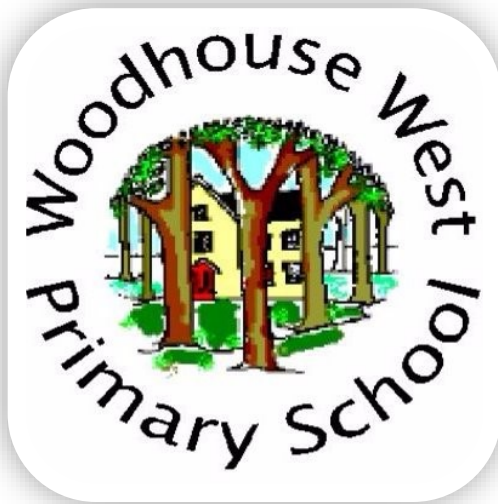
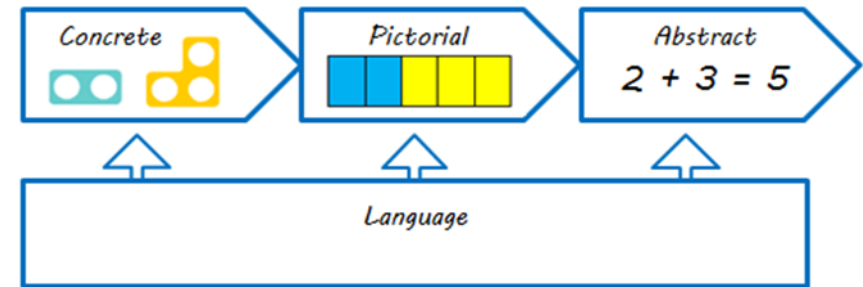




Using concrete manipulatives and pictorial models will be used throughout the school, to reinforce links with previous learning whilst maintaining a secure understanding before building towards pupils applying their understanding to a range of problems and open ended investigations.

As with all areas of Maths, accurate use of precise mathematical vocabulary will be at the centre of our children's learning.



Woodhouse West Primary School Maths Guide

TIME

Some of the methods you should
expect to see in Y1 to Y6

Teaching Time

Time is complex and can be difficult to teach. The development of time concepts needs to be cumulative and consistent across year groups, with the important elements of learning time taking place outside of the maths lesson.

Children should be taught that time can be split into two main sets of skills: recorded time and measured time.

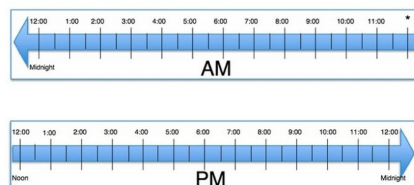
Recorded time: the time of day at which an event takes place.

To record time we use various, complex conventions such as o'clock, digital/analogue formats, a.m, p.m, the 24 hour system, ways of recording the date - and of course, many colloquial terms.

Measured time: The length of time taken by an event - a time interval.



Time intervals are conventionally measured in standard units (like all other measurements!) Measuring time can cause some difficulty as, unlike with length or mass for example, time is neither visible or tangible. Pupils find understanding the concept of standard units of time difficult because the length of time something appears to vary so wildly depending on the activity, mood, novelty factor etc.



Avoiding Misconceptions

Avoid linguistic confusion - Ensure the correct vocabulary is modelled and reinforced. Sharing this with parents will enable children to embed these skills at home.

Model correct language frequently - this should be done throughout the day. Maths meetings provide a valuable opportunity to drip feed age-appropriate time-related concepts and vocabulary.

Creating linear representations of time - adding a link to a paper chain for each day passing; building a tower of unifix/multilink adding a new block each hour or shorter intervals (appropriate to the time concepts pupils are ready for/learning about) can help them conceptualise time. Again, maths meetings could be a good opportunity to reinforce this.

Classroom diary/Pictorial timetables - this allows children of all ages to participate in discussions about past and future events. Discussing this each day strengthens children's social time and encourages the use of relational time concepts such as before, after, earlier, later etc. Making reference to time when starting/finishing a task (again, appropriate to the time concepts they are learning about/about to learn) provides another good opportunity to drip feed skills and knowledge.

Building on understanding of measured time concepts - As pupils become familiar with standard units, incorporate estimation activities into daily routines, including comparing different units as suitable for use



Common Misconceptions

- Inconsistent use of time language
- Confusing digital and decimal notation
- Only 12hrs on a clock, but 24hrs in a day
- Not being aware which direction is clockwise
- Minutes past and minutes to
- Lack of understanding between the standard units of time
- Analogue clock faces don't have numbered minutes (or seconds!)
- Confusion of indicators and scales
- Confusing base-60 and metric measures
- Not knowing that clock hands move cyclically
- Only aware of time that they experience (i.e. when awake!)

