LEVEL CROSSING AND RAIL SAFETY

LESSON PLAN ACTIVITIES FOR PRIMARY SCHOOLS

Education plays a vital role in level crossing and rail safety.

Help young people get engaged in Britain’s railway.

www.networkrail.co.uk/safetyeducation
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Level crossing and rail safety
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Education plays a vital role in level crossing and rail safety

Education about rail safety at Key Stages 1 and 2 can help embed messages early, empowering pupils to take responsibility for their own safety. It is an important part of a wider local and national effort to reduce incidents and deaths on the railway.

The railway can be a dangerous place: overhead lines carry electricity that’s 100 times more powerful than in the home. There is also an electrified rail that if touched will seriously injure or kill; as well as the risk of tripping and falling or hurting yourself on the track.

There are approximately 6,500 level crossings in Britain. They enable us to safely cross one of the world’s busiest rail networks. In the past 5 years, however, there have been 44 deaths at level crossings. In 2011 there were 5 deaths.

The number of deaths and incidents on level crossings is low in Britain compared with other countries, however each case is a tragedy for the families and communities involved.

Lesson plan activities for Key Stages 1 and 2

In this first set of primary school lesson plans, which cover Key Stages 1 and 2, we have mainly focused on level crossings but have also introduced some wider rail safety issues.

The activities have been carefully developed with teachers to match curriculum areas and meet requirements for Personal, Social and Health Education (PSHE) teaching such as promoting a pupil’s ability to assess and manage risk appropriately and keep themselves safe.
Key Stage 1 (and 2)
Lesson plan activities

Level crossings and rail safety

The lesson plan activities in Section 2 have been designed primarily for Key Stage 1 and are a fun and interactive way to introduce discussion about the railway and railway safety into the classroom. Some activities can be used for children in Key Stage 2 at your discretion.

Ofsted

These activities can help your school meet the Ofsted requirement that pupils should be able ‘to assess and manage risk appropriately and keep themselves safe. Risk includes those risks associated with... extremism, new technology, substance misuse, knives and gangs, relationships, water, fire, roads and railway...’.

Note to teachers:
Core rail safety facts and information covering the key areas of level crossings, electrification and trespass and vandalism can be found in the Rail Life Safety Guide, downloadable from:
www.networkrail.co.uk/safetyeducation
Lesson plan activity for Key Stage 1 (and 2)

PSHE/English

The speed quiz and class discussion on the railway and how to cross it safely

Did you know...

There are 3 million passenger journeys in Britain every day

Learning objectives

By the end of lessons 1–4, pupils will understand:

– Some of the risks associated with the railway.
– What level crossings look like and what they do.
– How to use level crossings safely.

Britain’s railway network is one of the busiest in the world. The trains that use it are heavy, and can travel very fast. The railway can be a dangerous place. Level crossings are there to help people cross the railway safely.

Below are some facts you can use to start a general discussion about the railway and how we cross it safely.

Quick facts about the railway

– There are 3 million passenger journeys in Britain every day.
– A train weighs 400 tonnes on average – that’s equivalent to about 80 elephants.
– The average intercity train travels at 125mph.
– When an intercity train puts its brakes on, it travels approximately 2,000 metres or the length of 20 Premier League football pitches before stopping.
Interactive whiteboard
Check out this fun powerpoint ‘speed quiz’ that contains all of the facts above, and more. It could provide a lively start to the lesson! You can find the quiz on slides 4–19 of the Primary School Assembly Powerpoint Presentation, under Primary School Resources via the link: www.networkrail.co.uk/safetyeducation

Prompt questions
- How do you travel to school?
- Do you have to cross roads?
- Do you have to cross a railway? If not, have you ever had to cross a railway?
- What are the rules for crossing roads safely?
- Are the rules the same for the railway?
- Can you think of why crossing the railway might be different to crossing a road?
- How can you safely cross a railway? (Prompt thinking about physical structures such as level crossings, underpasses and bridges.)
Lesson plan activity for Key Stage 1 (and 2)

PSHE/English

Level crossings – the lowdown and the Cross Safe rules

Level crossings are one of the main ways that people can safely cross the railway in Britain. There are approximately 6,500 of them across the country. They are found where a road or a path crosses a train track. They help us to cross the railway safely and save thousands of lives every day.

