

Tell time to the quarter hour, using the language of 'past' and 'to' (ACMMG039)

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RELATED TERMS**Analogue clock**

- A clock with some or all of the digits from 1 to 12. These clocks have at least two hands: an hour hand and a minute hand. Many analogue clocks also have another hand; a second hand, though at this year level it would not be needed.

Digital clock

- A clock that displays the time using only digits, with the digit for the hour separated from the digits for the minutes by a colon, e.g. 3:24.

Geared clock

- a model of a clock where as one hand moves, the other moves a proportional distance. Thus the hands move in the same way that working analogue clocks do.

O'clock

- literally means 'of the clock'.

TEACHER INFORMATION**What does it mean**

- Students need to have a basic understanding of the fractions half and quarter.
- The use of the term 'quarter to' is the only time that students read times as 'to' the hour. When they learn to read and say times to the nearest 5 minutes and beyond, we use the digital method of saying times such as 'Three forty' or 'Six thirty-eight', rather than 'Twenty to four' or 'Twenty-two minutes to seven'.
- Using an analogue clock, students recognise that at 12:00, the minute (big) hand and the hour (small) hand are both pointing to the 12. At any other o'clock time, the hour hand points to the hour, and the minute hand points to the 12. Also students recognise that when the time is 'half past' the hour, the big hand points to the 6 and the small hand points half way between two numbers on the dial; that when the time is 'quarter past' the hour, the big hand points to the 3 and the small hand points about a quarter of the way between two numbers on the face; and when the time is 'quarter to' the hour, the big hand points to the 9, and the small hand points about three-quarters of the way between the two numbers.
- Students understand that there are 60 minutes in an hour, that half an hour is 30 minutes and a quarter of an hour is 15 minutes.
- Students should be able to count by 5s to 60.

**Teaching points**

- Students recognise the features of an analogue clock: it is often circular; has a small hand for the hour, a large hand for the minutes, and many analogue clocks also have a longer, thinner hand for the seconds; the 12 is located at the top of the clock, the 6 at the bottom and the 3 and 9 on either side. For students of this age, a clock that shows all twelve digits is preferable. Try to avoid clocks that use Roman numerals.
- Students recognise that the hour hand on an analogue clock travels slowly and its movement cannot be seen; the minute hand travels more quickly and can sometimes be seen moving; if the clock has a second hand, it moves quite quickly and its movement can easily be seen.
- If using a model of an analogue clock, it is preferable to have a geared clock, so that as the minute hand moves, the hour hand moves a proportional distance. This means that when the time is, for example 7:15, the hour hand will be a quarter of the way between the 7 and the 8. As the minute hand on the clock is moved from 7:00 to 7:15, the hour hand slowly moves too. With a non-geared clock, the hour and minute hands are moved independently, so as the minute hand is moved from the 12 to the 3 to show quarter past the hour times, the hour hand does not move. This may be confusing for some students.

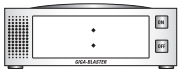
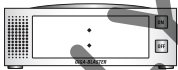
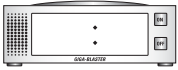
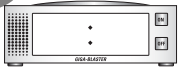
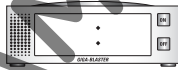
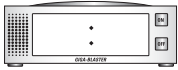

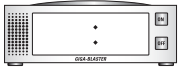
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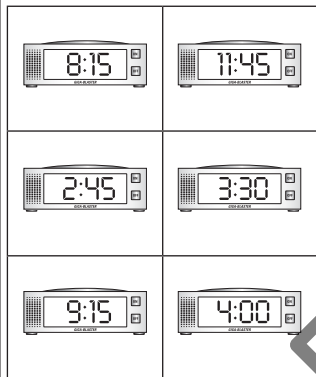
Draw the times 2*Show the correct times on the clocks for each of these.*

| | | | |
|----------------|---|----------------|---|
| Half past 2 |  | Quarter past 1 |  |
| Quarter to 11 |  | Quarter to 5 |  |
| Quarter to 8 |  | Half past 6 |  |
| Quarter past 6 |  | Quarter past 3 |  |

