

Time & Money | Year 5

Inset 2015

ICE BREAKER



The revised Syllabus: pg. 8, 9

Children learn mathematical thinking most effectively through the application of concepts and skills in interesting and realistic contexts that are personally meaningful to them. This implies that mathematics is best taught by helping children to solve problems drawn from their own experiences.

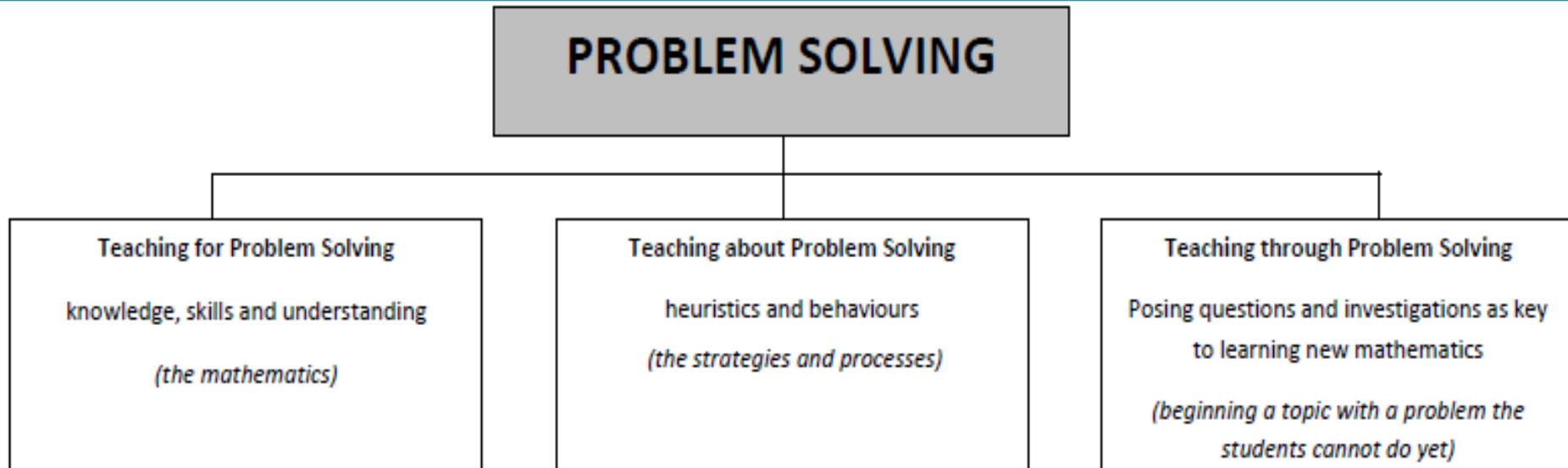


Figure 2: Teaching for – about – through Problem Solving.

Teaching Math
Through Real Life
Experience

Money

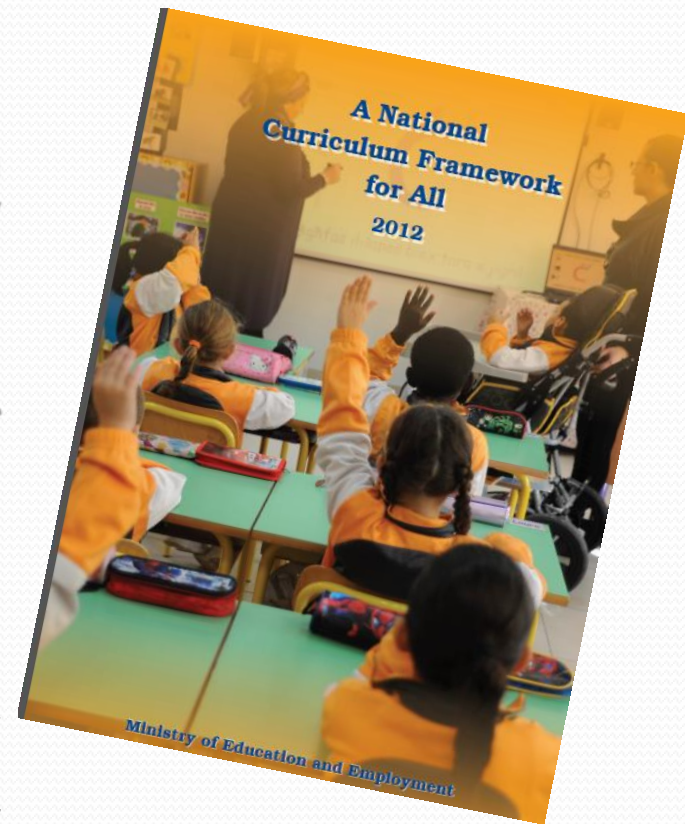


National Curriculum Framework for All 2012

Mathematics - This Learning Area **will include financial literacy** aspects such as mathematical and financial understanding as learning outcomes. (NCF 2012 p.26)

