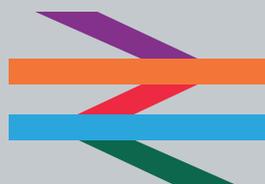




Activity Book

*Join Emily the engineer
on a rail adventure*



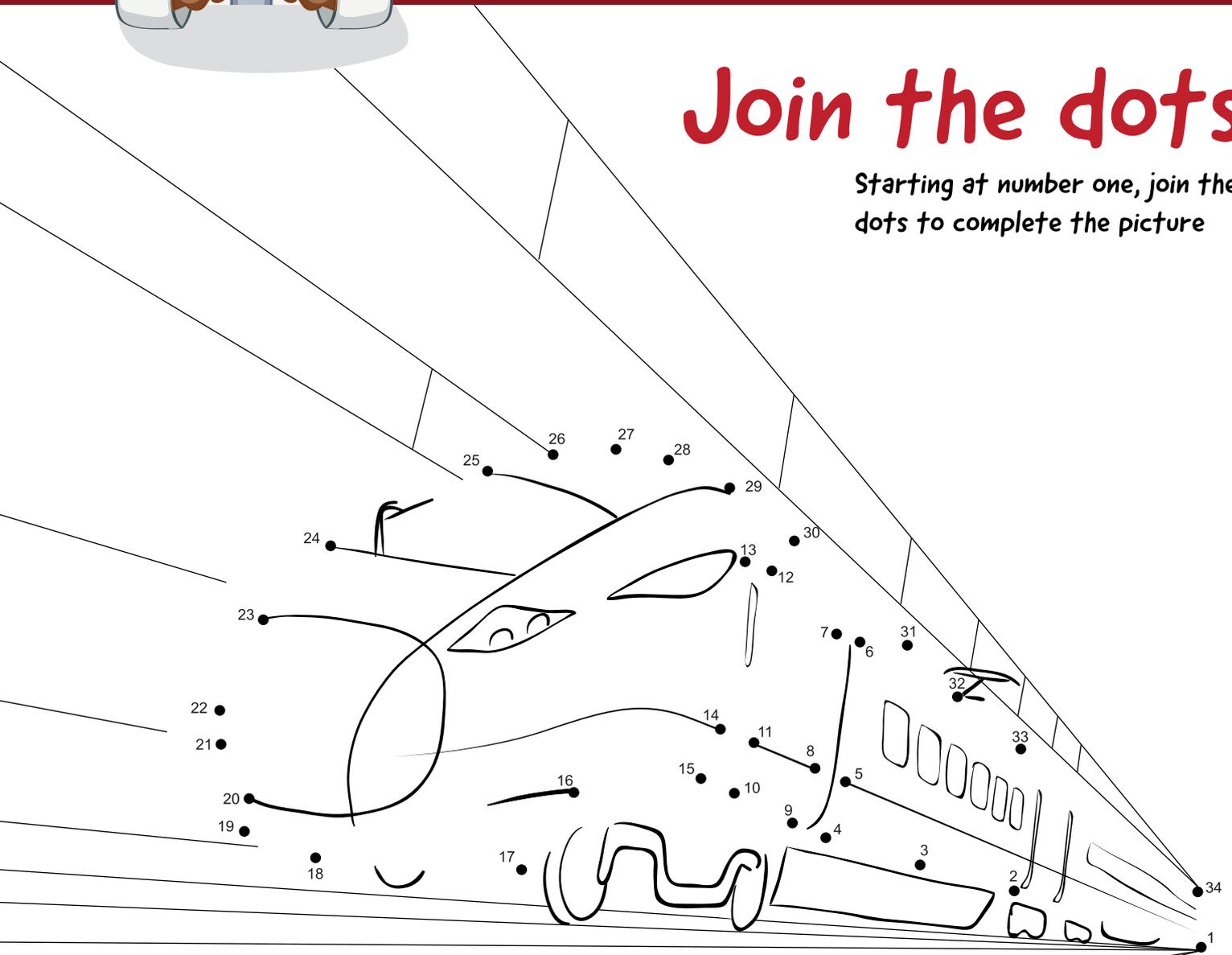
**BRITAIN
RUNS
ON RAIL**



Hi, I'm Emily and I'm an engineer on the railway. In this activity book, we are going to go on a rail adventure to learn about engineering. If you'd like to learn more then go online at: www.yearofengineering.gov.uk
Thanks, Emily

