Using and interpreting timetables: Then and now

Key Learning Area	Unit or lesson title and main focus questions	Most appropriate level and suggested number of lessons
Mathematics	**Using and interpreting timetables: Then and now** How do we read timetables?	**Stage 2–3**
History	What are the significant differences and similarities between the Rogans Hill – Parramatta railway timetable and a current Sydney Trains timetable?	1–2 lessons

Teacher briefing

Students investigate the similarities and differences between the timetable for the Rogans Hill – Parramatta railway line that operated from 1926-1932 and a current Sydney Western Line rail timetable to Emu Plains, Richmond or Chatswood. Students draw on a variety of mathematical strategies to read, interpret and represent their understanding of timetables.

Requirements for this lesson

- Internet connected computers
- Source 1, Rogans Hill – Parramatta railway line timetable (page 119)
- Sydney Trains Timetable website (see web links).

Key terms and vocabulary

Rail motors, timetables, rail lines, steam trains, time: am, pm, digital, analog.

Background information

The Rogans Hill – Parramatta railway line timetable
A steam tramway opened between Parramatta and Baulkham Hills in 1902, and was extended to Castle Hill in 1910, carrying passengers and produce to and from the area. In 1919, the NSW Government decided to convert the tramway into a railway to encourage the subdivision of estates for residential use. The new section between Westmead and Northmead was built in 1922 and the line opened to traffic to Castle Hill in 1923. It was extended to Rogans Hill in 1924. The line was single track throughout and ran alongside Windsor and Old Northern roads between Northmead and Castle Hill. It was closed in 1932.

Web links

Sydney Trains timetables

https://www.sydneytrains.info/timetables/#landingPoint

Australian digitised newspapers: An article on the closing of Rogans Hill train line in 1932

http://trove.nla.gov.au/ndp/del/article/16836439

Sydney Metro Northwest Project Overview September 2015

https://www.sydneymetro.info/sites/default/files/15082-Project-overview-September-2015_web.pdf%3Fext%3D.pdf

Syllabus links

Mathematics K–10

(MA2-1WM) uses appropriate terminology to describe, and symbols to represent, mathematical ideas

(MA3-1WM) describes and represents mathematical situations in a variety of ways using mathematical terminology and some conventions

(MA2-13MG) reads and records time in one-minute intervals and converts between hours, minutes and seconds

(MA3-13MG) uses 24-hours time and am and pm notation in real-life situations, and constructs timelines

(MA2-2WM) selects and uses appropriate mental and written strategies, or technology to solve problems

(MA3-2WM) selects and applies appropriate problem-solving strategies, including the use of digital technologies, in undertaking investigations

History K–10

Stage 2 – Community and remembrance

(HT2-2) describes and explains how significant individuals, groups and events contributed to changes in the local community over time

(HT2-5) applies skills of historical inquiry and communication.

Stage 3 – The Australian colonies

(HT3-1) describes and explains the significance of people, groups, places and events to the development of Australia

(HT3-5) applies a variety of skills of historical inquiry and communication.

Lesson 1 – Historical class activities

Step 1 – Make a KWIRL chart

(What I Know, what I Want to learn, how will I Investigate, how will I Report what I have investigated, what I have Learnt).

Focus questions

- What is a primary source or artefact?
- What can this timetable tell us about public transport during this period of Australia's history?

View Source 1, The Rogans Hill – Parramatta railway line timetable. Create a KWIRL chart using A3 cardboard and sticky notes. Use these questions as a guide:

- Where is the Rogans Hill – Parramatta railway line train line located? Is it still in operation?
- Do we know where any of the rail stations on the timetable were located? How can we find out where they were located?
- What important historical information does this artefact tell us about early transport in Australia? (Steam hauled trains, rail motor trains, passengers change at Parramatta, Monday to Friday inclusive).

A note on UP and DOWN. Trains travelling towards Central Station in Sydney are referred to as 'up' trains and those that travel away from Central Station in Sydney are called 'down' trains. Observant students will also note the page number 138 in the top left, identifying that this timetable page has been copied from a book of timetables.

Step 2 – Group tasks

Students research the web links provided. In small groups (four to six students) use the KWIRL charts to research a particular aspect of the timetable, for example, historical aspects, operation, public use.

Create a three to five minute 'story telling' drama. This play will express what was researched and learned about the Rogans Hill train line and is recorded on the KWIRL chart. Each play would use students' own ideas. It could include:

- Who travelled on the train line?
- What was talked about while on the train?
- The purpose of the journey
- Where the stations were located
- Any problems associated with the journey
- Commentary around a rail motor or steam hauled train
- The time taken for the journey in comparison to other modes of transport available at the time.

Step 3 – Extension activity

Students write scripts using their research, create props and perform their plays to the class. They could be filmed on the teacher's or students' iPhones, digital cameras or iPads and presented using the interactive whiteboard.

Step 4 – Reflection activity: Discuss the plays

Reflect on what was represented and why? Think about the historical importance of having historical artefacts such as the Rogans Hill – Parramatta Railway Line timetable.

Lesson 2 – Mathematical class activities

Step 1 – Class activity

Display Source 1 and the Sydney Trains Timetable website on the interactive whiteboard to distinguish the differences and similarities. Use these concepts to develop student comprehension of reading, navigating and using rail timetables.