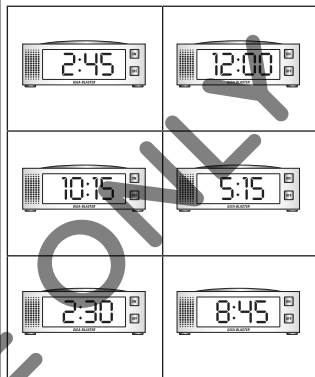
RESOURCE SHEET

Bingo boards

Bingo board 5



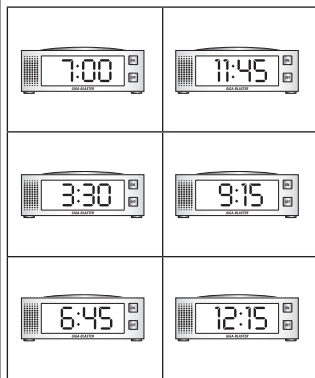
Bingo board 6



Bingo board 7



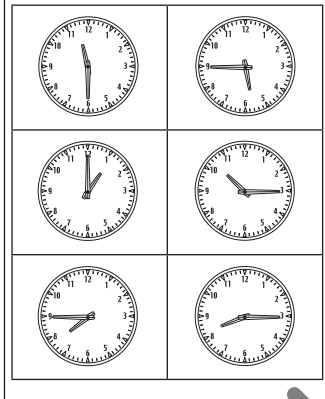
Bingo board 8



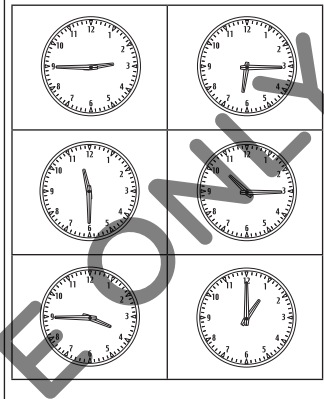
RESOURCE SHEET

Bingo boards

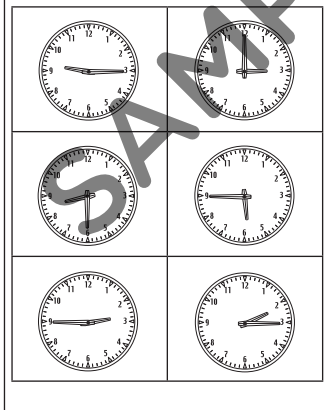
Bingo board 1



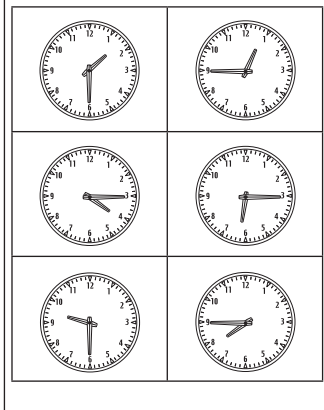
Bingo board 2



Bingo board 3



Bingo board 4



LINKS TO OTHER CURRICULUM AREAS

English

- Read *The Bad Tempered Ladybird* by Eric Carle. In this book a ladybird works its way through different times of the day. The times are shown on analogue clocks.
- Learn the rhyme Hickory Dickory Dock. (For full verses for times from 1–12, see <http://www.enchantedlearning.com/Hickorydickory.html> after the entry in 'English' for Bad Tempered Ladybird (page 4)

Information and Communication Technology

- Have analogue clock faces and digital clocks on the interactive whiteboard. Students match each analogue time with the digital equivalent.

Health and Physical Education

- Play a variation of What's the Time, Mr Wolf. Instead of calling out a time on the hour, allow only times with 'quarter past' or 'quarter to'. Students still go forward the number of steps for the hour, e.g. if quarter past three is called out, the students may walk forward three steps. But if quarter to three is called, the students need to know that the 'hour' shown on an analogue clock would only be past the two (although nearer the three, it is not there yet), so they may only take two steps forward.

The Arts

- Students make their own paper plate clocks; folding to find the correct position for the 12, 6, 3 and 9, then put in the other digits. Use split pins or similar for the hour and minute hands.

Languages

- Learn the names for the time on the hour, half hour and quarter hour in a different language. Also the number names for the hours from one to twelve.

HANDS-ON ACTIVITIES

- The teacher should take the opportunity to discuss what time it is whenever appropriate. For example, *it is play time, half past 10, so the big hand is on the 6 and the small hand is just half way between the 10 and 11; or it is nearly home time, so the big hand is on the 9 and the small hand is nearly on the 3; it is quarter to three.* The teacher also discusses the corresponding time display on the digital clock.
- **Play Clock Bingo** (Boards on page 5 – 7; with a blank Bingo Board on page 8). Students have Bingo boards showing analogue times, digital times, or a mixture of both. The teacher or person in charge has a set of time cards (various times on pages 9 – 10 [to be enlarged]; with a blank Time cards sheet on page 11). They turn over and hold up a Time card for the students to see. If using only analogue times on the Bingo boards, the teacher's cards should show digital times, and vice versa. If students have a clock on their Bingo board that matches the time shown on the teacher's card, the student covers the time with a counter. The first student to cover all the clocks on their board is the winner. Note Time cards have not been made for all of the appropriate times between 1:00 and 12:45; only the times used in the Bingo Boards. Blank Bingo cards are provided on page 11 if other times are required.
- Students have their own analogue clocks, either ones they've made themselves or commercial 'toy' clocks. The teacher holds up a digital time card (pages 9–10; or use the blank Time cards on page 11; enlarged). Alternatively the teacher could call out a time. Students show that time on their clocks and hold them up for the teacher to see.
- Commercial clocks can be bought where both the analogue and digital times can be displayed. These may come with a smaller desk-sized version where students can turn the hands, and write the digital time. The teacher could then hold up a time card, or call out a time, and the students make that time on both the analogue and digital section of the clock.

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Student vocabulary*O'clock**Half past**Quarter past**Quarter to**xx:15 (e.g. 3:15)**xx:45 (e.g. 3:45)**Clockwise***TEACHER INFORMATION CONTINUED****Teaching points continued**

- Classrooms should have both an analogue clock and a digital clock, preferably side-by-side. Regularly seeing the two different displays for the same time of day helps students realise that there are two equally valid ways to read the time. There are some large clocks available commercially that clearly show the time in both formats.

**What to look for**

- If students make their own analogue clock, they put the 12 at the top of the clock, the 6 at the bottom and the 3 and 9 on either side.
- Students can make the connection between times to the hour, half hour and quarter hour shown on an analogue clock and the same times shown on a digital clock.
- On an analogue clock, students mixing up where the minute and hour hands point, e.g. showing 4:15 with the hour hand pointing to the 3 and the minute hand pointing to the 4.
- Students confusing 'quarter past' and 'quarter to'.
- Students not making the connection between 'quarter past' (e.g. quarter past 4) and xx:15 (e.g. 4:15); and not making the connection between 'quarter to' (e.g. quarter to 7) and xx:45 (6:45).
- Confusion with the hour when reading or writing 'quarter to', e.g. that '11:45' and 'quarter to 12' is the same time.

Proficiency strand(s):***Understanding******Fluency******Problem solving******Reasoning***