



TRAFNIDIAETH CYMRU
TRANSPORT FOR WALES

• THE •
MAGNIFICENT TRAIN
JOURNEY

Teacher pack



Contents

Foreword from the Minister for Economy, Transport and North Wales	3
Introduction	4
How to use the teacher pack	4
About TfW	5
About the competition	5
Lesson plans	
Topic 1: Sustainability and transport	6
Topic 2: Trains old and new	8
Topic 3: Stories from around Wales and its borders	11
Topic 4: Places to explore on the train	13
Topic 5: 'Creation Station'	16
Resources	19

Foreword from the Minister for Economy, Transport and North Wales

I'm delighted to introduce this school resource pack from Transport for Wales, which accompanies our competition to name each train in our £800 million investment in rolling stock.

Transport for Wales continues to deliver on its ambitious plans to transform the transport sector and create an integrated, accessible network of which Wales can be proud. Within the next few years, Transport for Wales will deliver its 2018 commitment to replace all its rolling stock and provide brand new trains for 95% of journeys.

These new trains will be faster, greener and more accessible, serving our communities in Wales and its borders for a generation. I'm excited to be able to provide school children with the opportunity to name these trains and take ownership of our future public transport network.

Transport currently makes up 17% of Wales' carbon emissions, so providing young people with the motivation to change this is crucial. To sit alongside the competition, this teacher pack provides teachers with lesson ideas and background information to share with their pupils why transport is so important to protecting our environment and provides some creative inspiration.

I look forward to seeing your competition entries and to eagerly looking for the names on the front of our trains in the future.



Introduction

We want to inspire children and young people with our vision for a more sustainable transport network.

Our train naming competition is our first step in engaging with future generations. We're inviting primary school children to join The Magnificent Train Journey where they'll name our new trains, through this competition open to all schools in Wales and the borders. There's more about the competition on page 4.

This teacher pack provides inspiration for lessons you may want to deliver alongside the competition.

How to use the teacher pack

This teacher pack contains the tools and inspiration you'll need to take your class on The Magnificent Train Journey.

They'll learn about transport and the positive impact we can make on the environment by changing some of our own transport habits. Our goal is to help your class develop a strong sense of global citizenship, inspire them to use sustainable forms of transport and develop excellent names for Wales and the borders' new trains.

There are lesson plans, resources and activities for five topics in this pack. They're designed for the Welsh Key Stage 2 curriculum and relate to a broad range of subjects, including Literacy, Geography, History, Design and Technology and PSE.

There are different options in each topic, allowing you to tailor your delivery to the learning needs of your class and the area of the curriculum you're focusing on. Although this teacher pack uses the Welsh curriculum as a basis, the 'mix and match' nature of the plans makes it suitable for use in England or the new Curriculum for Wales too.

Your five topics are:

- Sustainability and transport,
- Trains old and new,
- Stories from around Wales and the borders,
- Places to explore on the train
- and finally, a stop at Creation Station where they decide on their train name and create their competition entry.

Alongside this teacher pack is an interactive resource pack. You can find this [here](#)

The interactive resource pack can be used in lessons in conjunction with the plans detailed below or could be used as a stand-alone resource for learners to guide their own learning path.

The written resources are all available in this teacher pack – page 19 onwards – as static information or worksheets, but we recommend you use the interactive experience as much as possible. The resources are labelled for use with a code in each lesson plan.

The learning resources are also accompanied by an online game that challenges children to build their own railway networks. The game is on our website at tfw.wales/name-your-train

About TfW

Who we are

We're Transport for Wales (TfW), a not-for-profit company set up by the Welsh Government in 2015.

TfW is driving forward the Welsh Government's vision of a high-quality, safe, integrated and affordable transport network. We're developing a reliable, accessible and low-carbon network that the people of Wales can be proud of. Our continually evolving remit means that we're building a sustainable transport network, fit for a thriving Welsh economy now and in the future.

Our remit

The Welsh Government sets TfW's strategic goals in line with Prosperity for All: the national strategy, the Well-being of Future Generations (Wales) Act 2015, the Active Travel (Wales) Act 2013 and other policies, making sure that we operate efficiently and always act in the public interest.