The ability to develop and **apply mathematical thinking** in order to **solve a range of problems in everyday situations** is important for all learners. (p.53)

With increased fluency in Mathematics, young people are provided with **opportunities to deepen their mathematical knowledge and reasoning**, to come more formally into contact with abstract and logical reasoning, and to better appreciate and apply the communication possibilities that the mathematics medium offers. This Learning Area will include financial literacy aspects such as mathematical and financial understandings in order to ensure that a culture of financial planning and preparation is instilled and nurtured during the Junior and Secondary Cycles of education. (p.53)



Core subjects linked to cross-curricular themes

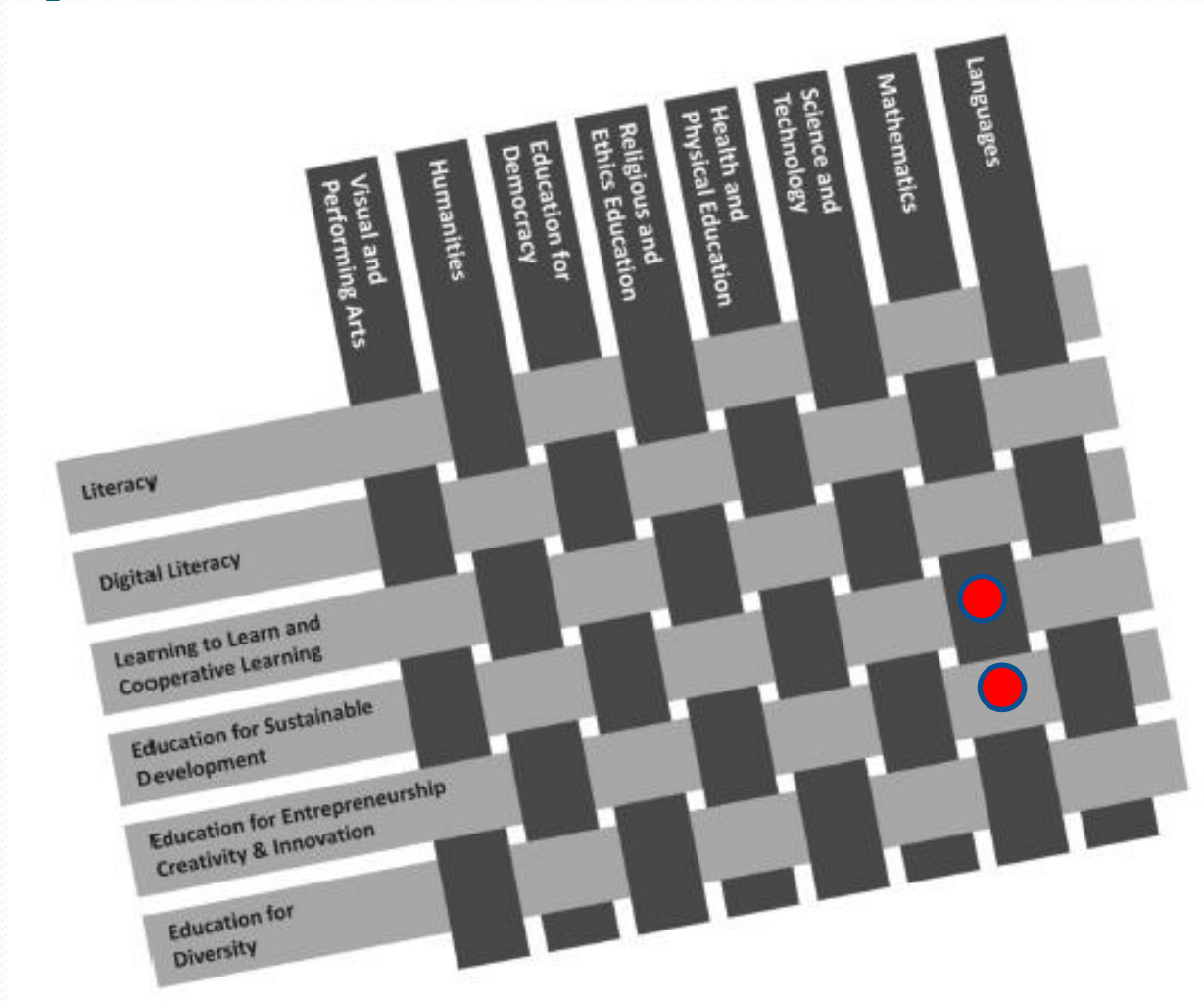


Figure 3: The learning areas and the cross-curricular themes in the NCF

Critical Minds

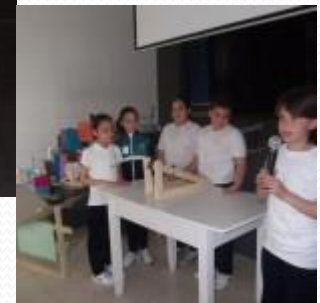
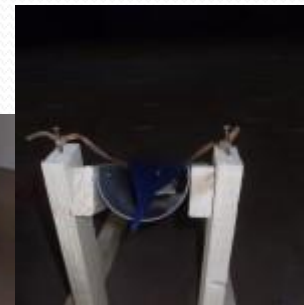
Critical Minds is a project revolving around STEM Education aimed at Year 5 children. Children's creativity and innovative traits were pushed to the limits by encouraging them to build things never seen before. Finished products had to make sense but not necessarily work.

The project supported children to **“develop an inquiry-based approach to finding out facts by observing, exploring and investigating”** (NCF, 2012, p. 53).



After a series of preparatory lessons, children were shown a short introductory video of a pilot group illustrating the different steps of the project. Children had to:

- looking at the resources available,
- design and sketch a project idea,
- draw up a written list of resources required,
- buy the resources using allotted money
- build and log steps in written form,
- test the project and
- present the final product.