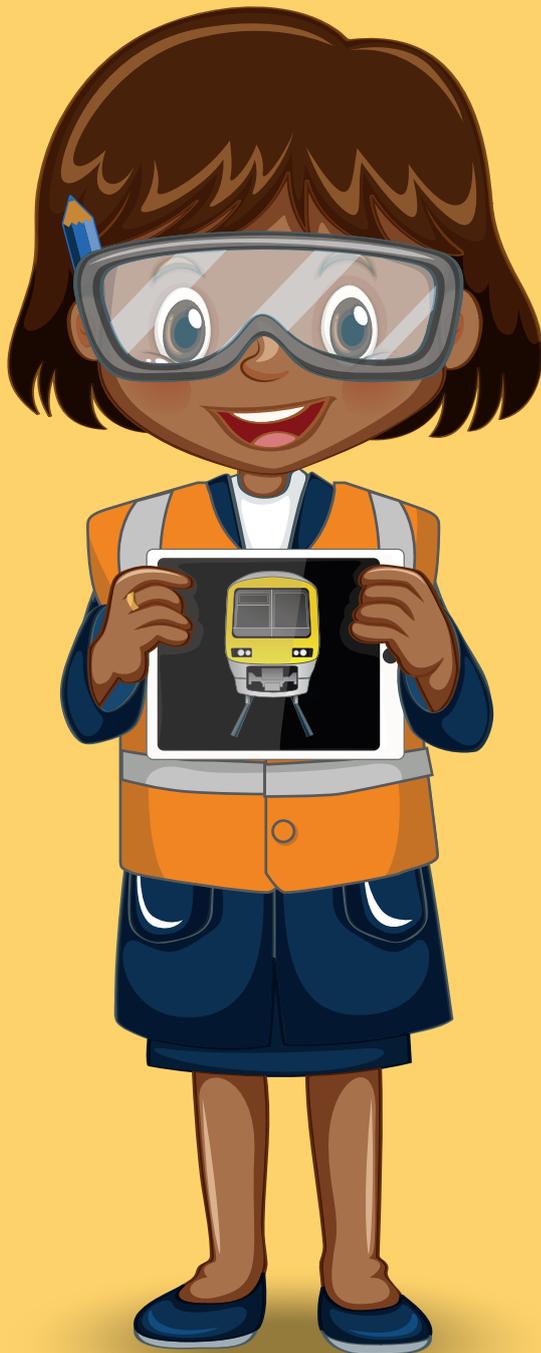
Join the dots

Starting at number one, join the dots to complete the picture

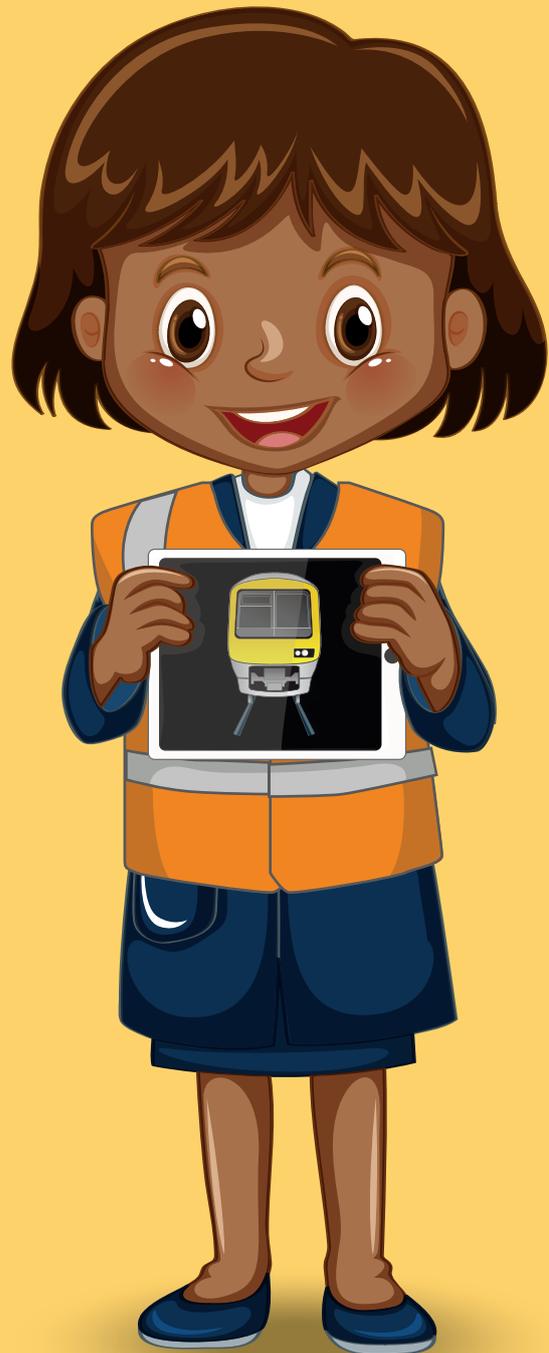


Spot the seven differences