Why we're here

Wales is changing, which means our transport network also needs to change. Better public transport underpins sustainable economic growth and offers real benefits for people, improving access to employment opportunities, opening up new opportunities and better integration of education, health and other services.

A commitment to environmental sustainability is essential. Our aim is to transform the transport network in Wales and the borders so that it becomes truly sustainable and fit for future generations, working for both people and the planet.

About the competition

We're asking children in Wales and its borders to name each train in TfW's new fleet. We're building 148 new trains, offering up to 148 opportunities to win. The winning names will be displayed on the side of the trains for many years to come.

The new trains will be named after local place names, landmarks, historical sites or mythological figures.

Entries need to be as creative as possible but should be personal to your learners. Want to name a train Llanwern Road because it's the street their incredible school is on? Great! Or maybe Flint Castle because they admire its unique fortress design? Also great! We just need to know why the name is special. For entries in Wales, names that celebrate the Welsh language are especially encouraged.

Children are asked to submit a creative explanation of why they've chosen the name. We're accepting submissions in the following categories:

- Painting or drawing
- Short story
- Poem

Children will win on behalf of their school. Therefore, at this stage you may wish to select a school or class winner, but there's not a limit on the number of entries per school. You can upload entries [here](#)

There'll be two stages of judging: a regional panel will select the train names from their region's entries; and a final panel will then select our category winners and prizes will be awarded for their favourites.

The final judging panel will be:

- **Grace Webb**, star of Grace's Amazing Machines
- **Trystan Ellis-Morris**, S4C presenter
- **Eloise Williams**, Children's Laureate for Wales
- **Gruffudd Owen**, Bardd Plant Cymru

They'll also be joined by the Children's Commissioner for Wales and the Head of Wales, Equality and Human Rights Commission

Alongside naming a name on behalf of their school, winners will receive a creative kit to kickstart their engineering ambitions and will get regular updates from their train. Overall category winners will also receive a special Hornby model train for their school.

For further information and terms and conditions, please visit our website at tfw.wales/name-your-train

Topic 1: Sustainability and transport

This topic will introduce learners to the concept of 'a greener future for Wales and the world'. This is a key element of the Future Generations Act and underpins the innovations being made in public transport.

Learners are introduced to the young climate activist Greta Thunberg, her campaign against global warming and to relevant government legislation. We hope learners will be inspired by a young person known around the world for her actions and words.

The lesson also introduces learners to the main causes of global warming, looks at the impact transport makes to our climate and concludes by asking learners to consider what they can do to make a positive change.

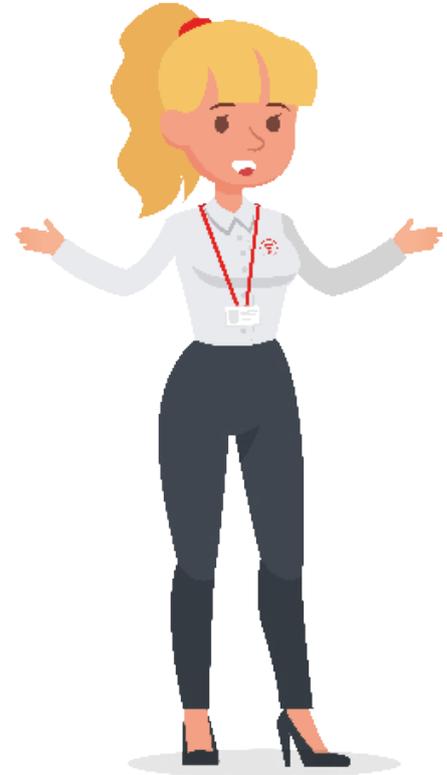
Learning outcomes

Learners will:

1. Develop a broad understanding of 'climate change' and its causes
2. Look at transport and fuel in relation to climate change
3. Consider what kinds of positive action they can take as individuals and as a class

Links to curriculum

This lesson covers aims for Personal and Social Education (PSE)



PSE

- Empower learners to participate in their schools and communities as active responsible citizens locally, nationally and globally
- Foster positive attitudes and behaviour towards the principles of sustainable development and global citizenship
- Learners are encouraged to develop their thinking and communication skills.

