

# MATHS IN MOTION



## PROGRAM DESCRIPTION

Join our education officers at Puffing Billy Railway and explore Maths concepts in real life situations. Learn about Measurement and Geometry by developing solutions for the water tanks at the railway, which are a vital part of the locomotives. Develop an understanding of Algebra through patterns and games. Explore Statistics and Probability by creating your own survey questions and collecting your own data at the Lakeside Visitor Centre. Develop an understanding about the importance of Time at the Railway.

## KEY THEMES

- Algebra
- Measurement and Geometry
- Time
- Statistics and Probability

## YEAR LEVELS

Year 5 – Year 8

## CURRICULUM AREAS AND LEVELS

Mathematics Level  
5 – Level 8

## PROGRAM OPTIONS

### OPTION 1

Meet the Education Officer at Belgrave Station at 10:30am for a 11am Puffing Billy departure (approx. 50minute journey). Disembark at Lakeside Station at approximately 12pm. Participate in an Educator led workshop at the Lakeside Visitor Centre and lunch in the natural surrounds at Emerald Lake. Depart on return from Lakeside to Belgrave Station, approx. 2pm. Arrive at Belgrave Station at approx. 3pm

### OPTION 2

Meet the Education Officer at Belgrave Station at 10:30am for a 11am Puffing Billy departure (approx. 50minute journey). Disembark at Lakeside Station at approximately 12pm. Participate in an Educator led workshop at the Lakeside Visitor Centre and lunch in the natural surrounds at Emerald Lake. Depart on school bus from Lakeside, approx. 2pm.

Other options can be scheduled according to Puffing Billy Railway timetable.

### DURATION:

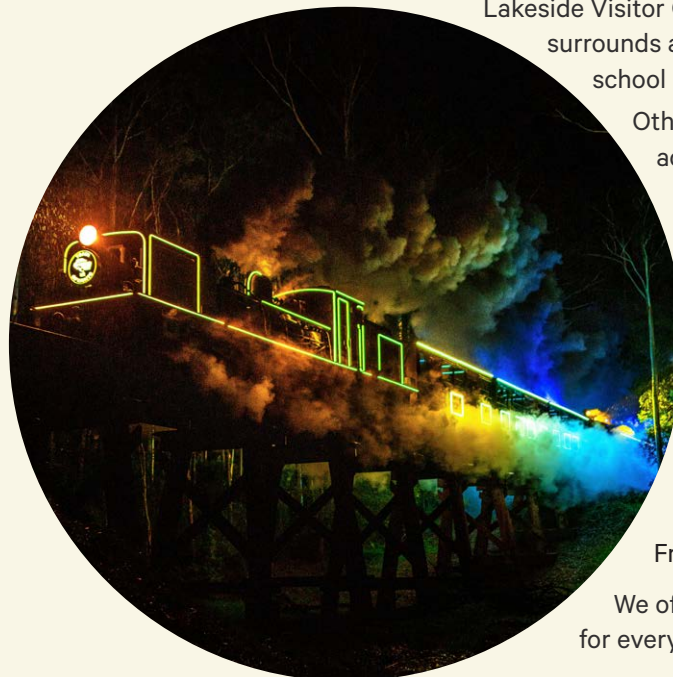
Half Day  
(approx. 10am - 2pm)

### COST:

Midweek only -  
From \$24.90 per student

Midweek only -  
From \$36 per adult

We offer 1 staff Free of Charge (FOC) for every 10 students travelling.



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## FOOD, BEVERAGES AND SOUVENIRS

A range of food and beverage options are available for purchase from our stations and the Lakeside Visitor Centre café, including pies, sandwiches, hot and cold drinks as well as ice creams and sweets. Pre-purchased kids' lunch packs are also available.

Additionally, a range of Puffing Billy merchandise is for sale, including the very popular Puffing Billy flags!



## TOILETS

Toilets are located at Belgrave, Menzies Creek, Emerald, Lakeside and Gembrook stations and the Lakeside Visitor Centre. Please note, there are no toilets available on board the train itself, so we encourage students to use the facilities before boarding.

Toilets with wheelchair access are located at Belgrave, Lakeside and Gembrook stations.



## ACCESSIBILITY

Puffing Billy Railway is committed to offering an enjoyable experience for everyone and has a range of accessible facilities available for our passengers.

Our station platforms are not at the same height as our carriage doors; however, ramps are available to provide easy wheelchair access on many of our Excursion Trains. The wheelchair ramp width is 75cm.

Pathways to Belgrave, Lakeside and Gembrook stations are all wheelchair accessible.

To assist passengers with reduced mobility and to avoid our steep pathway entrance to Belgrave Station, passengers may be dropped off at Gate 4 which is in front of our Belgrave Station building on Old Monbulk Road. The area from the station to the platform is on one level.

## CURRICULUM, STAFF AND RATIOS

Our education programs are linked to the Victorian Early Years Learning Development Framework (VEYLDF) and the Victorian Curriculum. Programs are presented by passionate Education Officers, who hold level 2 first aid qualifications and Working with Children Checks or are registered teachers. Puffing Billy Railway Education programs align with the Department of Education and Training excursion ratios.