These pictures of Emily the engineer look the same but seven things are different. Can you spot them all?
Draw a circle around each difference you find



1.



2.

Maze

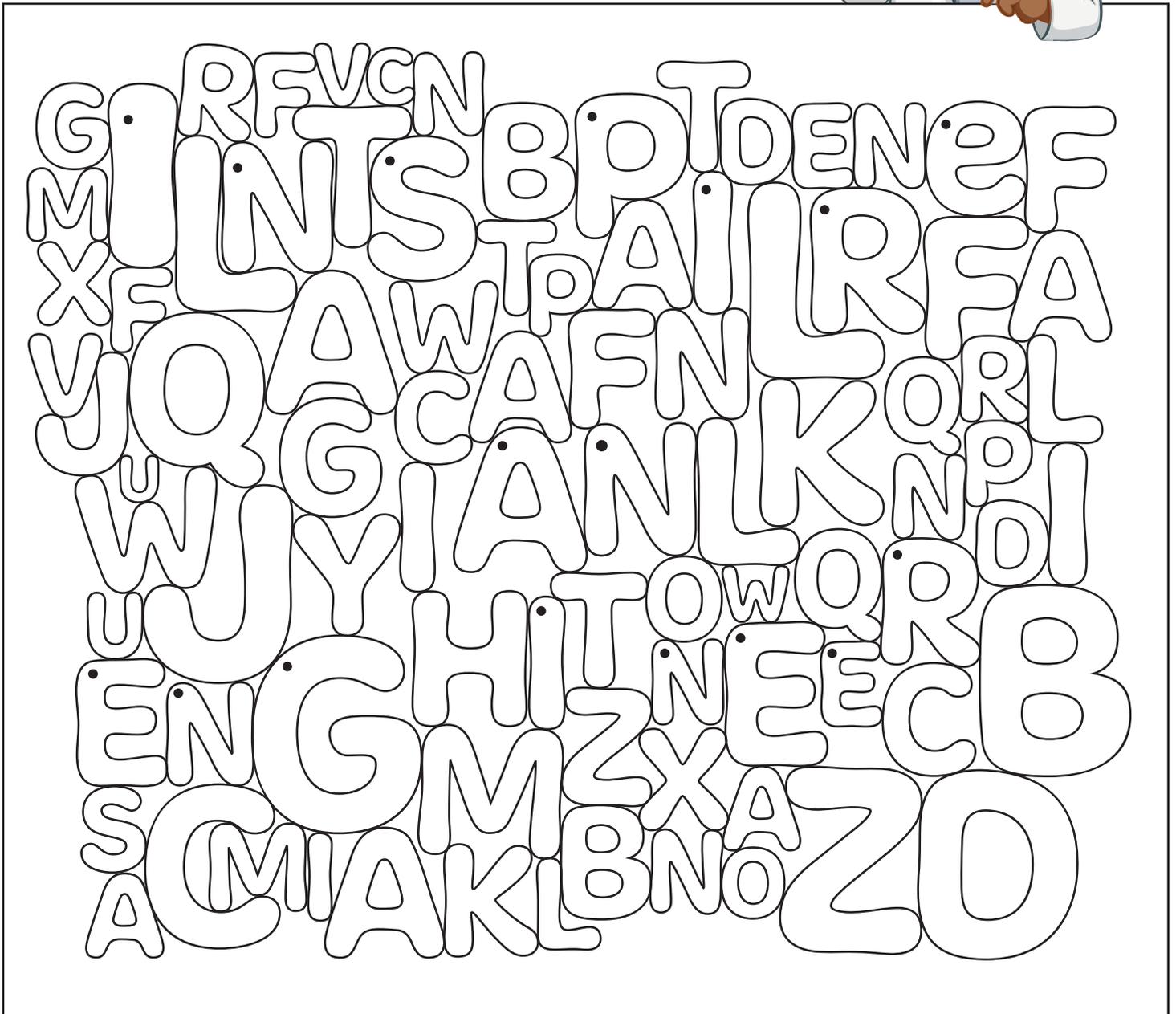
Can you find your way around these routes?