Lesson Plan 1: Sustainability and transport

Section	Teacher notes and activities	Key questions	Resources
Introduction	<p>Who is Greta Thunberg?</p> <p>Open question to gauge level of awareness of Greta and climate change.</p> <p>Show image as starting point. Talk through Greta resource focusing on climate change.</p>	<p>Does anyone know who Greta Thunberg is?</p> <p>What can you tell me about her?</p> <p>Is she inspirational?</p>	Who is Greta Thunberg (page 7)
Main body part 1	<p>Understanding climate change</p> <p>Use a video resource to introduce climate change. We like the "Climate change (according to a kid)" video linked here, but you may wish to find your own. This third-party resource isn't available in Welsh.</p> <p>Summarise key principles presented by video and ask questions.</p> <ul style="list-style-type: none"> - Earth is getting hotter - This is caused by a layer of 'greenhouse gases' acting as thermal layer around the earth - Greenhouse gasses are caused by carbon dioxide emissions <p>Task: Draw your own diagram of what climate change is.</p>	<p>What sorts of things produce carbon dioxide into the atmosphere?</p> <p>Which ones do you use or eat?</p> <p>How often?</p>	<p>Video</p> <p>Climate Change [Lesson 1 Activity 3]</p>
Main body part 2	<p>Applying climate change to transport</p> <p>Discuss main forms of transport: walking, bike, bus, car, rail, planes. Ask them to put them on a continuum: good to bad for our planet.</p> <p>Ordering Task: Draw a line on the page-smiley earth at one end and sad at the other. Cut out the images (or draw them) Order them in terms of their kindness to environment.</p> <p>Talk about the forms of energy they use.</p>	<p>Why did you order them this way?</p> <p>What sort of energy do they use?</p> <p>Which ones do you use?</p> <p>Could you walk to places or use public transport more?</p>	<p>Transport [Lesson 1 Activity 1]</p> <p>Energy [Lesson 1 Activity 4]</p>
Conclusion	<p>What can we do?</p> <p>Consider the impact of Welsh Government's legislation Well-being and Future Generations Act (2015)</p> <p>Discuss contribution as individuals or a school</p>	<p>What can we reuse or recycle?</p> <p>What can we stop doing?</p> <p>Can you think of an eco-friendly / recycling project we could do?</p>	Recycling [Lesson 1 Activity 2]

Topic 2: Trains old and new

This topic inspires an interest in science, technology, engineering and mathematics (STEM) subjects by learning about the history of trains, railways and the innovations being made today in response to the climate agenda.

We want to encourage learners to take a fresh look at STEM and become the innovators of the future.

Learners are encouraged to explore energy and use their imagination to consider the future of train travel.

Learning outcomes

This lesson builds on Lesson 1 on sustainability.

Learners will:

1. Learn about the history of trains in Wales and how trains are powered
2. Look at the innovations in new trains and develop their own ideas for trains for the future
3. Explore first-hand what it takes to move an object
4. Locate places discussed on a map

Links to curriculum

This lesson covers key skills in History, Design and Technology, Science



History	Historical knowledge and understanding:	<ul style="list-style-type: none"> • Identify significant people and describe events within and across periods, understand why people did things, what caused specific events and the consequences of those events. • Historical enquiry: ask and answer relevant questions about the past
Design and Technology	Making	<ul style="list-style-type: none"> • Choose appropriate materials, ingredients, equipment, tools/ utensils and techniques, from a range made available to them, find alternative ways of making if the first attempt fails
Science	How things work	<ul style="list-style-type: none"> • The ways in which forces can affect movement
Careers and the world of work		<ul style="list-style-type: none"> • Learners will be given opportunities to develop their awareness of careers and the world of work.

