



Maths

Calculation Policy

Time

2024

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EYFS:

I can sequence a familiar event using the correct vocabulary

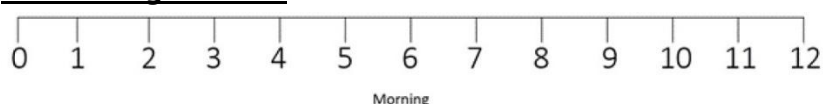
I can talk about time in more detail - today, tomorrow, yesterday



Year One and Two (both taught in Year Two):

- 0→ I can understand 'before' and 'after'
- 0→ I can sequence events using 'before' and 'after'
- 0→ I can sequence events using 'today', 'yesterday' and 'tomorrow'
- 0→ I can sequence events using 'morning', 'afternoon' and 'evening'
- 0→ I can recognise the days of the week
- 0→ I can order the days of the week
- 0→ I can recall the months of the year
- 0→ I can order the months of the year
- 0→ I can understand hours, minutes and seconds
- 0→ I know how many minutes are in an hour
- 0→ I know how many hours are in a day
- 0→ I can tell the time to the hour

Introducing a clock:



Pupils could run their finger along the line, or you could make a large number line outside and get the children to walk along the line. As they land on a number they say "1 o'clock in the morning, 2 o'clock in the morning, 3 o'clock in the morning...". When they get to 12 o'clock, ask them what they should do now. Return to the 0 and start again, this time saying "1 o'clock in the afternoon, 2 o'clock in the afternoon..." You may want to repeat this several times to draw attention to the fact that time does not stop.



To show that the passage of time is continuous, make a number line on something that will bend around to create a circle such as part of a hosepipe. If you have made a large number line in the school hall using a rope, then join the 12 and the 0 together to make

a circle. The children can then walk around the circle and when they stand on a number say the number followed by "o'clock".

When they walk around it the first time say, "this is in the morning" and when they go round again say that "this is the afternoon". This will support later with the fact that there are 24 hours in a day and we refer to times as am (morning) and pm (afternoon) when using an analogue clock. Repeat several times.

Introduce the hour hand and show how it revolves around the circle in a clockwise direction. When it points directly at a number, this is when it is o'clock.

Then only when this is secure, you might want to introduce 'half past the hour'.

Introduce this as 'not o'clock'. 'When the hour hand is halfway between two numbers it has gone past a number, so we say half past.' Practise telling the time with just the hour hand, first with o'clock and then half past.

ITP clock - Mathsframe

Teaching Clock

Numberblocks - Specials: About Time - BBC iPlayer

➡ I can draw the hands on a clock face for the hour

1. Flip chart clocks



2. Small clocks



3. Wipeable clocks

➡ I can tell the time to the half hour

- 0 ➡ I can draw the hands on a clock face for the half hour
- 0 ➡ I can tell the time for quarter past the hour
- 0 ➡ I can draw the hands on a clock face for quarter past
- 0 ➡ I can tell the time for quarter to the hour
- 0 ➡ I can draw the hands on a clock face for quarter to
- 0 ➡ I can tell the time to 5-minute intervals

You could make a large number line outside and get the children to walk along the line. As they land on a number at 1 they say "5 past", at 2 they say "10 past", at 3 they say "15 minutes past"... etc., until they get to 12. Only focus on minutes past the hour at this stage. Return to 0. You may want to repeat this several times to draw attention to the fact that time does not stop. Count between the numbers so that they are aware that there are 60 minutes in an hour. "Zero, one, two, three, four, five" (at the number 1 on the number line) , "six , seven, eight, nine, ten"(at the number 2 on the number line), etc.

Because the passage of time is continuous make a number line on a something that will bend around to create a circle such as part of a hosepipe. If you have made a large number line in the school hall using a rope, then join the 12 and the 0 together to make a circle. The children can then walk around the circle and when they stand on a number say the number of minutes past the hour.

Draw attention to the link to their knowledge of counting in fives. At the number 1 - one five is five, at the number 2 - two fives are ten, at the number 3 - three fives are fifteen etc. all the way round to 0 - twelve fives are sixty.

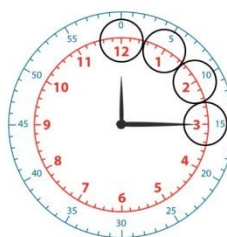
Bring the hour number line and the minute number line together on the same number line so that they can understand how an analogue clock represents both the hours and minutes on the same line that curves around the circle.

Draw attention to how the two hands are used to distinguish between whether you are looking at the number line to look at the hours or the minutes, and then both.

First look at the hour hand and then the minute hand to support the children in telling the time to five minutes. Use images of clock faces so that they can practise both reading the time and drawing hands onto a clock to represent a time.

Repeat the process of looking only at the minute number line and draw attention to how many minutes to the hour, for those numbers that are greater than 6. For example, when the minute hand is pointing to 7, it indicates 35 minutes past the hour and therefore 25 minutes to the next hour because there are 60 minutes in an hour.

Linking to the 10 and 5 times table:



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- ➡ I can draw the hands on a clock face for 5-minute intervals
- ➡ I can compare intervals of time
- ➡ I can sequence intervals of time

Year Three and Four (both taught in Year Four):

- ➡ I can understand 'before' and 'after'
- ➡ I can sequence events using 'before' and 'after'
- ➡ I can sequence events using 'today', 'yesterday' and 'tomorrow'
- ➡ I can sequence events using 'morning', 'afternoon' and 'evening'
- ➡ I can recognise the days of the week
- ➡ I can order the days of the week
- ➡ I can recall the months of the year
- ➡ I can order the months of the year
- ➡ I can understand hours, minutes and seconds
- ➡ I know how many minutes are in an hour
- ➡ I know how many hours are in a day
- ➡ I know how many days are in each month
- ➡ I know how many days are in a year and leap year

Children need to know that there are 365 days in every year apart from in a leap year that occurs every four years. Also, that there are 12 months in a year, not all having the same number of days in them. In a leap year there are 366 days, and this extra day is added in February.