1. London – Penzance
2. London – Swansea
3. London – Norwich
4. London – Manchester
5. Manchester – Glasgow
6. Glasgow – Edinburgh
7. Edinburgh – London



What does it say?

Colour the letters that have a dot to read a message. Find out how you can meet a real life engineer, or even become an engineer for a day, with the Year of Engineering's Holiday Makers summer challenge and win some fabulous prizes: www.yearofengineering.gov.uk/theholidaymakers



Wordsearch



a Genesee & Wyoming Company

Search across and down for the words listed below. To help you understand what the words mean, we have added an explanation for each

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

Rail items

CAB: Where the driver sits at the front of a locomotive train

SLEEPER: Made of concrete or wood a sleeper keeps the train tracks upright

PANTOGRAPH: An item on the roof of an electric train that collects power from an electric wire above the train

BOGIE: A metal structure that is underneath the train carriage that connects the wheels to the train

GAUGE: The distance between two tracks

SIGNAL: Railway traffic light

Types of rail engineers

ELECTRICAL: Understands and looks after the electric motors, controls, radios and electric power

MECHANICAL: Understands and looks after the wheels, doors, coaches and the couplers that link them together

CIVIL: Understands and looks after the tracks, bridges and tunnels

SOFTWARE: Understands and looks after the software to control the train signalling system, the software to control the ticketing system, and the train information systems