Lesson Plan 2: Trains old and new

Section	Teacher notes and activities	Key questions	Resources
Introduction	<p>Introduce learners to the first train travel and links to Wales and ask them to consider why this might have happened.</p> <p>Explore impact.</p> <p>Ask learner to mark places on a map.</p>	<p>Do you know where in the world's first steam-powered railway journey took place?</p> <p>Why do you think it was there at the iron works?</p> <p>What difference did it make to people working in the mines?</p> <p>How might iron have been transported to the canal before?</p> <p>Have you learnt anything else from the video?</p>	<p>Transport for Wales Video</p> <p>Map of Wales [Lesson 2 Activity 1]</p>
Main body part 1	<p>Introduce 'Trains and Power'</p> <p>Use resource as starting point.</p>	<p>The way trains are powered has changed.</p> <p>What have been the main forms of power?</p> <p>Why has it changed?</p>	<p>Trains [Lesson 2 Activity 2]</p>
Main body part 2	<p>Learners get first-hand experience of power and energy.</p> <p>Build and power your own train.</p> <p>Build a train using materials you have in your recycling box and explore ways to make the train move. Options might be:</p> <ul style="list-style-type: none"> • blowing • attach string and pull along • use a balloon • paperclip and magnet <p>Debrief: There are lots of ways to power machines. Consider this in the final exercise when designing a train of the future.</p>	<p>How could you attach wheels that move?</p> <p>How could you make the train move without you physically pushing it?</p> <p>You can use anything you find in the classroom.</p>	<p>Any model making materials, including scrap materials. You could use Lego here too.</p>

Section	Teacher notes and activities	Key questions	Resources
Conclusion	<p>Trains of the future</p> <p>In Wales and its borders, we're replacing all our trains and we're moving towards a combination of renewable-powered electric and diesel trains.</p> <p>Learners will design a train of the future. They should consider power sources such as solar, wind power, 100% electric, or maybe even no trains or human trains!</p>	<p>How is it powered?</p> <p>What do the carriages look like?</p> <p>Does it have rails?</p> <p>Let your imagination run free.</p>	<p>Paper and pencil [Lesson 2 Activity 3]</p>
Optional	<p>There are many careers in the railways.</p> <p>You could also play our Magnificent Train Journey game that challenges children to build their own railway networks. The game is on our website at tfw.wales/name-your-train</p>	<p>Would you like to work with trains, on the railways?</p>	<p>Careers in the railway page 23</p>

Topic 3: Stories from around Wales and its borders

In this topic we focus on stories and mythical tales from across Wales and the borders. These provide learners with a sense of history and culture, as well as fueling their imagination to create their own stories.

Stories are a powerful communication tool and have been used to pass down knowledge, to share ideas and shift perspectives. They evoke emotion and can bring 'facts' to life in a more meaningful way.

The mix of stories here bring different elements: traditional mythology of dragons and giants, mystery and crime and an element of diversity with the inclusion of same-sex relationships.

We recommend you choose one to focus on and then encourage learners to create their own characters and stories. There is a character and story guide to help them create their own.

Learning outcomes

Learners will:

1. Explore stories and myths from around Wales and its borders
2. Use their imagination to create characters and their own stories
3. Locate places discussed on a map

Links to curriculum

This lesson covers curriculum aims in English/Welsh, Geography and History



English/ Welsh	Oracy	<ul style="list-style-type: none"> • See and hear different people talk, including successful speakers and people with different dialects, and respond to what is being seen and heard • Respond orally to a variety of stimuli and ideas, including written and dynamic texts
	Reading	<ul style="list-style-type: none"> • Texts with a variety of social, historical and cultural context
	Writing	<ul style="list-style-type: none"> • Learners write their own stories using a wide range of written and dynamic stimuli
Geography	Locating places, environments and patterns	<ul style="list-style-type: none"> • Identify and locate places and environments using globes, atlases, and maps
History	Interpretations of history	<ul style="list-style-type: none"> • Identify the ways in which the past is represented and interpreted

