



Strengthen Activities

MISCONCEPTION

Children may misunderstand the relationship between a digital clock face and an analogue clock face. For example, they may represent the digital time 6:10 as one hand pointing to the number 6 and the other hand pointing to the number 10.

STRENGTHENING UNDERSTANDING

1. Give children a blank analogue clock face. Ask them to fill in the numbers on the face for the hours, and then to fill in the corresponding number of minutes, in increments of 5, on the outside of the face in a different colour. Now give children plenty of practice to show different times on their analogue clocks – using two different coloured and lengths of matchsticks to represent the hour and minute hands.
2. Now ask children to write down the time 10 minutes past 6 as a digital time and represent it on the analogue clock. Ensure they understand that the '10' here is '10 minutes' and not the hour '10'. Make quarter past 8 on the analogue clock and ask children to write down the digital representation. Ensure they have understood which part is the hour and which part are the minutes. Give plenty of practice time.

ASSESSMENT CHECKPOINT

Can children show 20 to 4 in the afternoon and 28 minutes past 2 in the morning on an analogue and digital clock?

RESOURCES

Blank analogue clocks, coloured pencils, matchsticks, whiteboards and pens

MISCONCEPTION

Children may lack knowledge of units of time for example, 1 week = 7 days; 1 day = 24 hours, etc.

STRENGTHENING UNDERSTANDING

1. Where possible, give children the opportunity to work out the equivalence of units of time using knowledge they already have.
2. Ask: *What are the months of the year? So how many months in a year? What are the days of the week? So how many days in a week? Not focus on days, hours, minutes and seconds. Ask: In a day, the hour hand goes twice around the analogue clock so how many hours is that? The minute hand goes once around the clock every hour so how many minutes is that?*

ASSESSMENT CHECKPOINT

Can children tell you how many minutes are in 2 hours? How many minutes are 100 seconds?

RESOURCES

Analogue clock, whiteboards and pens

MISCONCEPTION

Children may use am and pm incorrectly in the 12-hour clock and/or include it in the 24-hour clock.

STRENGTHENING UNDERSTANDING

1. First establish that the analogue clock can only show 12 hours and that this is only half of a day. Write down 4:27 on a whiteboard. Ask: *how can we tell whether this is 4:27 in the morning, or 4:27 in the afternoon?* Encourage children to relate the different times to activities they might be doing to help them understand the difference. Tell children that am (ante meridiem) means before midday, and pm (post meridiem) means after midday. So to make it clear which time you are referring to, in the 12-hour clock we must use am and pm to distinguish between the two times.
2. Ask: *How is 4:27 am written in the 24-hour clock? What about 4:27 pm?* Encourage children to think through what is happening when using the 24-hour clock. Ask: *How can we use the digits to show whether it is before or after midday?* Establish that in the afternoon, the hour hand has already gone around the clock once, and so for pm times, we add 12 (hours) to the hour 4, so $12 + 4:27 = 16:27$. We don't need to write pm, the 12 morning hours are already included within the 16 so if we wrote 16:27 pm it would be like saying pm twice.

ASSESSMENT CHECKPOINT

Can children complete Lesson 4, Q1 on Practice book p67 but for the opposite time of day?

RESOURCES

Whiteboards and pens, analogue clock, Practice book