display the poster, which shows the clock from Cinderella's kitchen, and ask or click to play the questions below. Ask the children to give reasons for their responses.

- What time is it?
- How do you know?
- Where have you seen clocks that look similar to this?
- Where have you seen clocks that look different to this?
- Can you name the parts of the clock?
- What is the job of the short hand?
- What is the job of the long hand?
- Does the clock tell you if it is morning or evening?
- What time will it be in an hour from this?
- What time will it be in two hours from this?

D **Video: O'Clock** ***MAM* Routines: Reason & Respond, with Write-Hide-Show**

Play the video and ask the children to use Write-Hide-Show on their MWBs to respond to the questions.

C **Concrete activity: O'Clock Times** ***MAM* Routines: Reason & Respond, with Write-Hide-Show**

Provide the children with teaching clocks; one per pair if possible. Use a clock (online or teaching clock) to create/select a random o'clock time to display to the class. Direct the children to use their clocks to show the same time. Ask the questions below.

Assessment Opportunity

Ask the children to use their MWBs to respond as appropriate and to give reasons for their responses.

- What time is this?
- What time would it be in an hour from this time?
- What time would it be in two hours from this time?

Repeat as required.

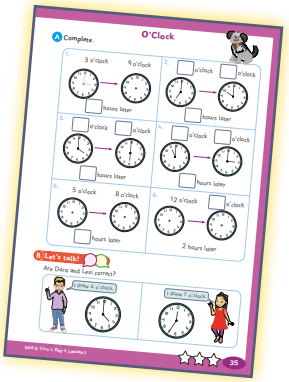
Write *5 o'clock* (or *6 o'clock* or *7 o'clock*, etc.) on the board. Ask:

- Show this time on your clock.
- What time would it be in an hour from this time?
- What time would it be in two hours from this time?

Repeat as required with other o'clock times.

Working in pairs, one child makes an o'clock time on their clock and their partner says the time in words. Swap roles and repeat. Alternatively, one child says an o'clock time and their partner makes the time on their clock.

P **Pupil's Book page 35: O'Clock**



Let's strengthen

The children may struggle to calculate the number of hours between the first and second clock in each set. Encourage them to count along the hours around the edge and/or use the open number line on the back of their MWBs on which to model and calculate the elapsed time.

Optional consolidation and extension possibilities

Story Read *The Bad-Tempered Ladybird* by Eric Carle, *Hickory Dickory Dock* by Keith Baker, and/or *What's the Time, Mr Wolf?* by Debi Gliori, all of which emphasise time to the hour. You can listen to a reading of each at: edco.ie/by2a and edco.ie/cwvu and edco.ie/d68r

Time Display The children could contribute examples of their own work from this lesson and label them.

My Day The children can record any appropriate o'clock times on PCM 23: My Day. (They can return to this PCM after Lesson 6, to add in any appropriate half-past times.)

Days 7 and 8, Lesson 6

Half Past

Focus of learning (with Elements)

- Recognises time in half hours on analogue clocks (U&C)
- Reads and records time in half-hour intervals on analogue clocks (C)
- Investigates the fractional representation of time on an analogue clock (R)

Learning experiences

D Digital activity: What Time Is It? (1)
***MAM* Routines: Quick Images, with Write-Hide-Show**

D Digital activity: The Royal Ball
***MAM* Routines: Notice & Wonder; Reason & Respond**

D Video: Half Past
***MAM* Routines: Reason & Respond, with Write-Hide-Show**

C Concrete activity: Half of the Clock

C Concrete activity: Half-past Times
***MAM* Routines: Reason & Respond,with Write-Hide-Show**

C P Concrete activity: Exploring and Sequencing Time Cards

P Pupil's Book page 36: Half Past

Equipment

- Teaching clocks for children (preferably geared)
- PCM 24

Maths language

- half past

Warm-up

D **Digital activity: What Time Is It? (1)** ***MAM* Routines: Quick Images, with Write-Hide-Show**

Briefly reveal and then hide the first image. Ask the children to record the time on their MWBs. Ask the children to show their proposed answers and record all of these on the board. Be careful not to confirm the correct answer. Ask/say:

- Are there any answers that are unreasonable/not likely because they do not make sense? Which ones? Why do you think this?
- Which answer do you agree with?
- Explain the strategy you used to get your answer.
- Did anybody use a different strategy?

When there are no new strategies to discuss, reveal the image again and confirm the answer using a variety of possible strategies. Repeat for all the remaining images.

Let's strengthen

If not mentioned when discussing strategies, ask the children: If you only have enough time to look at one hand, which hand should you look at? Do the children recognise that the hour hand is the most significant hand, as it can be read to tell the time with quite a level of accuracy?

Main event

D **Digital activity: The Royal Ball** ***MAM* Routines: Notice & Wonder; Reason & Respond**

Provide the children with teaching clocks. Display the poster, which shows the invitation to the Royal Ball and ask the questions below. Ask the children to give reasons for their responses.