Lesson Plan 3: Stories from around Wales and the Borders

Section	Teacher notes and activities	Key questions	Resources
Introduction	<p>Introduce 'myths and legends'. Consider the difference between a 'myth' and other kinds of story.</p> <p>(The Mabinigion, Dragons, King Arthur, Merlin, Lady of the Lake)</p>	<p>How many can you name?</p> <p>Do you know any?</p>	
Main body part 1	<p>Look at whole resource. It includes some myths and some real stories from history.</p> <p>Learners locate the stories on the maps from the previous lesson.</p> <p>Focus on one story to share and discuss.</p> <p>Consider how the story links to the place.</p> <p>They can use the answers to inform the story-writing activity.</p> <p>Optional: Ask learners to bring the story to life and interpret it in their own way by illustrating it.</p>	<p>Is this a myth, a legend or did this really happen?</p> <ul style="list-style-type: none"> - What did you like about the story? - Is there a hero of the story? - Is there a 'villain'? - Why do you think this story has been passed down and is still told today? <p>Draw a picture to illustrate the story</p>	<p>Stories resource [Lesson 3 Activity 1]</p> <p>You could listen to the stories on the Interactive Resource</p>
Main body part 2	<p>Learners create their own mythical character.</p> <p>Learners write their own myth.</p> <p>They could do this alone or partner up with another learner so they have two characters for their story.</p>	<p>What does it look like, what special powers does it have?</p> <p>Could your character be part of that story?</p>	<p>Character resource [Lesson 3 Activity 2]</p> <p>Story writing [Lesson 3 Activity 3]</p>
Conclusion	<p>Let's visit the place of our favourite legend.</p> <p>Learners plan a journey to the story locations using public transport.</p>	<p>How would we get there using public transport?</p> <p>Why would we want to use public transport? Think about the environment here.</p>	<p>Train Network [Lesson 3 Activity 4]</p> <p>Learners may wish to use Traveline www.traveline.info</p>

Topic 4: Places to explore on the train

This topic will inspire the learners' interest in the world around them. Learners will develop a sense of place and of wonder in both the natural and built environment. Some places are fun, but they are all educational in some way with a transport, engineering, or sustainability theme.

The places we visit are: The Welsh Mountain Zoo in North Wales, Pontcysyllte World Heritage Site on the Border of Wales and Shropshire, National Show Caves in Brecon Beacons (Dan-yr-ogof Caves), the Centre for Alternative Technology in Machynlleth and the Wales Millennium Centre in Cardiff.

There are options in how you can deliver this, and specific activities are provided linked to each place we visit.

Learning outcomes

Learners will:

1. Locate places on a map
2. Consider the social, cultural and geographic reasons why places are where they are
3. Carry out some independent research into a place of their choice
4. Undertake practical activities to encourage design thinking

Links to curriculum

This lesson has links to the curriculum in Geography, Design and Technology, English/Welsh



Geography	Locating places, environments and patterns	<ul style="list-style-type: none"> • Identify and locate places and environments using globes, atlases, and maps, • Use maps, imagery and ICT to find and present locational information
	Understanding places, environments and processes	<ul style="list-style-type: none"> • Identify similarities and differences to describe, compare and contrast places and environments
	Pupils develop their geographical skills, knowledge and understanding through learning about places, environments and issues	<ul style="list-style-type: none"> • Living in Wales: their local area and an investigation of at least one aspect of the geography of the whole of Wales

Design and Technology	Making	<ul style="list-style-type: none"> • Measure, mark out, cut, shape, join, weigh and mix a range of materials and ingredients, using appropriate tools/ utensils, equipment and techniques
English and Welsh	Oracy	<ul style="list-style-type: none"> • Respond orally to a variety of stimuli and ideas • Communicate for a range of purposes
	Reading	<ul style="list-style-type: none"> • Read a wide range of continuous and non-continuous texts, in printed and dynamic format, as a basis for oral and written responses
	Writing	<ul style="list-style-type: none"> • Write in a range of continuous and non-continuous texts in a variety of forms