There's a good picture of a full barrier crossing here or you can print off more from the various weblinks in this pack.

Prompt questions

– What can you see?
– What does a red flashing light mean?
– What does a barrier do?
– What happens when the train has gone past?

The lowdown on level crossings

Not all level crossings have barriers or lights. There are many different types. You could run through two of the main types of crossing to illustrate how to cross safely – the Cross Safe rules.

Idea

Ask the children whether they’ve seen, or been through, a level crossing. Ask them where they might be located (i.e. in the town, or countryside).

Note

There are 10 different types of level crossing
Interactive whiteboard
To look at some of the most common types of level crossing, and also the Cross Safe rules, go to the Primary School Assembly Powerpoint Presentation available under Primary School Resources via the link: www.networkrail.co.uk/safetyeducation

To find out about all the different types of level crossing, visit the link: www.networkrail.co.uk/level-crossings/types-of-level-crossing

Full and half barrier crossings
Full barrier crossings – What to look out for
Full barrier crossings have warning lights and an alarm. Barriers cover the whole road and the alarm stops once the barriers are lowered.

Half barrier crossings – What to look out for
Half barrier crossings have just one barrier that covers half the road and an alarm that continues until the barrier is raised again.

Stay safe
follow the Cross Safe rules

At either crossing don’t go around or jump over the barrier when it is closing or down.
Cross Safe rules

Stay safe and follow the Cross Safe rules.

At a full barrier or half barrier crossing:
STOP when you see the red lights flashing and hear the alarm ringing – stay behind the white line.
WAIT if the red lights carry on flashing after the train has gone by – another train will be passing soon.
WALK only when the lights go off and the barriers open. Make sure you look both ways before crossing and while you cross.

Why not...
Try getting pupils to invent some actions to accompany the STOP WAIT WALK message.

Interactive whiteboard
There are pictures of actions on slides 28–33 of the Primary School Assembly Powerpoint Presentation, available under Primary School Resources via the link: www.networkrail.co.uk/safetyeducation

Open and footpath crossings
Open crossing – What to look out for
These crossings have no barriers and may not have warning lights. Look out for the signs.
Footpath crossing – What to look out for
You’ll mainly find these in the country. It may seem like a peaceful spot but trains can travel through at high speeds. There will be stiles or gates and some may not have warning lights.

Be extra careful
Continue to look both ways when crossing

At open or footpath crossings take extra care:
STOP when you reach the crossing.
LOOK both ways to make sure nothing is coming.
LISTEN carefully before you cross and continue to look both ways when you are crossing.

If there’s a sign telling you to call for permission to cross, you must use the phone provided to speak to a member of the railway. They will tell you when to cross.
Lesson plan activity for Key Stage 1

PSHE/Music

The Level X Factor – the Cross Safe song

Once pupils have learned the basics about level crossings, this fun, lively session will help to embed the safety messages. The Cross Safe song has been especially created by songwriters who have worked for children’s TV programmes.

Download the tune and lyrics for the Cross Safe song by going to Primary School Resources from the following link: www.networkrail.co.uk/safetyeducation

There are lots of ways to have fun with this.

Pupils can all sing along – or maybe some could also:
- Play percussion.
- Create other noises, e.g. a horn, the sound of the train engine, etc.

Idea
Find out who’s got the Level X Factor by organising a song competition. Get groups within the class to perform their own versions of the song to each other or open it up to the whole school – classes could perform to each other in assembly.

Ask pupils to design a poster based on the lyrics of their song to reinforce the level crossing safety message.
Lesson plan activity for Key Stage 1

PSHE/English

Track it down and picture it!

