

Dodgy digital clock

Children work out which times won't show correctly because of a faulty segment in the digital display.

Skills practised:

- Reading times on a digital display
- Working systematically

Conjecture: It doesn't matter which segment is faulty on a digital clock, the same number of times will be displayed wrongly.

What to do:

Children work individually or in pairs.

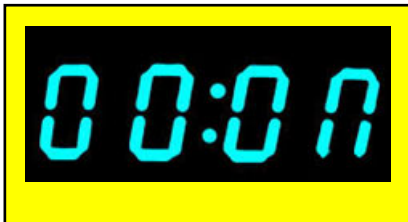
1. Ahmed's bedside digital clock is not working properly. One segment of the display doesn't light up.



2. Which numbers won't display properly?



3. Work out how many times between 10:00 and 11:00 won't display properly.
4. What if this segment had been broken instead?
Would that make a difference to how many times would display correctly? Why/why not?



5. Choose a segment which if broken would show fewer wrongly displayed times between 10:00 and 11:00 than the one which broke on Ahmed's clock.

Have you found a system to show that you have found all the possible times which don't display properly?

Aims:

- To read the time on a digital display.
- To realise that only digits 0 to 6 appear in the digit showing multiples of 10 minutes, whereas 0 to 9 appear the digit showing multiples of 1 minute.
- To find all the times with 2, 3 or 5 in the 10 minutes position on a digital clock between 10:00 and 11:00.

Minimum number of calculations expected

N/A