Songs and rhymes might support children to learn the order of the months as well as repetition through writing them when recording dates in books, etc.

- ➡ I can solve problems involving converting
 - Hours to minutes

- Minutes to seconds
- Years to months
- Weeks to days

Use real-life contexts to encourage children to convert from one unit of time to another. You could use ratio charts to show hours to minutes and minutes to seconds, applying knowledge of the 6 times table and scaling by a factor of 10.

Hours	1	2	3	4	5	6	7	8	9	10	11	12
Minutes	60	120	180	240	300	360	420	480	540	600	660	720

Minutes	1	2	3	4	5	6	7	8	9	10	11	12
Seconds	60	120	180	240	300	360	420	480	540	600	660	720

Apply knowledge of the 7 times tables for days and weeks:

Weeks	1	2	3	4	5	6	7	8	9	10	11	12
Days	7	14	21	28	35	42	49	56	63	70	77	84

➡ I can tell
hour

the time to the

- ➡ I can draw the hands on a clock face for the hour
- ➡ I can tell the time to the half hour
- ➡ I can draw the hands on a clock face for the half hour
- ➡ I can tell the time for quarter past the hour
- ➡ I can draw the hands on a clock face for quarter past
- ➡ I can tell the time for quarter to the hour
- ➡ I can draw the hands on a clock face for quarter to
- ➡ I can tell the time to 5-minute intervals
- ➡ I can draw the hands on a clock face for 5-minute intervals

➡ I can tell and write the time from an analogue clock including Roman numerals

Show the children two clock faces - one with familiar 1 to 12 numbers, and one with Roman numerals. Ask them what is the same and what is different? The numerals on both are in the same position and there are 12 of them.

Look at the Roman numerals and look at how many symbols have been used - only three: I, V and X.

Ensure that the children know that I represents 1, V represents 5 and X represents 10. Use this knowledge to see how the other numbers are represented.

Use their understanding from Year 1 and Year 2 to tell the time using an analogue clock with Roman numerals as well as to draw hands on this type of clock to indicate a given time to the nearest five minutes.

➡ I can tell and write the time from a 12-hour clock

Introduce a 12-hour digital clock alongside an analogue clock. Focus on the hands on the analogue clock separately. Compare to the digital clock where the time runs from midnight (00:00), is divided into 12 hours in the morning (am) and 12 hours after midday (pm), and indicates hours passed since midnight.

As the hour hand moves around the clock compare what is happening to the numbers to the left of the digital clock (often separated by a colon). The numbers show 00 to 12, usually with a zero in front of the single-digit numbers. Midnight is written as 00:00 as there have been zero hours of the new day. Because of the need to know if the time is before midday or after midday introduce the use of am and pm. These terms will be shown on a digital clock but not on an analogue clock.

Then look at the minute hand and focus on minutes past each hour. As the minute hand moves around the clock face see how the numbers change from 00 to 59. Draw attention to the fact that it doesn't show 60 even though there are 60 minutes in an hour because at the end of the 59th minute the next hour begins, and the digital clock will show 00 again. Focusing on minutes past the hour, introduce the stem sentence alongside both types of clock:

"__ minutes past __ is the same time as __ __." E.g. Thirty-five minutes past six is the same as six thirty-five.

➡ I can tell and write the time from a 24-hour clock

➡ I can convert time between analogue and digital 12- and 24-hour clocks

Build on the children's understanding of the 12-hour digital clock. Consider how to use the knowledge that there are 24 hours in the day and the numbers 13 to 23 to indicate, on a digital clock, how many hours past midnight the time is, without the need to use 'a.m.' and 'p.m.'. You may want to count from 0 to 24 and pause at 12 midday to say that on a 12-hour clock we change from a.m. to p.m. but on a 24-hour clock we use 13, 14 etc. Practice will be needed for children to become fluent that 13:00 is the same as 1 p.m., 14:00 is the same as 2 p.m. etc. Encourage the generalisation that any number for the hours that is 12 or greater is after midday and that any number less than 12 will be before midday. Also to convert from 24-hour to 12-hour, subtract 12 - use the fact that 24-hour time has been created by adding 12 for times that are past midday.

__ = 12 + __

13 = 12 + 1 13:00 is the same as 1pm 13 - 12 = 1

14 = 12 + 2 14:00 is the same as 2pm 14 - 12 = 2

15 = 12 + 3 15:00 is the same as 3pm 15 - 12 = 3

etc.

➡ I can compare intervals of time

- 0→ I can sequence intervals of time
- 0→ I can calculate the duration of an event
- 0→ I can compare durations of events

Year Five and Six (both taught in Year Six):

- 0→ I know how many days are in each month
- 0→ I know how many days are in a year and leap year
- 0→ I can solve problems involving converting
 - Hours to minutes
 - Minutes to seconds
 - Years to months
 - Weeks to days
- 0→ I can solve problem involving converting between units of time

- 0→ I can tell and write the time from an analogue clock including Roman numerals
- 0→ I can tell and write the time from a 12-hour clock
- 0→ I can tell and write the time from a 24-hour clock
- 0→ I can convert time between analogue and digital 12- and 24-hour clocks
- 0→ I can calculate the duration of an event
- 0→ I can compare durations of events