Lesson Plan 4: Places to explore on the train

Section	Teacher notes and activities	Key questions	Resources
Introduction	Wales and the borders has many places to visit.	What are some of your favourite places you have visited?	
Main body part 1	<p>Talk though the Famous Places resource.</p> <p>Ask class to consider why places are where they are.</p> <p>Think back to lesson two here. We learnt that train lines were primarily built to transport goods (in Wales, that was coal, iron and slate).</p>	<p>Can you locate all the places on your map?</p> <p>Why is the WMC in Cardiff Bay and not Colwyn Bay where the Zoo is?</p> <p>Why is the Centre for Alternative technology in mid-Wales?</p> <p>Why might it be easier to visit Cardiff on a train than the National Show Caves?</p>	<p>Map of Wales and its borders [Lesson 4 Activity 8]</p> <p>Places resource (L3-R1)</p>
Main body part 2	<p>Choose one place. Ask learners to do some independent research using the internet to find out the place. You could suggest they find out at least three things that interest them about it.</p> <p>Ask the learners to present and share what they find.</p> <p>They could create a poster to share with the class. The poster should include the three interesting things, its location and cost of entry.</p>	Which one of these places most interests you?	<p>Internet</p> <p>Papers, marker pens</p> <p>Research a destination [Activity 4 Activity 6]</p>
Additional Activities	Choose one of the 'Fun Creative Activities' associated with each place in your resources.		Activities Resource [Lesson 4 Activities 1 - 5]
Conclusion	<p>Places closer to home</p> <p>Think now about somewhere near you that means a lot.</p>	<p>Is there a place close to our school that you think is interesting?</p> <p>Why do you like it?</p> <p>Could you describe it as an 'attraction' to encourage people to go?</p>	Advertising [Lesson 5 Activity 7]

Topic 5: 'Creation Station'

Learners have a chance to reflect on the previous sessions, develop a single idea for the train naming competition and to create a way of presenting that idea. It can be in the form of a poem, story or picture.

The first part of the lesson is about considering and evaluating ideas and the second part is about creating. There are options provided for the different formats with guides for writing a poem, a story and creating a picture. This lesson is all about creativity, imagination and communication.

Learning outcomes

Learners will:

1. Review and reflect on their ideas
2. Write a simple short poem or a story
3. Create a piece of a 2D piece of art work

Links to curriculum

This lesson links to English/Welsh and Art and Design



English/ Welsh	Oracy	<ul style="list-style-type: none"> • Use a variety of methods to present ideas, including ICT, dramatic approaches, discussion and debate • Engage in activities that focus on words, their derivation, meanings, choice and impact • Speak clearly, using intonation and emphasis appropriately
	Writing	<ul style="list-style-type: none"> • Produce poetic writing, using imagery and poetic devices • Write in a range of continuous and non-continuous texts in a variety of forms
Art & Design	Understanding	<ul style="list-style-type: none"> • Experiment with and examine the methods used by other artists, craftworkers and designers from different: periods, places, cultures
	Making	<ul style="list-style-type: none"> • Design and make: • two-dimensional images • three-dimensional objects and artefacts using a range of various materials for a variety of purposes • Use their experience and knowledge of different materials, tools and techniques

Lesson Plan 5: 'Creation Station'

Section	Teacher notes and activities	Key questions	Resources
Introduction	<p>Today's session is about naming your train and presenting your idea creatively.</p> <p>It could be inspired by a place, a story, an event from history- or any of the discussions you have had. Encourage pupils to think about ideas personal to them or their area.</p> <p>There is no right or wrong way of doing anything; it's a chance to explore and experiment.</p> <p>Write down your best ideas.</p> <p>Choose your favourite.</p>	<p>From our journey so far, do you have any ideas for a train name?</p>	<p>Competition guidance is on page 5 of this teacher pack. Please refer to this.</p>
Main body	<p>Exploring your idea</p> <p>Help learners explore why they have chosen what they have chosen.</p> <p>Please encourage them to select names that would fit within the competition guidelines: we want to name our trains after local place names, landmarks, historical sites or Mythological figures.</p>	<p>Why did I choose this?</p> <p>Why is it important?</p> <p>What does it link to?</p> <p>Why is a good name for a train?</p>	<p>Pages 58 - 63</p>
	<p>Presenting your idea.</p> <p>The competition asks you to present your name idea with a poem, a story or a picture.</p>	<p>How would you like to present your idea?</p> <p>Poem, story, picture.</p>	<p>Refer learner to guides provided.</p> <p>Pages 58 - 63</p>
Poem	<p>There are many different types of poems.</p> <p>In this session we are going to use rhyming couplets. This means that every two lines rhyme.</p> <p>Use the Word Windmill to generate words around your train name idea.</p> <p>Use these new words create a poem.</p>	<p>After you've written your poem say it out loud and see what it sounds like.</p>	<p>Page 60</p>