...already taking place in our schools



Orange
juice
stand

Jam it
for
Puttinu



Santa's Kitchen



Olive picking to make olive oil



Money – Mathematics revised Syllabus

YEAR 5

LEARNING OUTCOMES Children will be able to:		KEY VOCABULARY	OPPORTUNITIES Children should be given a range of opportunities such as:
I.5.1	work out totals up to €10,000 (ten thousand euro).	coin/s notes cent (c) euro (€) how much? cost/s total change	<ul style="list-style-type: none"> • handling money in real life contexts such as helping with outing money collections and school fund raising activities • integrating this topic with weight and capacity as they calculate the cost of certain ingredients of a recipe. • playing board games involving the handling of money. • planning an activity such as a party, a meal or an outing with a given budget. • using junk mail, menus, price list, receipts and shop loyalty cards to investigate and solve situations involving money. • using tickets, travel brochures and any of the above to plan and budget for family or school trips. • solving up to two-step word problems involving money and communicating their result/s and/or the process adopted. • solving and investigating up to two-step word problems involving
I.5.2	give change.		
I.5.3	work out which notes and coins are needed to pay.		
I.5.4	convert euro to cent and vice versa.		
			<ul style="list-style-type: none"> • money and communicating their result/s and/or the process adopted. • creating word problems related to money.

Examples of Maths in everyday life

- Planning a day in Gozo
- Maths Trail at the Supermarket
- Maths through adverts
- Maths Investigations - Loyalty Card Investigation

Time

Time is a measure of how long something takes.

- *Ten minutes* to have lunch.
- *Half an hour* to drive to work.
- *Many years* to grow up.





How many units of time can you mention?