- What time do the doors open?
- Show this time on your clocks.
- What time will the dancing start?
- Show this time on your clocks. Explain how you know.
- What time do you think Cinderella will have to leave the ball?
- Show this time on your clocks. Explain how you know.
- How much time do you think Cinderella will need to get ready?
- What time do you think she will have to start getting ready?
- Show this time on your clocks. Explain how you know.
- It will take Cinderella half an hour to get to the ball. What time will she need to leave to be there for 8 o'clock?

D **Video: Half Past** ***MAM* Routines: Reason & Respond, with Write-Hide-Show**

Play the video and ask the children to respond to the questions.

Teaching tip

There are a number of suggested teaching activities listed below. Over the remainder of the two days, choose those that best suit the needs of your class. They could also be organised as stations.

C **Concrete activity: Half of the Clock**

Ask the children:

- What shape is the clock? (circle)
- Imagine that the long minute hand had paint or ink on it. As it travels from the top of the clock, to the bottom of the clock, what fraction of the clock would it colour? (half)
- Draw a circle on your MWB or in your Maths Journal. Use a colour to show where the minute hand travels from the top of the clock for *o'clock*, to the bottom of the clock. What fraction of the clock have you coloured?

Let's strengthen

Have circular pieces of paper ready for any child who may need to fold these in half to see the relationship between the fraction of the circle they have coloured and half past the hour.

C **Concrete activity: Half-past Times** ***MAM* Routines: Reason & Respond, with Write-Hide-Show**

Provide the children with teaching clocks; one per pair if possible. Ask the questions below. Direct the children to use their clocks to show the same time. Ask the children to use their MWBs to respond as appropriate and to give reasons for their responses.

- What time is this?
- What time would it be in an hour from this time?
- What time would it be in two hours from this time?

Repeat as required. As the children grow in confidence, include both o'clock and half past.

Write *half past 5* on the board. Ask/say:

- Show this time on your clock.

- What time would it be in an hour from this time?
- What time would it be in two hours from this time?

Repeat as required, with other half-past times. As the children grow in confidence, include both o'clock and half past.

Working in pairs, one child makes a time on their clock and their partner says the time in words. Swap roles and repeat. Alternatively, one child says a time, e.g. 'half past 6', and their partner makes the time on their clock.

Let's deepen

Challenge the children to say the time that would be one hour earlier than that shown.

C P Concrete activity: Sorting and Sequencing Time Cards

Teaching tip

You might also find it useful to display the following Unit 5 Maths Language Cards: morning, afternoon, evening, night.

Distribute PCM 24: Sorting and Sequencing Times to the children. Ask the children in pairs/small groups to cut up the cards. Ask/say:

- Where is the hour hand for o'clock times?
- Where is the hour hand for half-past times?
- Where is the minute hand for o'clock times?
- Where is the minute hand for half-past times?
- Sort the cards into o'clock times and half-past times.
- Pick one card from the o'clock group and tell me the time. Then write this time in digital form on your MWBs.
- Pick one card from the half-past group and tell me the time. Then write this time in digital form on your MWBs.
- Order the cards from earliest to latest time.
- What time comes next?
- What comes before this time?
- What comes after this time?
- Which times are before/after 1 o'clock?
- Which times are earlier/later than 3 o'clock?
- When ordering times from clocks, should we look at the hour hand or minute hand first? (hour hand)
- What if the hour is the same? (Then look at the minute hand.)
- Sort these into groups according to the time of the day. Give reasons for your group(s).
- How might you label the groups? (morning, afternoon, evening, night, etc. See also the Unit 5 Maths Language Cards.)

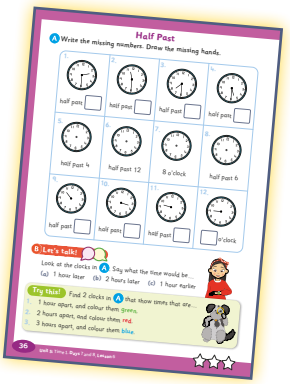
Let's strengthen

The children may benefit from only working with the o'clock images first (i.e. top half of page).

Teaching tip

The cards from PCM 24 can be used to play a game. The children turn all the cards face down and mix them up. They take turns to pick one up. If they can say the time correctly, they keep the card. If not, they put it back, face down. The player with the most cards at the end wins.

P Pupil's Book page 36: Half Past



Teacher note: For the last row in A, the children begin to appreciate the significance of the short hour hand in telling the times, i.e. seeing the minute hand is not essential. This will be developed further in the next lesson.

Let's strengthen

For the *Let's Talk* feature, display each time on a clock and then move the time to later/earlier as required so that the children can better develop their ability to visualise the passage of time.

Let's strengthen

For further practice, the activities on the Unit 5 Let's Strengthen PCM are very similar to those on page 36 of the Pupil's Book.

Optional consolidation and extension possibilities

Time Display The children could contribute examples of their own work from this lesson and label them.

Continuing the Learning Maximise on opportunities to refer to the time at key points during the day.

Games Bank Play 'Time Cross-Off' either as a whole class or in groups.

Maths Journal The children paste in the cards from PCM 24 in the correct order.

My Day The children can return to PCM 23 and add in any appropriate half-past times.

My Maths Fact File Complete page 124 of the Pupil's Book after this lesson.

