

PLAY STEMatagories

Sew curiosity in Science with a fun collaborative game.

Explore the power of curiosity, inquiry and shared learning by playing the **PUFFING BILLY STEMatagories** game.

HOW TO PLAY:

Simply find a word that meets each description (STEMatagory) that starts with the letter of the alphabet that Puffing Billy Railway's Education team will release on Wednesday 19th of August, 2026.

The Puffing Billy Railway website will have a live link to the entry portal that will only be open between 8:45 am and 3:15pm A.E.S.T. on Wednesday 19 August.

The STEMatagories will be:

1. **A SOURCE OF ENERGY** that can be burnt and used to heat water
2. **SOMETHING LIVING** that could be found along the Puffing Billy Railway corridor
3. **A MATERIAL** that can be found within a Puffing Billy carriage
(includes any part of the carriage or passengers and their belongings)
4. **A PART OF A STEAM TRAIN**
(Any part of the train from the locomotive to the Guard's van)
5. **A JOB OR TASK** that is required for the successful operation of Puffing Billy Railway
6. **A FEELING** (physical or emotional) that could be experienced by a passenger during a ride on Puffing Billy

Try to think of more than one answer. Select the one you feel others may not pick as the more entries with the same word, the less points it will receive.

SCORING SYSTEM

The Maximum points possible is 600 using the system below.

100 points for a unique answer

50 points for 2-5 entries with the same answer

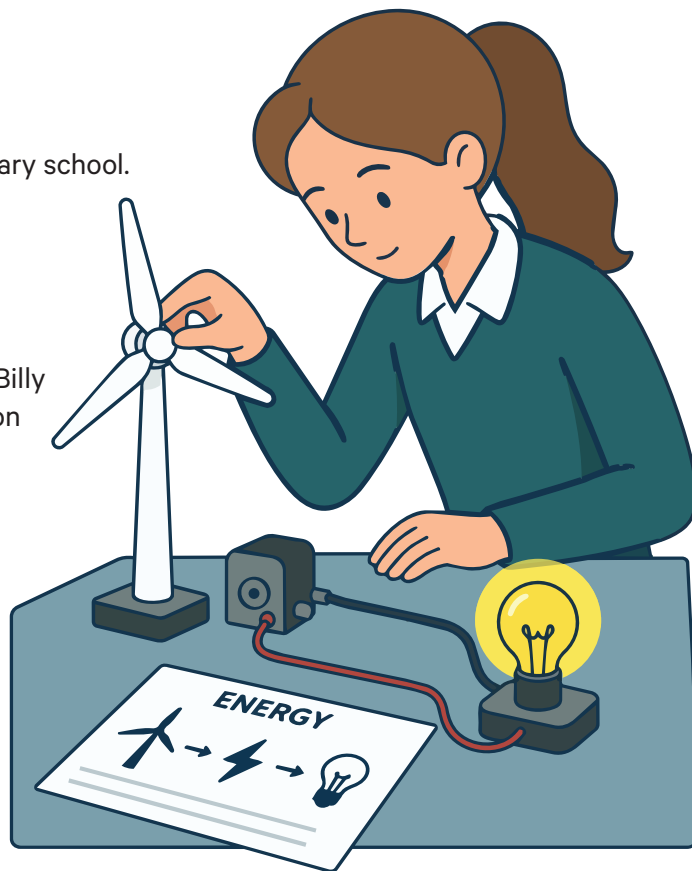
10 points for 6-10 entries with the same answer

1 point for more than 10 entries with the same answer



TERMS AND CONDITIONS

- Only one entry per class.
- Entry is open to any year 3 - 6 class in an Australian primary school.
- Entries must be submitted by a class teacher.
- Entries must represent the findings of the students.
- Entry is free.
- Entries can only be submitted via the link on the Puffing Billy website whilst active between 8:45 am – 3:15 pm A.E.S.T on **Wednesday 19 August 2026**. No other form of entry will be accepted. Puffing Billy assumes no responsibility for any omissions, defects, delays or technical errors in the transmission of the competition portal.
- The scoring and determination of winners, made by Puffing Billy staff, is final and no correspondence will be entered into.
- If two or more entries receive the same highest score, the winner will be selected randomly with a draw of tied entries.
- Winners will be notified by email by the end of Term 3 2026.
- Agreement to these terms and conditions is made by entering the competition.



PRIZES

All completed entries will receive a digital certificate emailed to the submitting teacher for display in the classroom or school newsletter.

The winning entry with the highest score in each section will receive a First-Place certificate and prize from Puffing Billy.

There are two sections: Years 3-4 and Years 5-6

PREPARATION POSSIBILITIES

Play as a class and use the practice sheet with a letter of choice. Work through the scoring system to demonstrate how important it is to brainstorm more than one answer to derive an “out of the box” answer.