Colouring-in, spot the danger pictures and other fun rail safety activities

There is a variety of fun activity resources on rail safety for children to use, ranging from colouring-in worksheets to ‘spot the danger’ pictures accessible via this link:

http://www.trackoff.org/ResourceList.aspx?resourceType=Activity%20resources
Lesson plan activities have been developed to meet curriculum requirements set down by Her Majesty’s Inspectorate of Education in Scotland, Estyn in Wales and Ofsted in England.

Key Stage 2
Lesson plan activities

Level crossings: life savers

These lesson plan activities are for children in Key Stage 2. You can use them in conjunction with activities from Key Stage 1, which contain key information and visuals of level crossings.

Ofsted

These activities can help your school meet the Ofsted requirement that pupils should be able ‘to assess and manage risk appropriately and keep themselves safe. Risk includes those risks associated with... extremism, new technology, substance misuse, knives and gangs, relationships, water, fire, roads and railway...’.

Note to teachers:
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Lesson plan activity for Key Stage 2

PSHE/Maths/ICT

How fast...?

This activity is designed to explore pupils’ knowledge and perceptions of speed and distance. There are opportunities to bring the learning to life through practical exercises.

Learning objectives

By the end of the lesson, pupils will have a better understanding of:

– Relative speed.
– The relationship between speed and distance.
– How to calculate the mean, mode, median and range of a set of numbers.
– How fast trains travel and the associated risks and dangers.

Use these quiz questions to launch the discussion:

Q.  What is the fastest animal on Earth, and how fast does it run?
A.  The cheetah, which can reach speeds of 113km/h.

Q.  Who is the fastest sprinter in the world, and how fast can he run?
A.  The current world record-holder over 100m is Jamaica’s Usain Bolt. He is estimated to have reached speeds of around 40km/h.
   (Note to teachers: Usain Bolt’s average speed is 37.58km/h or 23.35mph.)

Q.  What does this road sign mean?
A.  It means that drivers must go no faster than 60mph (96km/h).

Q.  How fast does the average human walk?
A.  About 5km/h or 3.1mph.
Q. How quickly does an intercity train in Britain travel?
A. 201km/h (125mph).

Ask pupils to rank all of the above according to their speed.
Who or what came top and bottom?
Are they surprised by the results in any way?

Ask pupils to calculate how long it would take the following:
- a cheetah
- Usain Bolt
- a car travelling at 96km/h
- an average walker
- an Intercity train
... to travel different distances. You could try: 10km, 1km, 100m.

Why not...
Take the lesson outside the classroom – into the playground, hall or gym – and get pupils to time each other running over a set distance. Use a stopwatch to record the times, and make a note of them. Then compare how fast they each ran the distance compared with a cheetah or a train.

You could also ask pupils to calculate the:
- mean
- mode
- median
... and range of all their speeds.

Now build on pupils’ understanding and awareness of their own walking and running speeds, and of the speed of trains, to kick off a discussion about level crossings and track safety, e.g. how little time there is for someone on the track to get off it.

Other hazards

Ask the pupils to think about, and draw, other hazards that make the tracks an extremely dangerous place. These hazards may cause people to trip or fall and hurt themselves or even die – either from electrocution or being hit by a train. (Hazards include: rain, grease on the tracks, the electrified third rail, fast trains that cannot stop easily, distracting noise and other trip hazards.)

Note to teachers: being on the track is not only extremely dangerous but it’s also against the law. The maximum penalty is £1,000.
Lesson plan activity for Key Stage 2

PSHE/English

Making the right decision

In this activity, pupils will explore the factors that could lead someone to make an unsafe decision.

Learning objectives

By the end of the lesson, pupils will:

- Understand how peer pressure works.
- Recognise their own possible vulnerability to peer pressure.
- Understand the need to take responsibility for their own safety around the railway and in the community.

