

## Time 1

### Stage 3 Outcome

A student:

- › describes and represents mathematical situations in a variety of ways using mathematical terminology and some conventions MA3-1WM
- › uses 24-hour time and am and pm notation in real-life situations, and constructs timelines MA3-13MG

**Language:** Students should be able to communicate using the following language: **12-hour time, 24-hour time, time zone, daylight saving, local time,** hour, minute, second, am (notation), pm (notation).

### Teaching and Learning Activities

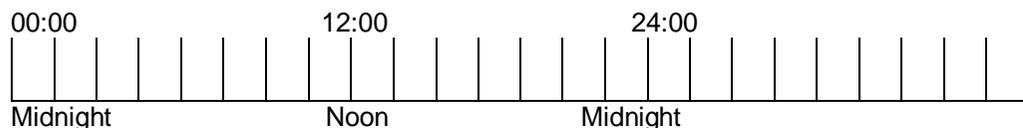
### Notes/ Future Directions/Evaluation

### Date/ LAC Icons

#### Ignition Activity

Have students make a clock face with the twelve hour markings shown in the inner circle and the twenty-four markings on an outer circle. Use this to convert between am/pm notation and 24-hour time.

Introduce 24 hour time. Discuss with students where it is used, why this form of time might be useful and who uses it. Ask students to show 24 hour time on a time line and record a.m. and p.m.



 Critical and creative thinking

#### Explicit Mathematical Teaching

Australia is divided into three time zones. Time in Queensland, New South Wales, Victoria, and Tasmania is Eastern Standard Time (EST); time in South Australia, and the Northern Territory is half an hour behind EST; and time in Western Australia is two hours behind EST. The terms 'am' and 'pm' are used only for the digital form of time recording and not with the 'o'clock' terminology. The abbreviation *am* stands for the Latin words 'ante meridiem' which means 'before midday'. The abbreviation *pm* stands for 'post meridiem' which means 'after midday'. Midday and midnight need not be expressed in am or pm form. '12 noon' or '12 midday' and '12 midnight' should be used, even though 12:00 pm and 12:00 am are sometimes seen. It is important to note that there are many different ways of recording dates, including abbreviated forms. Different notations for dates are used in different countries, i.e. 8th

 Literacy

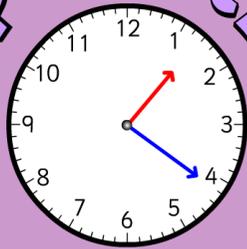
<p>December 2002 is recorded as 8.12.02 in Australia but as 12.8.02 in America. Telling the time accurately using 24-hour time eg '2330 is the same as 11:30 pm' Explain where 24-hour time is used e.g. transport, armed forces, digital clock display, etc.</p>		 Literacy
<p><b>Stopwatches</b></p> <p>Students read digital stopwatch displays showing time from left to right in minutes, seconds and hundredths of a second. Students use stopwatches to time various events and order them according to the time taken. Students discuss cases where accurate timing is important eg athletics, swimming, television advertisements. Students research the world records of different sports. They then record and order them.</p> <div style="border: 1px solid black; padding: 2px; width: fit-content; margin: 10px auto;"> <p>2 : 34 : 26</p> </div>		 Literacy
<p><b>Timing Experiments</b></p> <p>Students estimate and order the amount of time selected events will take and then check by timing the events with a stopwatch eg ■ the time for a ball dropped from the top floor of a building to reach the ground ■ the time for a car seen in the distance to reach a chosen point. Students record the times in a table and order the events.</p>		
<p><b>Matching Times</b></p> <p>In pairs, students are given two blank cards. They record the time in am or pm notation on one card and 24-hour time on the other. The teacher collects the cards, shuffles them and redistributes the cards to the class. Each student has to find their partner by asking other students questions to identify the matching time. Students can only answer 'yes' or 'no'. Possible questions include:</p> <ul style="list-style-type: none"> <li>■ do you have an o'clock time?</li> <li>■ is your time ten minutes after 7:15 am?</li> <li>■ is your time 2130 in 24-hour time?</li> </ul> <p>Students then group themselves into am and pm times. Each group then orders its cards.</p>		  Critical and creative thinking Literacy