Units of time

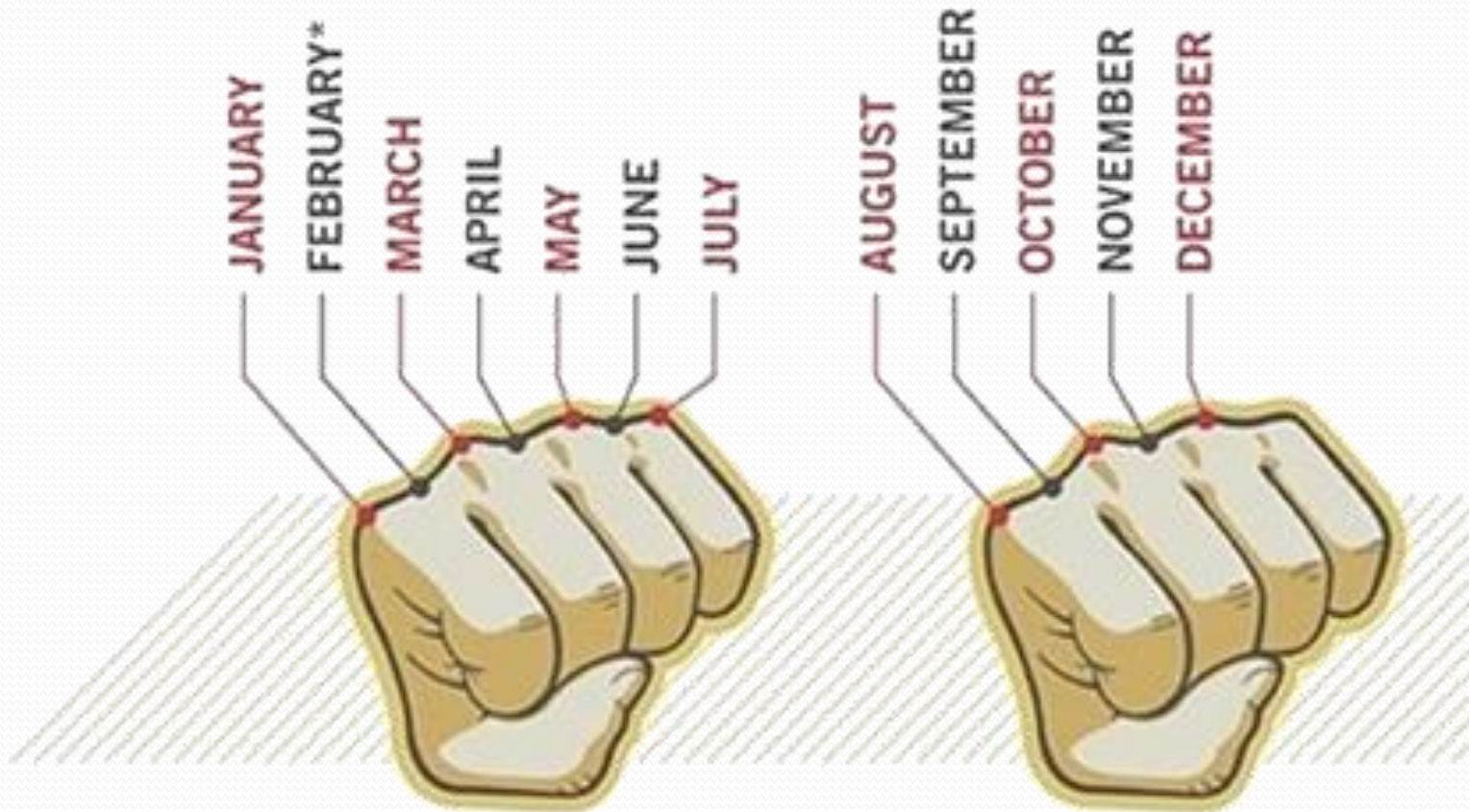
Units of time are based on the movement of Earth.

A year is the time it takes the Earth to travel once around the Sun.

- A year = 12 months = 52 weeks = 365 days (366 days in a leap year)
- A week = 7 days
- A day = the Earth to spin around once
- Divide a day into 24 hours.
- Each hour contains 60 minutes.
- Each minute contains 60 seconds.



Calendar



KNUCKLE BUMPS = 31 DAYS

KNUCKLE GAPS = 30 DAYS

*** EXCEPT FEBRUARY = 28 DAYS (29 IN A LEAP YEAR)**

12-hour clock time

12-hour clock time divides the day into **two groups** of 12 hours.