Worth the risk at level crossings?

Interactive whiteboard

Level crossings are places where risky behaviour can have very serious consequences. Look at the facts via this link:

www.rail-life.co.uk/trackthefacts.html

- ‘Worth the risk’ video
  Watch risky behaviour at level crossings via this link:
  www.rail-life.co.uk

Ask pupils to make a note of the risky or dangerous behaviour they see in the video footage. As a whole class or in groups, discuss what might prompt someone to behave in such a risky way. Visit this link:


In this incident the man who loses his shoe later said that he was late for work. What do you think the other people in the footage might give as their reasons for taking the risks they do? What could prevent these incidents happening?
Risk taking in the community

Ask the class to think about other situations where potentially important decisions are being made. You can either brainstorm your own scenarios, or use the ones set out here – or a combination of the two.

Split the class into groups to act the scenarios out. Ask them to make a note of the various points where decisions are made. How could things have gone differently?

Scenario 1: Fireworks Night
It’s Fireworks Night and you and your friends are planning to go out. You’d like to get hold of some fireworks, but all your parents have said no. It’s against the law, and they will get together and organise a fireworks display for you in your best friend’s back garden. Then one of your friends tells you that someone’s set up a stall selling fireworks at the market, and that his older brother has agreed to buy some for you...

Scenario 2: Shoplifting
There’s a small newsagent’s shop where you and your friends stop off on the way home from school. As you’re walking away from the shop, one of your friends takes you to one side and shows you the sweets she’s got in her pocket, and tells you that she didn’t pay for them. She says everyone in the group has to take it in turns to steal something, and that it’s your turn next...

Scenario 3: The bridge
There’s a river near your house where lots of children and teenagers go to play in the summer. Although there’s a sign up on the bridge crossing the river telling people not to jump in, lots of people – especially the teenage boys – still do. One day you’re there swimming and playing with a group of your friends, and the older boys start daring you to jump in too...

Prompt questions
Bring the class back together to share their findings with each other. Here are some questions to prompt the discussion:

– Some of the scenarios you discussed could lead to serious consequences – what are some of these consequences?
– Knowing that the consequences could be serious, why might people still do things they know are wrong or harmful?
– Is it better to go along with the crowd or to make your own decisions?
– What is peer pressure?
– Do you think it ever affects the decisions you make?
– What makes it so hard to say ‘no’ to a friend?
– How do you feel when you know you’ve done something you shouldn’t have done?
– How would you advise someone who’s feeling under pressure to make a potentially wrong decision?

Why not...
Ask groups to develop one of these, or a level crossing scenario into a short drama. They can choose either a positive or a negative outcome. Encourage them to explore the points at which decisions are made and try to show the factors that influence those decisions. Other pupils can then question the ‘characters’ about why they acted the way they did...
**Reference**

**Curriculum links**

The plans have been carefully developed with teachers to match curriculum areas and meet requirements for PSHE teaching set down by Her Majesty’s Inspectorate of Education in Scotland, Estyn in Wales and Ofsted in England.

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| **Key Stage 1 (and 2)** The speed quiz and class discussion on the railway and how to cross it safely | **PSHE:**  
- Recognise what is right and wrong.  
- Take part in discussions with the whole class.  
- Understand rules for, and ways of, keeping safe.  

**English:**  
- Speak confidently and listen to what others have to say.  
- Use language to explore their own experiences. |
| **Key Stage 1 (and 2)** Level crossings – the lowdown and the Cross Safe rules | **PSHE:**  
- Recognise what is right and wrong.  
- Take part in discussions with the whole class.  
- Understand rules for, and ways of, keeping safe.  

**English:**  
- Speak confidently and listen to what others have to say.  
- Use language to explore their own experiences. |
| **Key Stage 1** The Level X factor – the Cross Safe song | **PSHE:**  
- Recognise what is right and wrong.  
- Take part in discussions with the whole class.  
- Understand rules for, and ways of, keeping safe.  