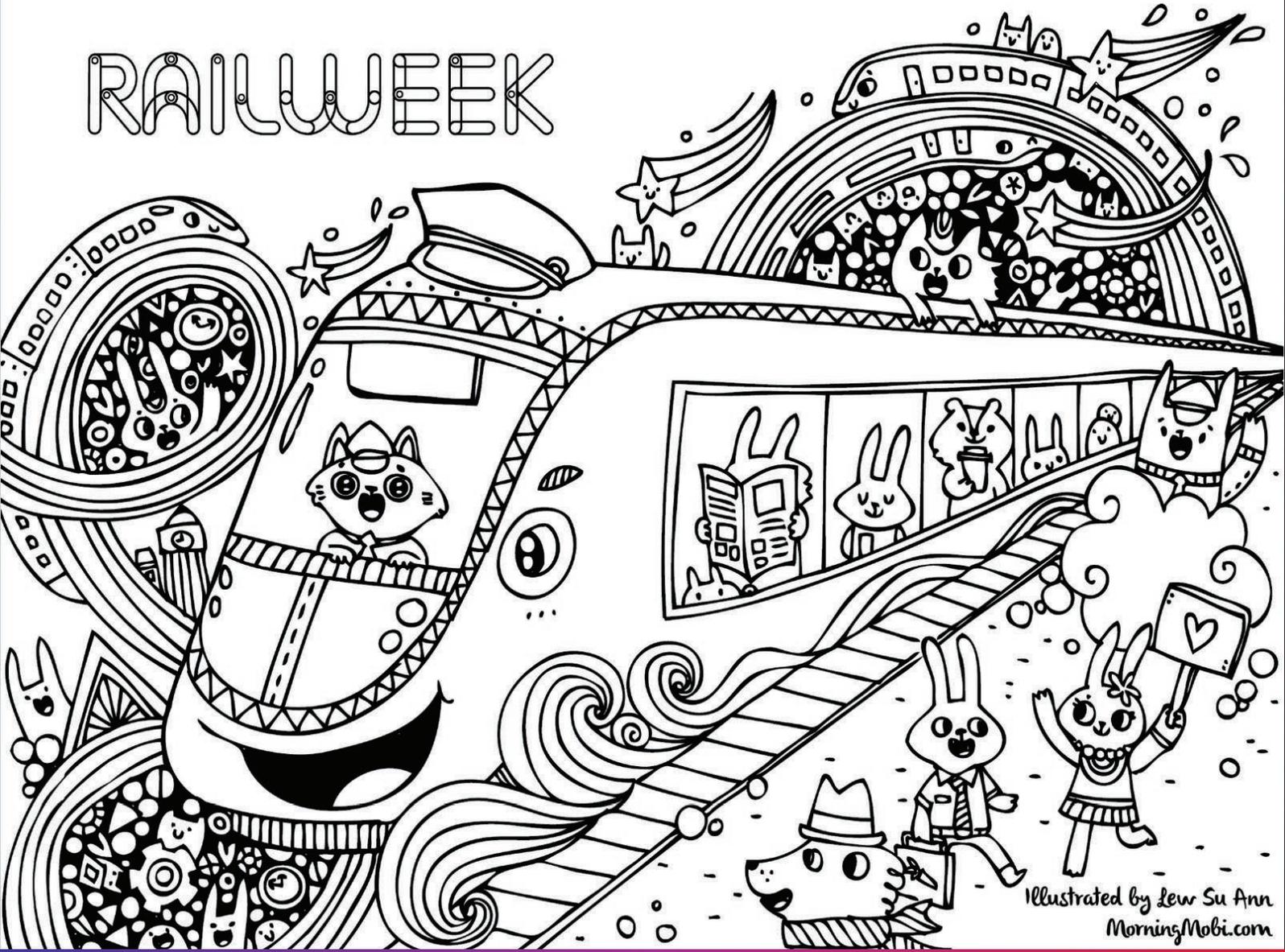
Colouring



**YOUNG RAIL
PROFESSIONALS**

Help bring the picture to life by colouring
in the train as it leaves the station

RAILWEEK



Illustrated by Lew Su Ann
MorningMobi.com



into rail

RAILWEEK

8 - 1 4 | O C T | 2 0 1 8



railweek.com



@intorail #railweek



@intorail

Maths

Safety equipment is very important in keeping workers safe on the railway. Can you do some maths to work out what the hard hat, safety glasses and hi-visibility jacket are?