AM → From Midnight to 11:59am

PM → From Noon to 11:59pm

Minutes past the hour	... is also called
0	... o'clock
15	quarter past
30	half past ...
45	quarter to ... (the next hour)

Minutes in Words

My Clock

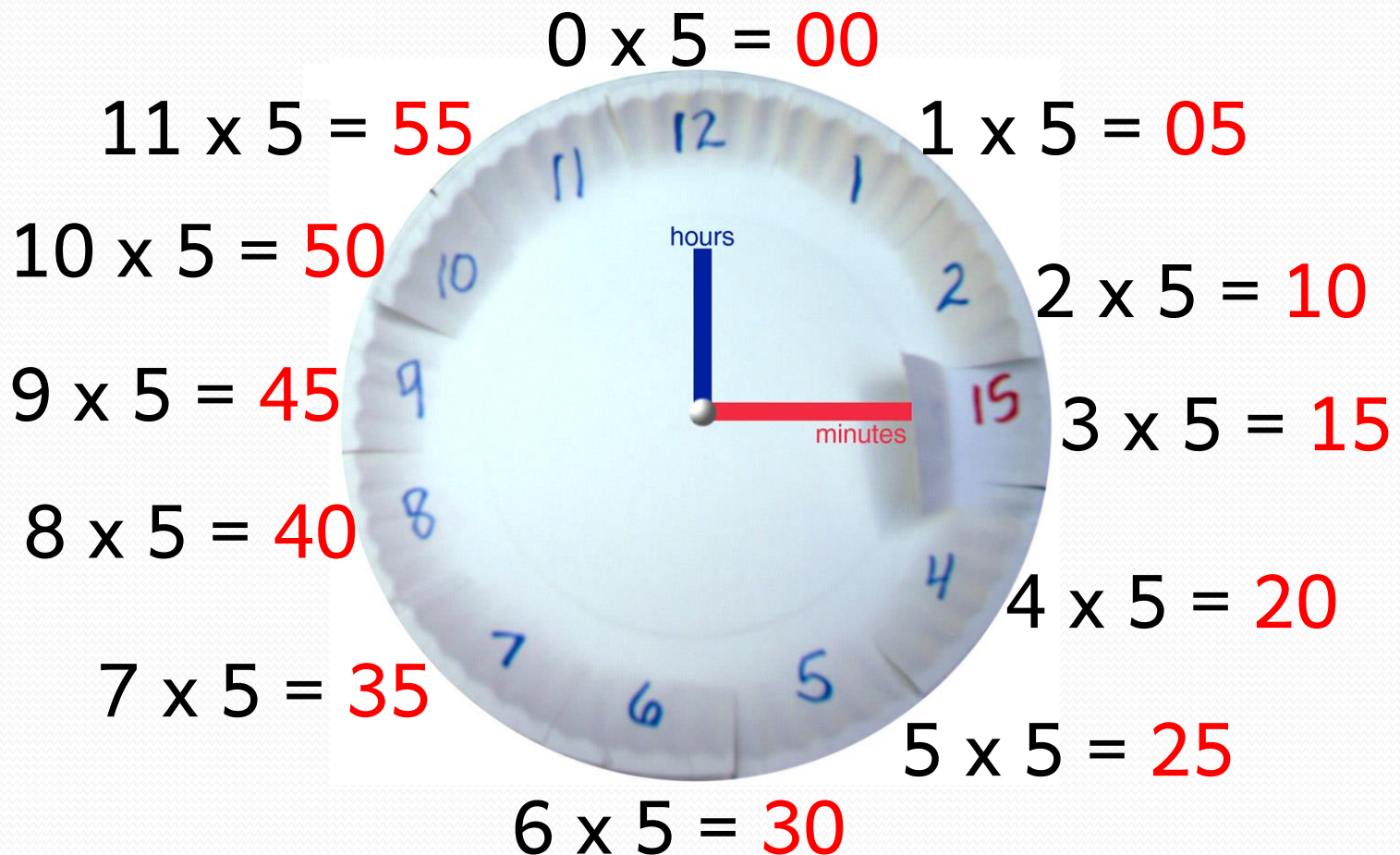
A yellow clock face with a black border and a black center dot. The numbers 1 through 12 are arranged around the face. The clock is surrounded by a decorative border of small yellow smiley faces. The labels for minutes in words are placed around the clock face:

- o'clock (at 12)
- five past (at 1)
- ten past (at 2)
- quarter past (at 3)
- twenty past (at 4)
- twenty five past (at 5)
- half past (at 6)
- twenty five to (at 7)
- twenty to (at 8)
- quarter to (at 9)
- ten to (at 10)
- five to (at 11)