For example:

- Time symbols
- Layout
- Frequency of trains
- Navigation (the interactive nature of current Internet based timetables versus non-interactive timetables of the past)
- Specific areas of information (days, dates, times, stations, up to date information)
- Why have timetables changed?
- What are the benefits of the changes?

Apply this knowledge to the mathematical questions listed.

Step 2 – Individual or group tasks (two to three students)

Use the Rogans Hill – Parramatta railway line timetable to answer the following problems.

1. You need to arrive at Westmead Train Station by 5pm on a Tuesday. What time train would you need to catch if you are departing from Parsonage Lane?

2. You have an appointment at a dentist 11.10am on a Saturday. The dentist is a 15 minute walk from Westmead Train Station. What time train would you need to catch if you were departing from Cross Street?

3. Create some mathematical questions using the Rogans Hill timetable for the class to answer.

Step 3 – Pairs

In pairs, find and display a current Sydney Trains Western Line rail timetable on an electronic device.

http://www.sydneytrains.info/timetables/#landingPoint

Answer these problems. A printed version of the timetable can be used, however, an electronic device will allow for effective student interaction.

1. You are meeting your cousin at Clyde railway Station at 11:20am on a Friday. What time train would you need to catch travelling from East Richmond train line?

2. You are going to see a movie with a friend at Parramatta at 1pm on a Sunday. What time train would you need to catch if you were departing from Seven Hills?

3. You have been invited to a friend's birthday party after school on a weekday. The party is a 10 minute walk from Town Hall Station in the city. What train would you need to catch if you were departing from Wynyard Station?

This newly acquired knowledge can be further developed in the Timetable ICT activity in Topic 1.

Source 1

Rogans Hill – Parramatta railway line timetable

138 — ROGAN'S HILL—PARRAMATTA.

Up. — MONDAYS TO FRIDAYS INCLUSIVE.

	a m	a m	a m	&	a m	a m	p m	p m
ROGAN'S HILL ...dep	5 25	6 24	7 7		9 5	10 35	12 15	1 39
CASTLE HILL ...... "	5 25	6 28	7 11		9 9	10 39	12 19	1 43
Parsonage Lane ... "	5 24	6 32	7 11		9 11	10 42	12 22	1 43
Southleigh .... "	5 29	6 42	7 15		9 13	10 43	12 23	1 43
Cross Street .... "	5 32	6 35	7 19		9 17	10 47	12 27	1 47
Baulkham Hills ... "	5 35	6 41	7 23		9 20	10 50	12 30	1 50
Junction Road ...... "	5 42	6 44	7 25		9 23	10 53	12 33	1 53
Model Farm .... "	5 45	6 47	7 28		9 25	10 56	12 36	1 56
Moxham Road ...... "	5 48	6 50	7 31		9 29	10 59	12 58	1 59
Northmead .... "	5 52	6 54	7 35	1 45	9 43	11 3	12 43	2 3
Mons Road .... "	5 56	6 55	7 39	1 49	9 37	11 7	12 47	2 7
Westmead .... "	6 0	7 1	7 44	1 53	9 40	11 10	12 50	2 10
PARRAMATTA.. { arr.	6 3	7 4	7 48	8 55	9 43	11 13	12 53	2 13
{ dep	6 5	7 10	7 49	8 56	9 46	11 16	12 56	2 16
SYDNEY ....arr.	6 39	7 35	8 23	9 41	10 19	11 49	1 29	2 49

Up. — MONDAYS TO FRIDAYS INCLUSIVE.

	p m	p m	p m	p m	p m	p m	p m	Mixed. p m
ROGAN'S HILL ....dep	3 15			6 45	7 45	8 35	9 35	10 21
CASTLE HILL .... "	3 19	4 33	5 53	6 49	7 49	8 39	9 39	10 25
Parsonage Lane .... "	3 22	4 36	5 56	6 52	7 52	8 42	9 42	10 28
Southleigh .... "	3 23	4 37	5 57	6 53	7 53	8 43	9 43	10 29
Cross Street .... "	3 27	4 40	6 1	6 57	7 57	8 47	9 47	10 33
Baulkham Hills .... "	3 30	4 43	6 7	7 3	8 1	8 51	9 51	10 47
Junction Road .... "	3 33	4 45	6 10	7 6	8 4	8 54	9 54	10 50
Model Farm .... "	3 38	4 49	6 13	7 9	8 7	8 57	9 57	10 53
Moxham Road............. "	3 39	4 52	6 16	7 12	8 10	9 0	10 0	10 56
Northmead .... "	3 43	4 55	6 19	7 15	8 13	9 3	10 3	11 0
Mons Road .... "	3 47	4 59	6 23	7 19	8 17	9 7	10 7	11 4
Westmead.................. "	3 50	5 2	6 25	7 23	8 20	9 10	10 10	11 7
PARRAMATTA......... { arr.	3 53	5 5	6 28	7 25	8 23	9 13	10 13	11 11
{ dep	3 53	5 7	6 28	7 25	8 33	9 16	10 16	11 16
SYDNEY..................arr.	4 29	5 40	7 10	7 59	8 59	9 49	10 49	11 49

✱ Steam hauled trains.

Service between Rogan's Hill and Parramatta is by Rail Motor, unless otherwise indicated.

Passengers change at Parramatta.

Figure 13: Source 1 – Rogans Hill – Parramatta railway line timetable. This line operated from 1926 until it closed in 1932.

Source: NSW Department of Transport.