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## CURRICULUM LINKS

### THE VICTORIAN CURRICULUM – LEVEL 5 TO LEVEL 8 - MATHS

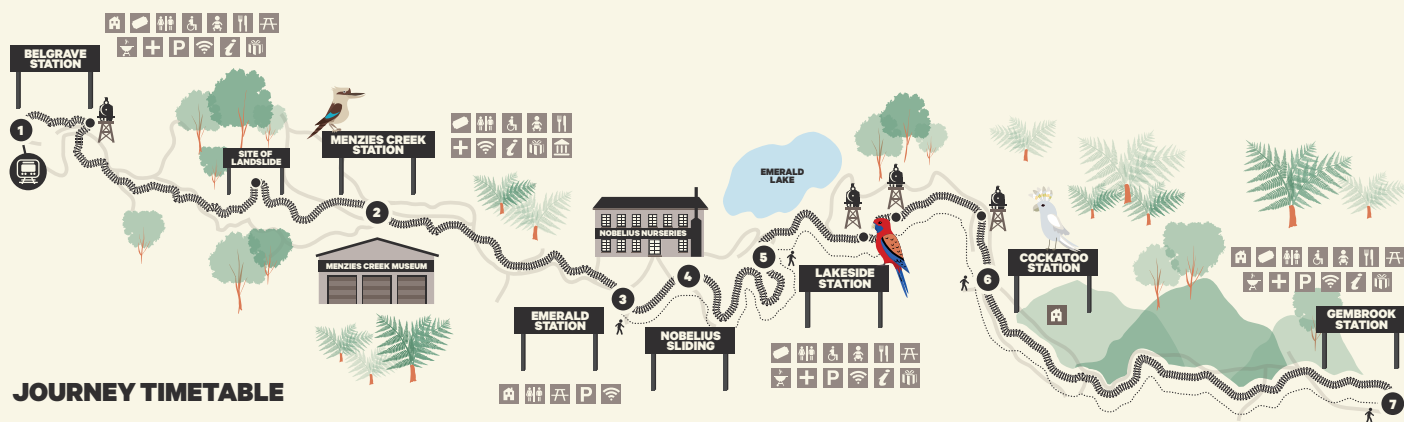
STRAND	SUB-STRAND	CONTENT DESCRIPTION
<b>Measurement and Geometry</b>	Using units of measurement	Compare 12- and 24-hour time systems and convert between them (VCMMG197)
<b>Measurement and Geometry</b>	Using units of measurement	Solve problems involving duration, including using 12- and 24-hour time within a single time zone (VCMMG290)
<b>Measurement and Geometry</b>	Using units of measurement	Investigate the relationship between features of circles such as circumference, area, radius, and diameter. Use formulas to solve problems involving determining radius, diameter, circumference, and area from each other (VCMMG288)
<b>Measurement and Geometry</b>	Using units of measurement	Develop the formulas for volumes of rectangular and triangular prisms and prisms in general. Use formulas to solve problems involving volume (VCMMG289)
<b>Number and Algebra</b>	Patterns and Algebra	Introduce the concept of variables as a way of representing numbers using letters (VCMNA251)
<b>Number and Algebra</b>	Patterns and Algebra	Create algebraic expressions and evaluate them by substituting a given value for each variable (VCMNA252)
<b>Number and Algebra</b>	Patterns and Algebra	Design and implement mathematical algorithms using a simple general purpose programming language (VCMNA254)
<b>Statistics and Probability</b>	Data representation and interpretation	Pose questions and collect categorical or numerical data by observation or survey (VCMSP205)
<b>Statistics and Probability</b>	Data representation and interpretation	Construct displays, including column graphs, dot plots and tables, appropriate for data type, with and without the use of digital technologies (VCMSP206)
<b>Statistics and Probability</b>	Data representation and interpretation	Describe and interpret different data sets in context (VCMSP207)
<b>Statistics and Probability</b>	Data representation and interpretation	Construct, interpret and compare a range of data displays, including side-by-side column graphs for two categorical variables (VCMSP235)

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## CURRICULUM LINKS

### THE VICTORIAN CURRICULUM – LEVEL 5 TO LEVEL 8 - MATHS

STRAND	SUB-STRAND	CONTENT DESCRIPTION
<b>Statistics and Probability</b>	Data representation and interpretation	Interpret secondary data presented in digital media and elsewhere (VCMSP236)
<b>Statistics and Probability</b>	Data representation and interpretation	Pose and refine questions to collect categorical or numerical data by observation or survey (VCMSP237)
<b>Statistics and Probability</b>	Data representation and interpretation	Identify and investigate issues involving numerical data collected from primary and secondary sources (VCMSP268)
<b>Statistics and Probability</b>	Data representation and interpretation	Construct and compare a range of data displays including stem-and-leaf plots and dot plots (VCMSP269)



### JOURNEY TIMETABLE

JOURNEY (refer to map above)	SINGLE JOURNEY (subject to timetable)	RETURN JOURNEY (subject to timetable)
1 ↔ 2	30 minutes	Allow 3 hours
1 ↔ 3	50 minutes	Allow 3 hours
1 ↔ 5	60 minutes	Allow 3 hours
5 ↔ 7	40 minutes	Allow 3 hours
1 ↔ 7	1 hour 50 minutes	Allow 5 hours

### MAP LEGEND

Belgrave Metro Station	Toilet	Parenting room
Town	Accessible toilet	Food & drink
Booking Office	Parenting room	Picnic area
BBQ facilities	Wi-fi	NEW! Menzies Creek Museum
First aid	Information	Multi-purpose Eastern Dandenong Ranges Trail
Parking	Souvenir Shop	Trestle Bridge



**BOOKINGS/ENQUIRIES**  
 E: [info@pbr.org.au](mailto:info@pbr.org.au) P: 03 9757 0700  
**PUFFINGBILLY.COM.AU**