<p><b>Spending Time</b>  Students collect data and record on a graph the amount of time they spend on average watching television, travelling to school, sleeping, eating, working at school and engaged in other activities, using start time and finish time to calculate elapsed time. They compare and discuss their graphs. Students use start and finish times to calculate the elapsed time of events. Students use appropriate units.  Students calculate how much time is spent on different subjects each day/week, when looking at the class timetable.</p>		 Critical and creative thinking
<p><b>Time Zones</b>  Students research different time zones in Australia where their relatives or friends live. Students use atlases to sort states, towns or cities into time zones. The teacher poses the question:  'What time would it be in Perth at the moment?' The activity should be extended to include daylight-saving times.  Possible questions include:  ■ why does Australia have different time zones?  ■ where could you find out about different time zones?  Students use the Internet to research different time zones.</p>		 Critical and creative thinking  Literacy
<p><b>TELL THE TIME</b> –ES1 – STAGE 3  Tell the time is an interactive teaching program (ITP) on the <a href="#">Standards Site</a> in the UK. It displays on-screen analogue and digital clocks separately or together. The clocks can be moved around the screen and their sizes altered. Times can be adjusted in different intervals of time. The 'set' option on the digital clock is used to set the time shown on the clocks. Once you have selected your options click on 'set' again to restart the clocks. The clocks can run in real time or from a set time and over any interval. The clock can be stopped and started.</p> 		 Information and communication technology capability

## Stop the Clock

STOP THE CLOCK

5



Drag the five digital times to the correct analogue clock then press STOP THE CLOCK to record your time.



Time taken : 0 minutes 21 seconds

Best Time : 0 minutes 45 seconds

20:37 20:30 14:28 16:54 21:44



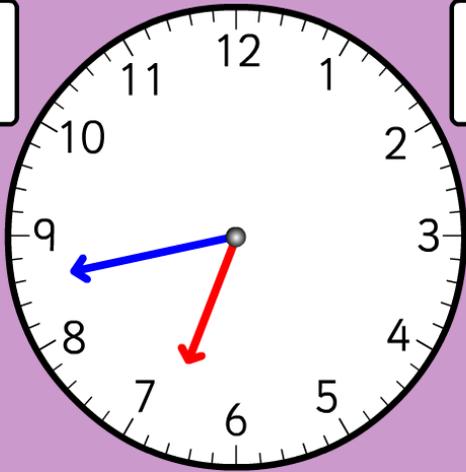
Main 

[http://www.eastiron.org/schools/interactive-resources/ir\\_contents/contents/ts/time/sthec5.html](http://www.eastiron.org/schools/interactive-resources/ir_contents/contents/ts/time/sthec5.html)

**Bang on Time**

Score  
0

Turn  
1



ten minutes past six



Main



[http://www.eastiron.org/schools/interactive-resources/ir\\_contents/contents/ts/time/clockwordsres.html](http://www.eastiron.org/schools/interactive-resources/ir_contents/contents/ts/time/clockwordsres.html)

**Digital to Analog**

[http://www.eastiron.org/schools/interactive-resources/ir\\_contents/contents/ts/time/y5dtoa.html](http://www.eastiron.org/schools/interactive-resources/ir_contents/contents/ts/time/y5dtoa.html)

## My TV Guide

### Clocks - Digital to Analogue

©2011 VTE Read the time to the minute on a 24-hour digital clock

Name \_\_\_\_\_



## My TV Guide

Name: \_\_\_\_\_

Favourite TV shows	Start time	Finish time	Duration
Day: _____			

[http://www.eastiron.org/schools/interactive-resources/ir\\_contents/contents/ts/time/tvguide.html](http://www.eastiron.org/schools/interactive-resources/ir_contents/contents/ts/time/tvguide.html)