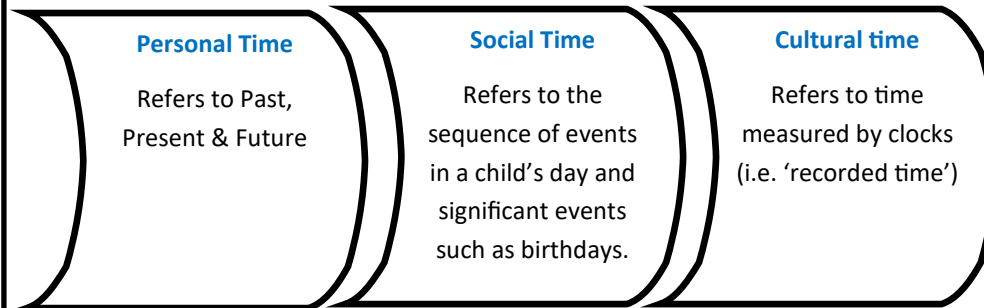


Curriculum Coverage

There is no specific time telling objectives for EYFS, therefore the emphasis should be placed on using and understanding key language. - before, after, days of the week and also to be able to talk about significant events and times of the day.

EYFS	Use of key vocabulary: before, after, days of the week and also be able to talk about significant events and times of the day.
Y1	Tell the time to the hour and half past the hour and draw the hands on the clock face to show these times.
Y2	Tell and write the time to five minutes , including a quarter to/past the hour and draw the hands on the clock face to show these times.
Y3	Tell and write the time from an analogue clock , including using Roman numerals from I to XII, and digital 12-hour clocks . Tell the time to the nearest one minute .
Y4	Read, write and convert time between analogue and digital 12- and 24-hour clocks.
Y5	Solve problems involving converting between units of time.
Y6	Solve problems involving converting between units of time.

Progression in Time



Before children understand cultural time, they need to understand their own personal and social time sequences and the language before and after, earlier and later.

Learning to tell the time can't come before other time concepts are embedded.

Understanding personal time and social time should be the key focus for EYFS and KS1 teachers, particularly as pupils will have extremely varied experiences of time concepts within their homes.

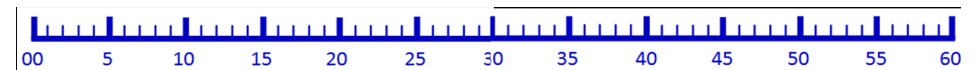
Key Stage One

Unravelling clock scales

Children should be familiar with number lines and how these link to the scale on a clock.



This should be done with hours first



Before moving onto minutes



before seeing how the two fit together.

Key Stage One

Learning about the hands

Children often confuse the function of the hour hand and the minute hand. When introducing the hands children should be given ample opportunity to explore telling the time with just the hour hand,

Use the position of the hour hand to estimate and show:

- One o'clock
- Half past one
- Ten to two

Discuss and estimate what time it might be.

 "I can tell what the time is just by looking at the hour hand."

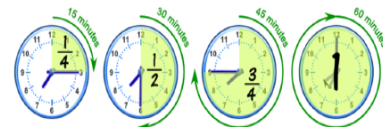
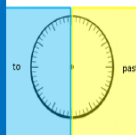
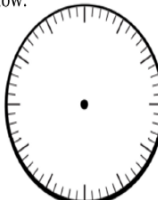
always true **sometimes true** **never true**



Before looking at just the minute hand,

Use the position of the minute hand to estimate and show:

- A quarter past
- A quarter to
- _ o'clock
- Half past _
- 35 minutes past _
- 25 minutes to _



Key Stage One

Learning about the hands

And then finally both hands together.



The minute hand indicates _____.

The hour hand indicates between _____ o'clock and _____ o'clock.

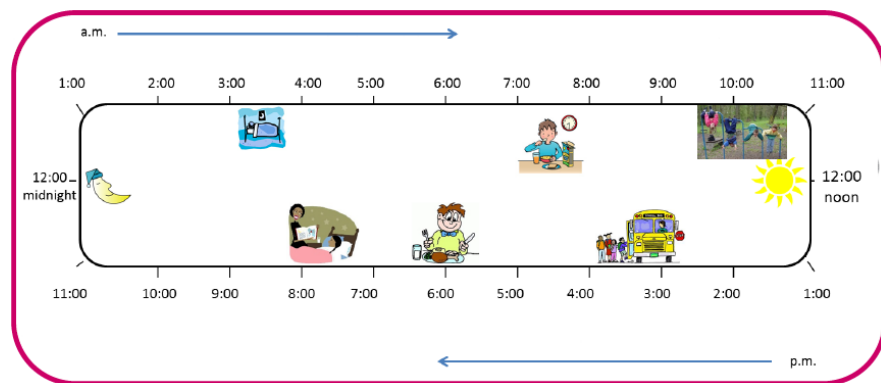
Therefore, I know the time is _____.