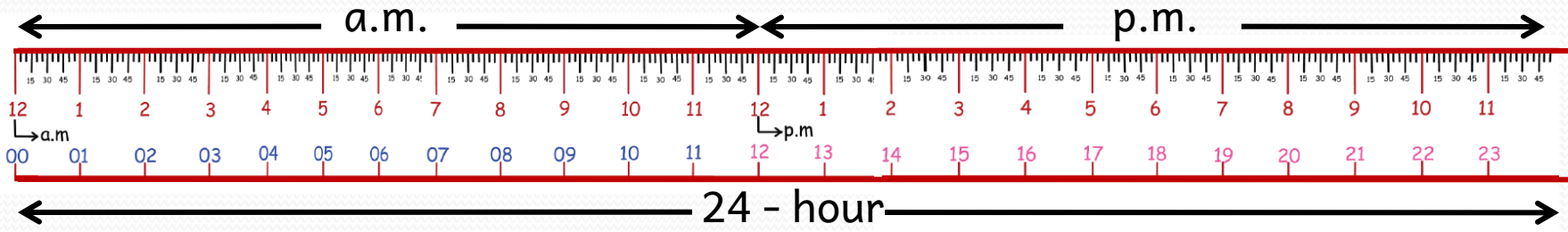
www.communication4all.co.uk

The Events

Minutes in Digital Time



Time-line



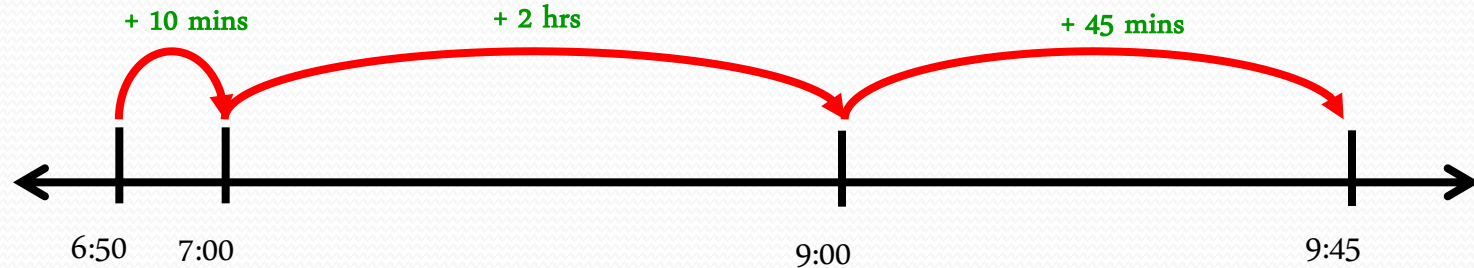


Finding the difference in time by counting on.

If a journey starts at 6:50am and finishes at 9:45am. How long is the journey?

Finding the difference in time by counting on.

A journey starts at 6:50am and finishes at 9:45am. How long is the journey?



2 hours + 10 mins. + 45 mins. = 2 hrs 55 mins.

The journey lasted **2 hours 55 minutes**

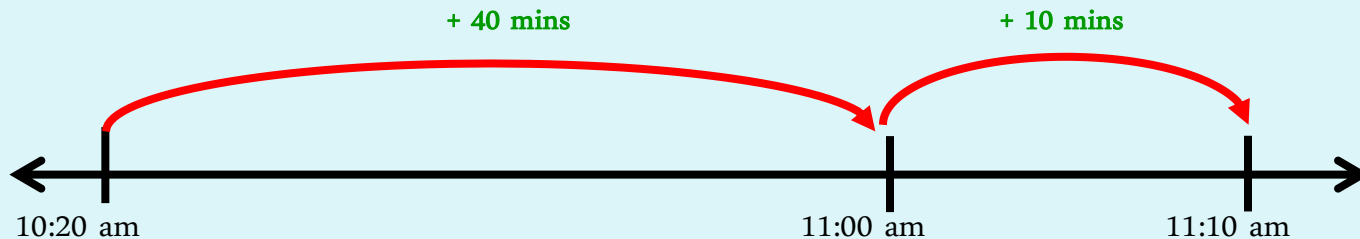
Common Mistakes when learning to tell the time.