**Music:**  
- Use their voices expressively by singing songs and speaking chants and rhymes.  
- Rehearse and perform with others.  
- Explore and express ideas using movement. |
| **Key Stage 1** Track it down and picture it! | **PSHE:**  
- Recognise what is right and wrong.  
- Take part in discussions with the whole class.  
- Understand rules for, and ways of, keeping safe.  

**English:**  
- Speak confidently and listen to what others have to say.  
- Use language to explore their own experiences. |
Lesson plan activity

Curriculum links

5 Key Stage 2
How fast...

PSHE:
- Plan, use and adapt strategies, tactics and compositional ideas for individual, pair, small-group and small-team activities.
- Apply rules and conventions for different activities.
- Take part in, and design, challenges and competitions that call for precision and speed.
- Pace themselves in challenges and competitions.

Maths:
- Identify the data necessary to solve a given problem.
- Use appropriate skills to solve problems involving data.
- Decide how best to organise and present findings.
- Calculate the mean, mode, median and range of a set of numbers.

ICT:
- To be able to gather, enter and store information accurately.
- To be able to interpret and evaluate information with the use of text and tables.
- To be able to test out and explore what happens in real life situations.
- To demonstrate the ability to think independently and take initiative.

6 Key Stage 2
Making the right decision

PSHE:
- Talk and write about their opinions, and explain their views, on issues that affect themselves and society.
- Recognise that pressure to behave in an unacceptable or risky way can come from a variety of sources, including people they know, and understand how to ask for help and use basic techniques for resisting pressure to do wrong.
- Take responsibility for identifying safe, healthy and sustainable means of travel when planning their journey to school.

English:
- Make contributions relevant to the topic and take turns in discussion.
- Create, adapt and sustain different roles, individually and in groups.
- Use character, action and narrative to convey story, themes, emotions and ideas in plays they devise and script.
Further resources

There are a number of key resources you can use to support all of these lesson plans:

www.rail-life.co.uk
Rail Life is a new initiative created by young people for young people that raises awareness of level crossing safety and other rail safety issues.

The high impact youth website contains facts, videos, advice and lots of content on rail safety for teenagers (11–17 year olds). Some of the resources are appropriate for use with younger children at your discretion.

The vision for the campaign is that it will become the main place that young people will go to for insights and information on many aspects of the railway – from safety and careers, to general information about Britain’s transforming rail network.

www.networkrail.co.uk/safetyeducation
You will find a wide range of Rail Life teaching resources on level crossing and rail safety on the Network Rail website, ranging from assembly kits to lesson plans, for use in schools, youth clubs and other community settings.

www.trackoff.org/TeacherPacks.aspx
You will find a range of teaching resources on rail safety here.

We have also listed specific resources you can use within each lesson plan activity. They can be used for different age groups as you see fit.

Network Rail’s regional community safety managers work with local communities and a variety of organisations including local police, sports clubs, schools and local councils to raise awareness of the dangers of taking risks on the railway and to get young people involved in positive activities.
For further information, email: communitysafety@networkrail.co.uk

Would you like to nominate any pupils to become a ‘Rail Life Rep’?
‘Rail Life Reps’ are pupils nominated by you to plan, develop and deliver a railway safety programme for the rest of the school. Activities include assemblies, competitions and class initiatives. ‘Rail Life Reps’ is a multi-agency initiative driven by Network Rail and the British Transport Police, supported by Train Operating Companies. Each school will have the support of a designated mentor from Network Rail or the British Transport Police. If you join up you will receive a CD-Rom explaining all about the scheme, as well as pin badges that your Rail Life Reps can wear with pride! The pupils receive a pack with a DVD outlining their role. It includes resources, ideas and suggestions they can make use of throughout the year.

Interested in joining this initiative? Please get in touch with us at the following email: communitysafety@networkrail.co.uk
Your Network Rail Community Safety Manager will then supply further details.