Day 9, Lesson 7

Estimating Time

Focus of learning (with Elements)

- Makes approximations of the present time or the time shown on analogue clocks using appropriate language (C)
- Establishes and makes reasonable estimations and measures of time (R)

Learning experiences

- (D) Digital activity: What Time Is It? (2)
  ***MAM* Routines: Quick Images, with Write-Hide-Show**
- (D) Digital activity: Cinderella's Clock
  ***MAM* Routines: Reason & Respond, with Write-Hide-Show**
- (P) Telling Time Language Cards ***MAM* Routine: Reason & Respond**
- (P) Pupil's Book page 37: Estimating Time

Equipment

- PCM 25
- Teaching clocks or online clock

Maths language

- exactly, almost, nearly, just gone

Warm-up

(D) **Digital activity: What Time Is It? (2)** ***MAM* Routines: Quick Images, with Write-Hide-Show**

Briefly reveal and then hide the first image. Ask the children to record the time on their MWBs.

Ask the children to show their proposed answers, and record all of these on the board. Be careful not to confirm the correct answer. Ask:

- Are there any answers that are unreasonable/not likely because they do not make sense? Which ones? Why do you think this?
- Which answer do you agree with?
- Explain the strategy you used to get your answer.
- Did anybody use a different strategy?

When there are no new strategies to discuss, reveal the image again and confirm the answer using a variety of possible strategies. Repeat for all the remaining images.

Let's deepen

If not mentioned when discussing strategies, ask the children: *If you only have enough time to look at one hand, which hand should you look at?* Do the children recognise that the hour hand is the most significant hand, as it can be read to tell the time with quite a level of accuracy?

Main event

D **Digital activity: Cinderella's Clock**

***MAM* Routines: Reason & Respond, with Write-Hide-Show**

Display the slideshow and click to play the question(s) for each slide. The children use Write-Hide-Show on their MWBs to estimate the times shown on the clocks, all of which are missing their minute hand. Encourage the children to justify their answers.

Assessment Opportunity

P **Telling Time Language Cards**

***MAM* Routine: Reason & Respond**

Use a clock (interactive or physical teaching clock) to generate a random time, not exactly on the half hour.

Ask the children to suggest how best to describe the time using their own language.

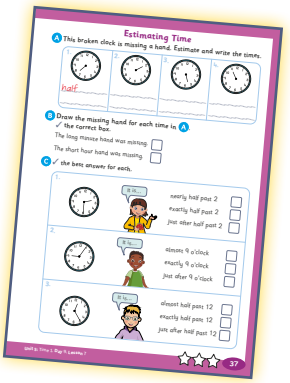
Provide the children with copies of PCM 25: Telling Time Language Cards and/or display the PCM on the board. Ask:

- What language is included here that you also suggested?
- What language is included here that you did not suggest?
- Could this language have been used? Why or why not?

Repeat with other randomly generated times; include some that are on the half hour.

Pair work: One child makes a rough/exact time on their clock and their partner describes the time using the cards.

P **Pupil's Book page 37: Estimating Time**



Optional consolidation and extension possibilities

Telling the Time At any given time of the day, ask a child to use PCM 25 to describe the current time. Keep these cards and repeat this activity as often as possible in the coming weeks to reinforce the learning.

Time Display The children could contribute examples of their own work from this lesson and label them.

Broken Clock The children work in pairs and use a paper plate and one hour hand to make their own broken clock. One child makes a time on the broken clock and their partner tells the time in words. Swap roles and repeat.

Day 10, Lesson 8

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.

Let's talk!	Let's play!
Review and Reflect Poster: Use Think-Pair-Share alongside the prompt questions to review the unit.	Play 'The Calendar Game' from Lesson 4 and/or 'Time Cross-Off' from the Games Bank either as a whole class or in groups.
Maths language	**Maths strategies and models**
Ask the children to explain the following terms, perhaps using examples or drawings on MWBs: second(s), minute(s), hour(s), days, weeks, months, analogue clock, o'clock, half past. Use the Unit 5 Maths Language Cards to revise the key terms. For example: If the image and text are cut apart, can the children match them?	Ask the children to give examples of the strategies they used in this unit (e.g. how to remember the number of days in each month, how to count seconds without a timer, how to use the hour hand to tell the time.) Ask the children to give examples of the models they used in this unit (e.g. clock faces and calendar grids). Which strategies and models did they prefer and why?
Progress Assessment Booklet	**Maths Eyes**
Complete Questions 19–23 on pages 13–14. Alternatively, these can be left to do as part of a bigger review during the next review week.	Go for a walk through the school and/or local area looking for time devices. How are they similar/different to those looked at during this unit? For example, are there any analogue clock faces with Roman numerals/no numerals? Take photos of different clock types to display/compile in a digital slideshow, etc. when back in the classroom.
Let's strengthen	**Let's deepen**
Identify children who might benefit from extra practice with some of the key concepts or skills in this unit. Use the Unit 5 Let's Strengthen PCM. Consult the Unit 5 Let's Strengthen Suggestions for Teachers.	Use the Unit 5 Let's Deepen PCM.

Notes