A film started at 10:20am. It ended at 11:10am. How long was the film?

$$\begin{array}{r} 11:10 - \\ \underline{10:20} \\ \underline{1:90} \end{array}$$

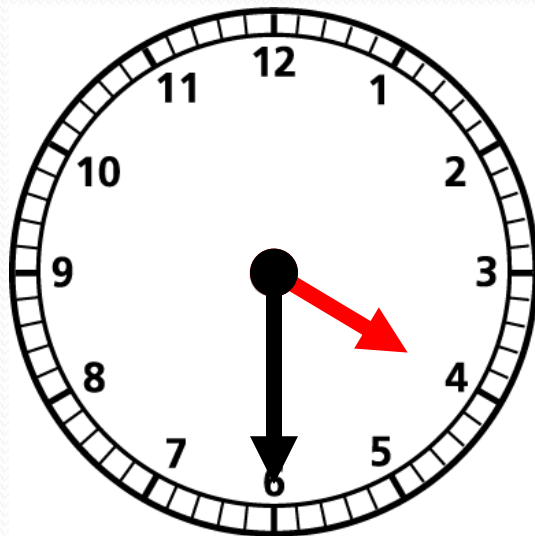
Student confuse time measurement with metric measurement.

Note: *To avoid the above mistake use the time line.*



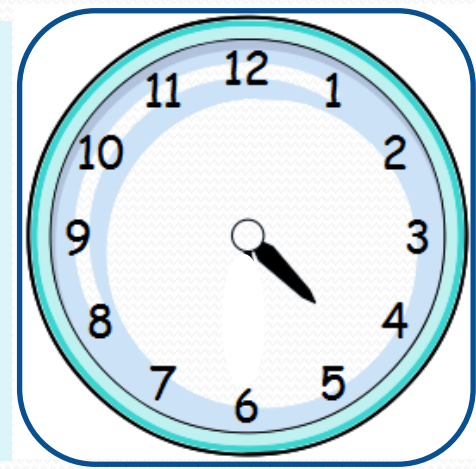
40 mins. + 10 mins. = 50 minutes long

Common Mistakes when learning to tell the time.

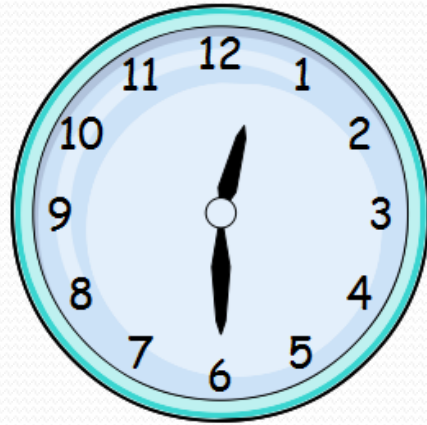


half past four

Note: Make the students tell the time by using a clock with the minute hand missing.



Common Mistakes when learning to tell the time.



six o'clock

Student has confused the hour and the minute hands.

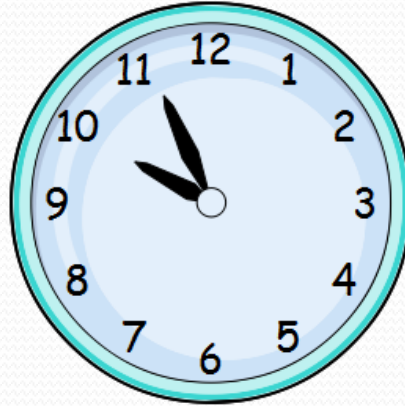
Note: The word hour is shorter than the word minute. Therefore, the hour hand is short and the minute hand is long.

Which Hand is Which?



The word 'Minute' is biggest.
The Minute hand is biggest.
The word 'Hour' is smallest.
The Hour hand is smallest.

Common Mistakes when learning to tell the time.



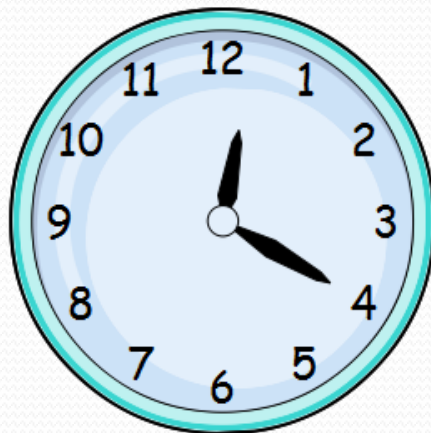
10:56

Student assumes the hour is the one to which the hour hand is closest.

