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.
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
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

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

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

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

RAILWEEK

Illustrated by Lew Su Ann
MorningMobi.com

railweek.com  @intorail #railweek  @intorail
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 🧽 = ........

Answer: 6 = 7, 9 = 9, 8 = 8, 6 = 6, 0 = 0, 5 = 5, 7 = 7, 3 = 3, 2 = 2, 1 = 1
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
   - [ ] B. Civil engineer
   - [ ] C. Electrical engineer
   - [ ] D. Mechanical engineer

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

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

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

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

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

   - [ ] A. Software engineer
   - [ ] B. Civil engineer
   - [ ] C. Electrical 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. ........................................
2. ........................................
3. ........................................
4. ........................................
5. ........................................
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:

Network Rail
We own and operate the railway infrastructure in England, Wales and Scotland on behalf of the nation
networkrail.co.uk/careers/

Hitachi
Inspire the Next
We deliver world-class trains, with world-class service
hitachirail-eu.com/careers/

GWR
We're one of the biggest train companies in the UK, and the only one to operate commuter, regional, sleeper and high-speed services
gwr.com/careers/

NTAR
National Training Academy for Rail
We offer world-class training across the rail industry
ntar.co.uk/our-courses/

GB Railfreight
We are one of the world’s leading rail freight delivery companies. We transport all kinds of items across Britain
grailfreight.com/recruitment/

Young Rail Professionals
We are the Professional Association for Young People in the Railway Industry
youngrailpro.com

Freightliner
We are the market leader in providing innovative freight solutions. We transport all kinds of items across Britain
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Rail Delivery Group
We bring together the companies that run Britain’s railway into a single team with one goal - to deliver a better railway for you and your community
raildeliverygroup.com

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

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