

Australian Curriculum YR 4

ACMMG085 -identifying and using the correct operation for converting units of time

ACMMG086 -Use am and pm notation and solve simple time problems

Key Idea- students can find it difficult to conceptualise the progression of time on a round clock face or with digital clocks. Unwinding the clock to a straight line provide a different perspective on how to show the progress of time and reinforce understanding of key concepts.

Resources

- FISH problem solving kit
- large teacher clock
- small individual clocks (class set)
- number line (teacher and student)
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Introductory Activity Process

Brainstorm student knowledge about time.

- When do we use time?
- What can we use to show time?
- how do we measure time?
- Why is it important we know how to read time?
- what are the different ways of recording, saying or showing time?
- What are some things you find difficult about reading time?

Activity Process- Unwind the clock

1. Place number line out on the floor. Explain that rather than reading time on a round faced clock we are going to create a clock in a straight line.

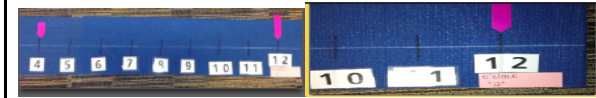
2. Ask students to identify the different aspects of a clock we will need to include - numbers for hours, minute increments and hands. Students can create required resources.

3. Ask students to place numbers on the number line where they think they should go and ask for a reason why they are placed in that spot and what they represent (hours on the clock). Object is to have the numbers evenly spaced along the number line.



4. Identify how many minutes in an hour and discuss how we could show it on the number line. Practice counting up in 5 minutes from 0 to 60.

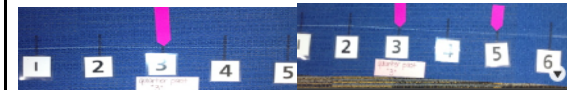
5. Have students identify and place the big hand for o'clock on the number line and discuss that the hand will be in the same place for any o'clock times (word card can be placed above). Practice moving the little hand on the correct time for orally or written times.



6. Ask students to indicate where half way would be on the number line and move the big hand to the six (word card can be placed above). explain this hand will be in the same place for all half past or thirty times. Practice moving the little hand on the correct time for orally or written times.



7. Ask students to divide the number line into four equal parts and place the big hand on the three, explaining that it is quarter past the hour when the big hand is on this number (word card can be placed above). Practice moving the little hand on the correct time for orally or written times.



8. Repeat step 7 but place the little hand on the nine and revise quarter to the next hour.



9. With headings in place give students a variety of times

o'clock, half past, quarter past, quarter to

Activity Process-Number line

1. Provide students with a blank laminated number lines and revise time vocabulary. Students are told that the number line represents an hour. Ask students to write numbers eg. 1 pm to 2 pm in the appropriate spaces, then add, quarter past, half past and quarter to, onto the time line. Ask students to identify the fraction of an hour these times show. Discuss the concept of elapsed with class.

Activity Process-Number line am and pm

2. Revise am and pm- The 12-hour clock is a time convention in which the 24 hours of the day are divided into two periods: a.m. and p.m.. Each period consists of 12 hours numbered: 12, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, and 11. Explain that To avoid ambiguity, airlines, railroads, and businesses' use 12:01am for an event beginning the day, 11:59pm for ending it.
3. Ask students to draw a numberline which shows 24 hrs

Investigations

Ten green bottles were hanging on a wall

One green bottle accidentally fell

And there were nine green bottles hanging on the wall

Nine green bottles

If the first bottle fell at ten past five in the morning (5.10 a.m.) and the others fell down at 5 minute intervals, what would the time be when the last bottle fell down?

Assessment

Use a number line to show your working out

1. Ben's cricket game started at 11:52 am and ended at 4:11pm. How long did it take before a team was declared a winner?

Use two different methods to work out

2. What is the elapsed time from 11:30am to 11:35pm

Activity Process-Problem Solving with Elapsed Time

Ask students to use a number line to represent this problem

1. Jenny got home from school at 3:30 pm. She went to bed at 9:25 pm. How long was she at home before going to bed?
2. Draw a time line and what o'clock comes after 3:40pm and what o'clock comes before 9:25pm. Add to timeline



3. Ask students to label the events
4. Ask students to show the time before 4:00pm and after 9:00pm



Ask students to estimate the time after arriving home and going to bed based on the whole hours eg the time is more than And less than.....?

Ask students to work out the exact time and justify their reasoning.