Note: Colour a paper plate clock in sections and colour the number before each the section the same colour as the section. Then explain how all parts of the same colour segment belong to the same hour number.



Common Mistakes when learning to tell the time.



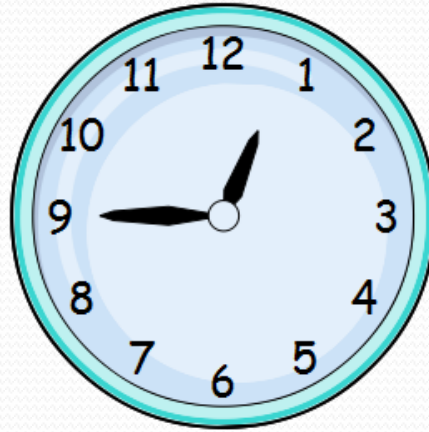
12:04 or 12:40

Student misreads hours as minutes. Forgets to count in 5s.

Note: Make a paper clock with two clock faces of different colours. Place the hour face on top of the minutes clock face. Use the same colour for the minutes clock face and the minute hand.



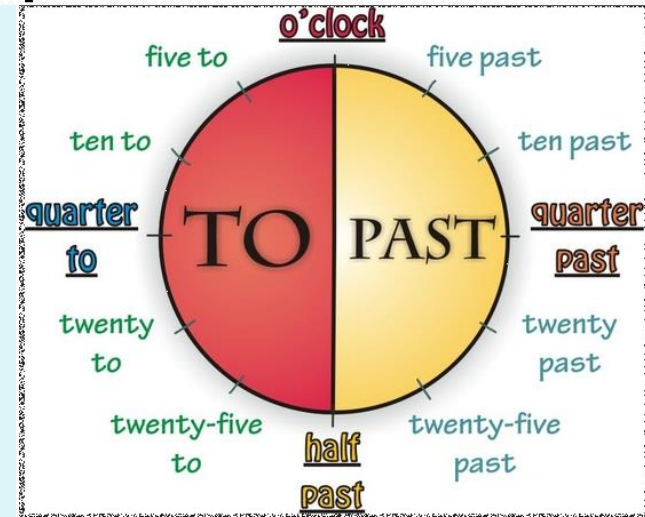
Common Mistakes when learning to tell the time.



quarter past 12

Student confuses the concepts of 'past' and 'to'.

Note: Students make a paper clock face and label it as shown.



Common Mistakes when learning to tell the time.

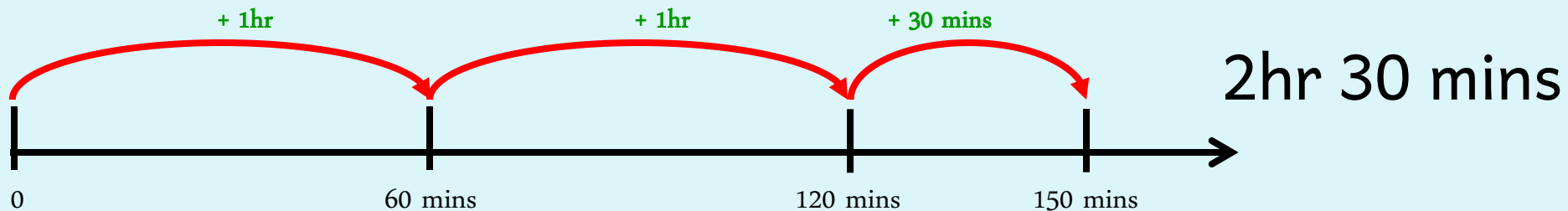
Visitors to Vittoriosa can only park their car for a total of **150 minutes**.

How many **hours and minutes** is that?

1hr 50 minutes



Encourage students to create their own time line.



Group Work

Station 1 – Mario's Day

Station 2 – Match the Clocks

Station 3 – TVM Schedule

Station 4 – Party Bag Investigation

Station 5 – Loyalty Card Investigation

Station 6 – A Day Trip

Station 7 – Resources Available