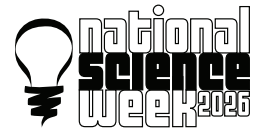
Break the class into 6 groups and have each group find possible answers for every letter of the alphabet. See the worked example below for a list of possible references.

When the competition letter is released on 19 August, combine the research of each group for the best result representing the class.

A WORKED EXAMPLE AND SOURCE OF INSPIRATION

STEMatagory	EXAMPLE WITH THE LETTER C	IN CONTEXT SENTENCE	HELPFUL LINKS
A source of energy that can be burnt and used to heat water.	Coal	Coal was placed in the firebox so that it could be burnt to heat the water and produce steam.	Pages 5- 7 - https://puffingbillyrailway.org.au/wp-content/uploads/STEAMING-SYSTEMS-PRE-RESOURCES-FULL-STEAM-AHEAD-2-2026.pdf
Something living that could be found along the Puffing Billy Railway corridor.	Cockatoo	The cockatoo flew overhead and rested on a tree branch next to the railway line.	https://puffingbillyrailway.org.au/wp-content/uploads/Puffing-Billy-Railway-Flora-2021.pdf https://puffingbillyrailway.org.au/wp-content/uploads/Puffing-Billy-Railway-Fauna-2021.pdf
A material that can be found within a Puffing Billy carriage (includes any part of the carriage or passengers and their belongings).	Cotton	The student in carriage 4 was wearing a blue cotton t-shirt.	https://puffingbillyrailway.org.au/news/workshop-blog/carriage-project-part-ii-from-detail-to-delivery/
A part of a steam train (Any part of the train from the locomotive to the Guard van).	Coupling	The coupling connected the locomotive to the first carriage.	https://puffingbillyrailway.org.au/wp-content/uploads/SCIENCE-WEEK-2026-PB-TRAIN-DIAGRAM.pdf
A role or task that is required for the successful operation of Puffing Billy Railway.	Conductor	The conductor checked the passenger's ticket.	https://puffingbillyrailway.org.au/volunteer/
A feeling (physical or emotional) that could be experienced by a passenger during a ride on Puffing Billy.	Cold	It was a Winter's day and my nose felt cold as I sat in the open carriage.	Watch – https://www.youtube.com/watch?v=Dd89QHkDLSw

A PRACTICE STEMatagory SHEET



STEMatagory	ANSWER BEGINNING WITH THE LETTER	PUT YOUR ANSWER INTO A SENTENCE. UNDERLINE YOUR ANSWER.	HOW MANY HAVE THE SAME ANSWER?	SCORE
A source of energy that can be burnt and used to heat water.				
Something living that could be found along the Puffing Billy corridor.				
A material that can be found within a Puffing Billy carriage (includes any part of the carriage or passengers and their belongings).				
A part of a steam train. (Any part of the train from the locomotive to the Guard van).				
A role or task that is required for the successful operation of Puffing Billy Railway.				
A feeling (physical or emotional) that could be experienced by a passenger during a ride on Puffing Billy.				
			Total	

A

RESEARCH STEMatagory – 1

A **source of energy** that can be burnt and used to heat water



B	C Coal	D	E	F
G	H	I	J	K
L	M	N	O	P
Q	R	S	T	U
V	W	X	Y	Z

A

RESEARCH STEMatagory – 2

Something living that could be found along the Puffing Billy Railway corridor.



B

C Cockatoo

D

E

F

G

H

I

J

K

L

M

N

O

P

Q

R

S

T

U

V

W

X

Y

Z

A

RESEARCH STEMatagory – 3

A material that can be found within a Puffing Billy carriage
(includes any part of the carriage or passengers and their belongings)



B

C Cotton

D

E

F

G

H

I

J

K

L

M

N

O

P

Q

R

S

T

U

V

W

X

Y

Z

A

RESEARCH STEMatagory – 4

A part of a steam train.
(Any part of the train from the locomotive to the Guard van)



B

C Coupling

D

E

F

G

H

I

J

K

L

M

N

O

P

Q

R

S

T

U

V

W

X

Y

Z

A	RESEARCH STEMatagory – 5 A role or task that is required for the successful operation of Puffing Billy Railway  			
B	C Conductor	D	E	F
G	H	I	J	K
L	M	N	O	P
Q	R	S	T	U
V	W	X	Y	Z

A

RESEARCH STEMatagory – 6

A feeling (physical or emotional) that could be experienced by a passenger during a ride on Puffing Billy



B	C Cold	D	E	F
G	H	I	J	K
L	M	N	O	P
Q	R	S	T	U
V	W	X	Y	Z