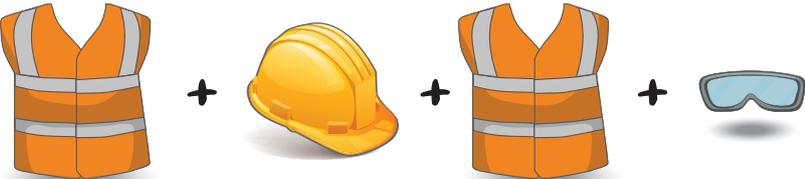
1.  = 16  =

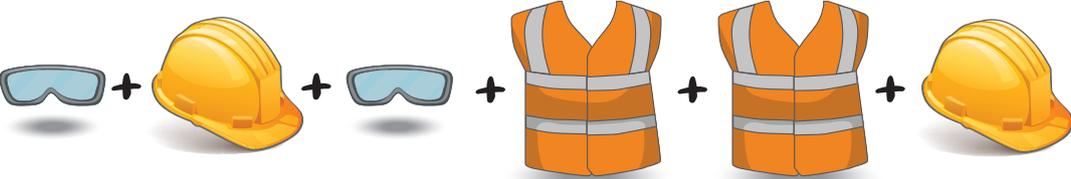
2.  = 10  =

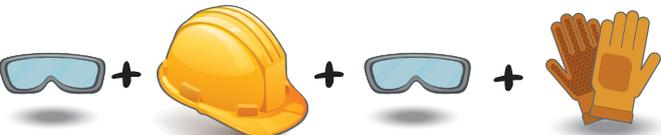
3.  = 21  =

Now you've done those, can you work these out?

4.  =

5.  =

6.  =

7.  = 17  =

Answers: 1 = 4, 2 = 2, 3 = 7, 4 = 10, 5 = 20, 6 = 26, 7 = 9

What type of rail engineer am I?

Can you match the description to the correct engineer?



1. I understand and look after the control of the signalling system, the ticketing system and the train information systems. I am a...

- A. Software engineer C. Electrical engineer
 B. Civil engineer D. Mechanical engineer

2. I understand and look after the electric motors, controls, radios and electric power. I am a...

- A. Software engineer C. Electrical engineer
 B. Civil engineer D. Mechanical engineer

3. I understand and look after the wheels, doors, and coaches of the trains. I am a...

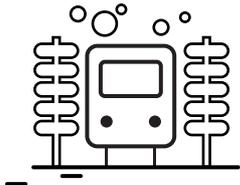
- A. Software engineer C. Electrical engineer
 B. Civil engineer D. Mechanical engineer

4. I understand and look after the tracks, bridges and tunnels. I am a...

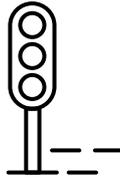
- A. Software engineer C. Electrical engineer
 B. Civil engineer D. Mechanical engineer

I spy

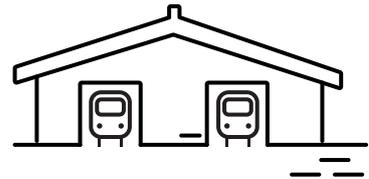
When you travel on the train today, circle all of the things you see out of the window!



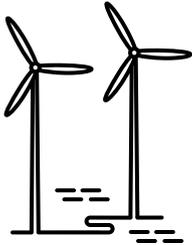
Train wash



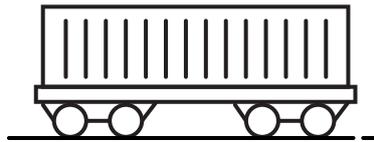
Signal



Train depot



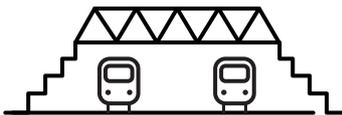
Windfarm



Freight container



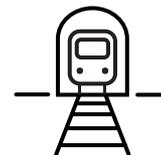
Track workers



Foot bridge



Level crossing



Tunnel

Can you spot anything else?

1.

4.

2.

5.

3.

6.

Design a train



Help Emily the engineer design the train of the future.
Imagine and draw what your dream train would look like



Win a family trip on the Eurostar!

Enter the competition to win four return tickets for a trip from London to Paris, Disneyland or Brussels! Simply ask an adult to e-mail in a photo of your entry with your name and age to: engineer@britainrunsonrail.co.uk, or post your picture on twitter and mention @Britrunsonrail in the tweet.

(Closing date is the 25th August 2018)

T&Cs: By entering this competition you are giving Britain Runs on Rail and Year of Engineering permission to promote your picture submitted, along with your name and age in promotional material. All entries must be submitted by 25th August 2018 midnight. The winner will be announced in September. The prize is for up to four people to travel on a return journey from London to Paris, Disneyland or Brussels. The winner must be one of the people travelling on the trip and further booking conditions may apply.

A career in rail is more than you expect!

This activity book was funded by the kind support of our industry partners:



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We run a high-speed rail link from England to Europe that runs under the English Channel
eurostar.com

