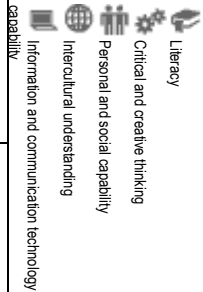# Booragul Public School NSW Syllabus for the Australian Curriculum – Measurement and Geometry

Sub Strand – Time 2			
Outcome	Teaching and Learning Activities	Notes/ Future Directions/Evaluation	Date
Stage 2 A student: › uses appropriate terminology to describe, and symbols to represent, mathematical ideas MA2-1WM › selects and uses appropriate mental or written strategies, or technology, to solve problems MA2-2WM › reads and records time in one-minute intervals and converts between hours, minutes and seconds MA2-13M		**Language** Students should be able to communicate using the following language: calendar, date, **timetable**, **timeline**, time, hour, minute, second, **midday**, **noon**, **midnight**, **am (notation)**, **pm (notation)**. The term 'am' is derived from the Latin *ante meridiem,* meaning 'before midday', while 'pm' is derived from the Latin *post meridiem,* meaning 'after midday'.	
Ignition Activities **Time Bingo** Students match units of time and time facts eg 60 seconds = 1 minute, 60 minutes = one hour and 24 hours =one day etc. **Barrier Game** Students form pairs. Student A is provided with a series of digital times recorded on cards. Student B is provided with an analog clock. Student A selects a card and explains to Student B where to position the hands on their clock to make a matching time. Student B records the time they have made both in analog notation and in digital notation eg twenty to eleven and 10:40. Student A checks the digital time with their card. Students swap roles and repeat the game.			Information and communication technology capability / Intercultural understanding / Personal and social capability / Critical and creative thinking / Literacy
Explicit Mathematical Teaching Convert between units of time (ACMMG085) • convert between units of time and recall time facts, eg 60 seconds = 1 minute, 60 minutes = 1 hour, 24 hours = 1 day ⬥ explain the relationship between the size of a unit and the number of units needed, eg fewer hours than minutes will be needed to measure the same duration of time (Communicating, Reasoning)			
Use am and pm notation and solve simple time problems (ACMMG086) • record digital time using the correct notation, including am and pm, eg 9:15 am ⬥ describe times given using am and pm notation in relation to 'midday' (or 'noon') and 'midnight', eg '3:15 pm is three and a quarter hours after midday' (Communicating) • relate analog notation to digital notation for time, eg ten to nine in the morning is the same time as 8:50 am • solve simple time problems using appropriate strategies, eg calculate the time spent on particular activities during the school day			
Read and interpret simple timetables, timelines and calendars			

• read and interpret timetables and timelines • read and interpret calendars ▯explore and use different notations to record the date (Communicating) ▯explore and use the various date input and output options of digital technologies (Communicating)		
Paired game Students take it in turns to identify a time, make it on the clock and then the other student has to say that time another way eg "3:15pm" is the same as "quarter past 3" or "midday" is the same as 12 o'clock		
Television Viewing Students collect a variety of television guides from different sources eg magazines, newspapers. Students identify and discuss common features. Students then plan an evening of television viewing and record their plan in a table eg 	Program	Channel	Program begins	Program finishes
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			| Students use a simple timetable. Possible questions include: ▮ can you convert the digital times to analog times? ▮ what information can you interpret from a timetable? This information could be used to draw a timeline. Students exchange timelines and describe what the other student would be watching that evening and when.		
Daily recording of date, time in various work books Students are required when completing work in workbooks are to record the date and time activity starts and time the activity finishes including the use of am and pm. Students then calculate the time spent on particular activities during the school day and this can link to data. Students explore and use different notations to record the date eg 5.6.14 versus 5th June, 2014.		

Group/Independent Activities

Matching Times
The teacher provides students with sets of matching time cards in both analog and digital notation (eg ten to nine, 8:50).
In small groups, students jumble the cards and place them face down. In turns, students turn two cards over. If the cards match, the student keeps them. The winner is the student with the most cards.
Following the game, students record times in other ways and make additional cards for the game. Students then repeat the game with the additional cards.
Possible questions include:

▮ can you read the time on each card?

▮ can you record the time on each card in another way?

▮ can you explain the relationship between the time units?

Duration of Activities
The teacher poses the problem 'An activity takes 15 minutes to complete. What might the activity be?' Students brainstorm a variety of activities. The problem is posed again using 30 minute and 45 minute durations. The teacher then provides
students with cards which express 15, 30 and 45 minute durations in different ways eg 'quarter of an hour'. Students match times with activities eg

30 minutes   half an hour $\frac{1}{2}$ hour
reading, playing handball,
watching television, washing dishes

Timetables – have children look at a timetable and write down at least 5 things that the timetable tells them. Pose questions from the timetable and ask a friend.

INVESTIGATIONS:
1) Children investigate making their own time slots eg based on sand falling through a hole in a cardboard funnel. What would a clock look like for this time?
2) Make a clock where a revolution is only one minute. What would the clock look like?
3) Make a clock to show 24 hours – what would the clock look like?
4) Use a mechanical clock and manually move the minute hand – show how the hour hand moves automatically.

NAPLAN Questions-2008- Work through these using problem solving skills with children(Newman's Analysis if known)

NAPLAN 2008-Yr 3 Questions

22 A bus took some students to camp.
It left the school at 10:00 am.

The bus trip took one and a quarter hours.
What time did the bus get to the camp?

10:30 am   10:45 am   11:15 am   11:30 am
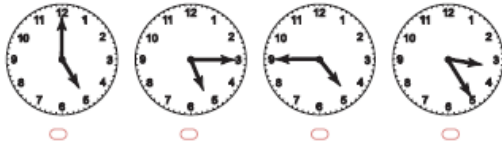
© MCEETYA 2008

27 This photo was taken at 5:15 pm.

Shade one bubble.

5:15 pm 21/07/06

Which clock shows when the photo was taken?

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Planned assessment

Pre Assessment
Give children a sheet with 2 blank clockfaces on it. Have kids label clock and show 27 minutes past 2 on one clock and record in digital beneath, and 8 minutes past nine on second clock, recording in digital time beneath.

Swiss clock from Maths Assessment for learning Rich Tasks p125

Give each child a timetable and ask them to pose three questions about their timetable and answer them.