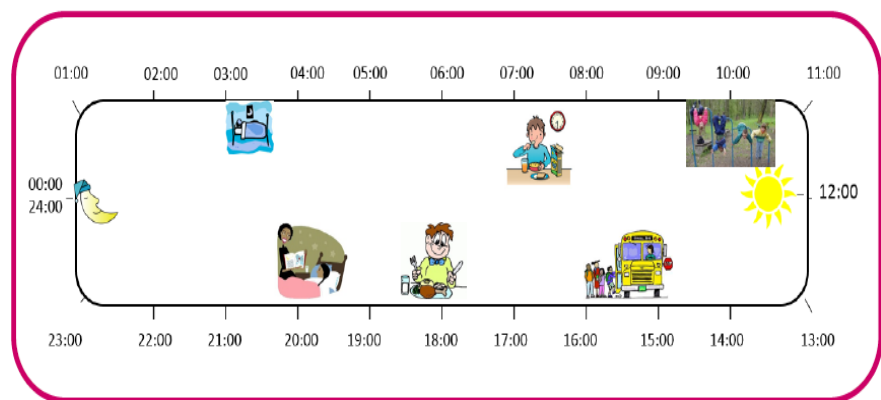
Geared clocks should be used throughout to demonstrate the cyclical nature of the hands.

Lower Key Stage Two

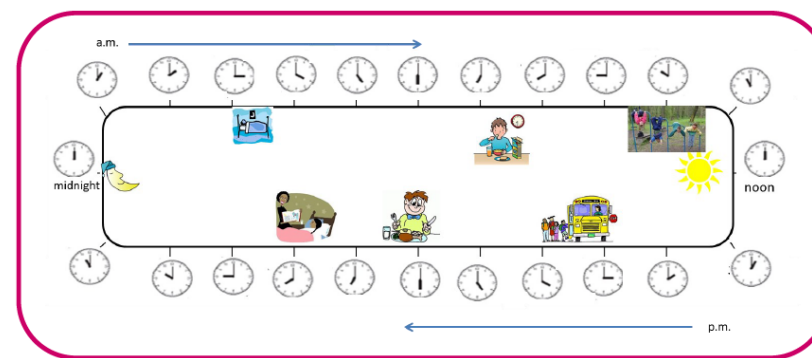
Using the same visual representation, pupils can be introduced to **digital time** on a **12hour clock** and a.m. and p.m.



Again, Using the same visual representation, pupils can then be introduced to digital **time on a 24hour clock** and a.m. and p.m. Children may benefit from revisiting the unravelled clock face/number line and discussing how this links to the above models (60 minutes between each hour etc.).



Lower Key Stage Two



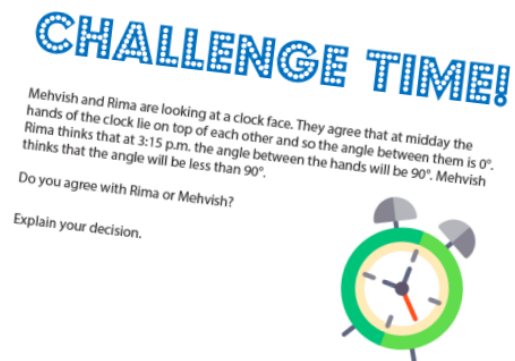
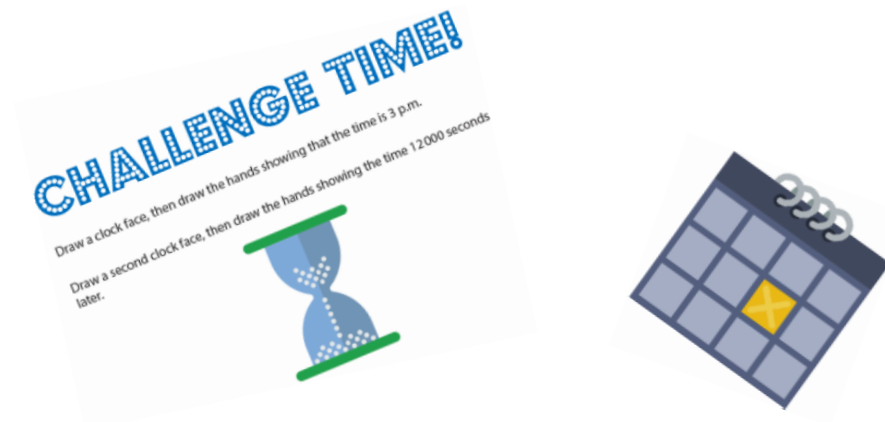
Children in Years 3 and 4 focus on **a.m.** and **p.m.** When introducing these concepts we need to avoid representing 24hours as a circle because of the similarity with a clock face. Above is one example model for showing the cyclical nature of time and how it passes from A.m. to P.M.

Children should **link this to analogue time before being introduced to digital time**. Also, using photographs/images specific to the pupils' school/class allows them to build their understanding of **personal/social time** and the **cultural concept** of telling the time.

Upper Key Stage Two

Years 5 and 6 should consolidate the learning from the previous year groups, including using the same models and approaches, before moving on to applying knowledge of time to solving a range of time related problems.

Below is an example of investigations and problems children might face.



Top Tips

Move the hands in a clockwise direction most of the time. If you do move them anticlockwise (you should for the very opportunity to address this misconception) make a big deal out of it and make it clear that it is very unusual for clock hands to move in this direction as in normal circumstances they would only move clockwise.

Children should be given multiple opportunities to 'experience time' for example experiencing a range of one-minute activities like bouncing balls, making unifix towers, running on the spot etc. By allowing children to predict what they will accomplish in the time frame allows children to develop number sense and knowledge of units of time. This also allows teachers to identify children struggling with either of these concepts.