Section	Teacher notes and activities	Key questions	Resources
Picture	<p>Learners can make a picture to present their idea in lots of ways. This could include drawing, painting, colouring in or collage.</p> <p>Learners can use paper, cardboard, a canvas- whatever there is available.</p>	<p>What do you want your picture to include?</p> <p>Will it tell a story?</p> <p>What colours will use?</p> <p>What will use to make it?</p> <p>How big will it be?</p> <p>What style will it be?</p>	<p>Picture resources Page 63</p>
Story	<p>Stories often have a similar structure.</p> <p>Use 'Story Mountain' from lesson three to talk through story building.</p>	<p>How do you want your story to start?</p> <p>Where is it based?</p> <p>How will it grab someone's attention?</p> <p>What will happen in the story?</p> <p>Who is the main character?</p> <p>Do they go on a journey/ Run into a problem?</p> <p>Who or what helps them?</p> <p>What happens at the end?</p> <p>Is it a happy ending or sad?</p> <p>How does it link to the name of the train?</p>	<p>Story mountain Page 63</p>

Resources

Activity Sheets

Lesson 1

Activity 1-4

20-23

Lesson 2

Activity 1-3

24-26

Lesson 3

Activity 1-4

27-30

Lesson 4

Activity 1-8

31-38

Lesson 5

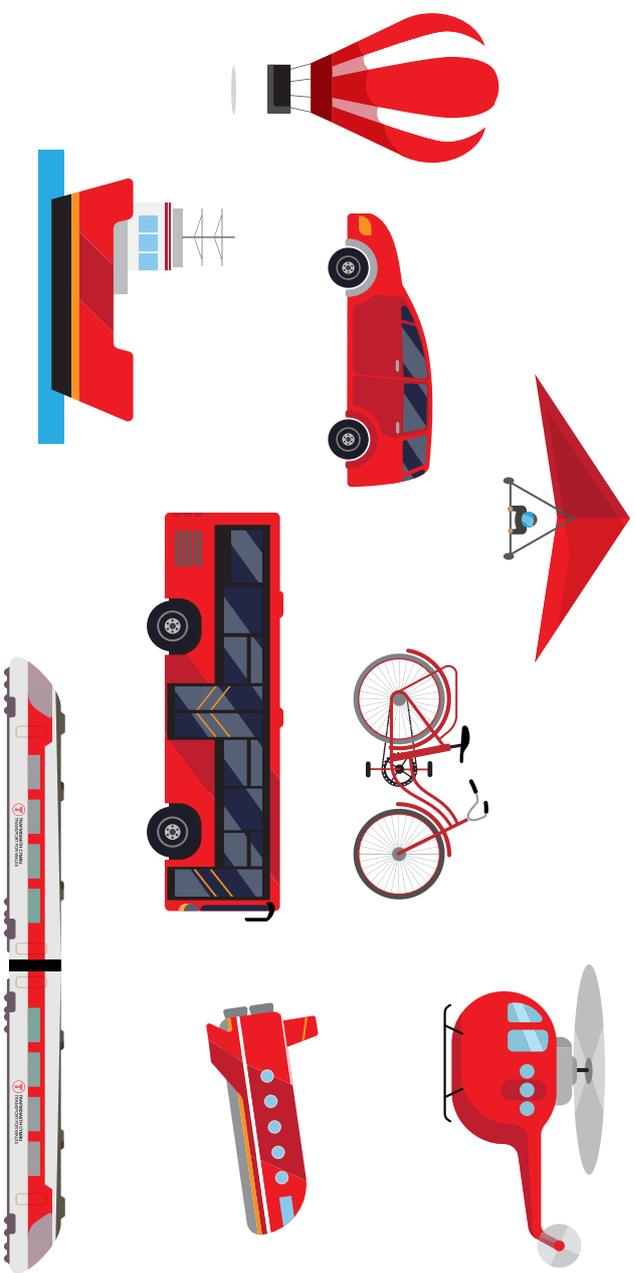
Activity 1-5

39-43

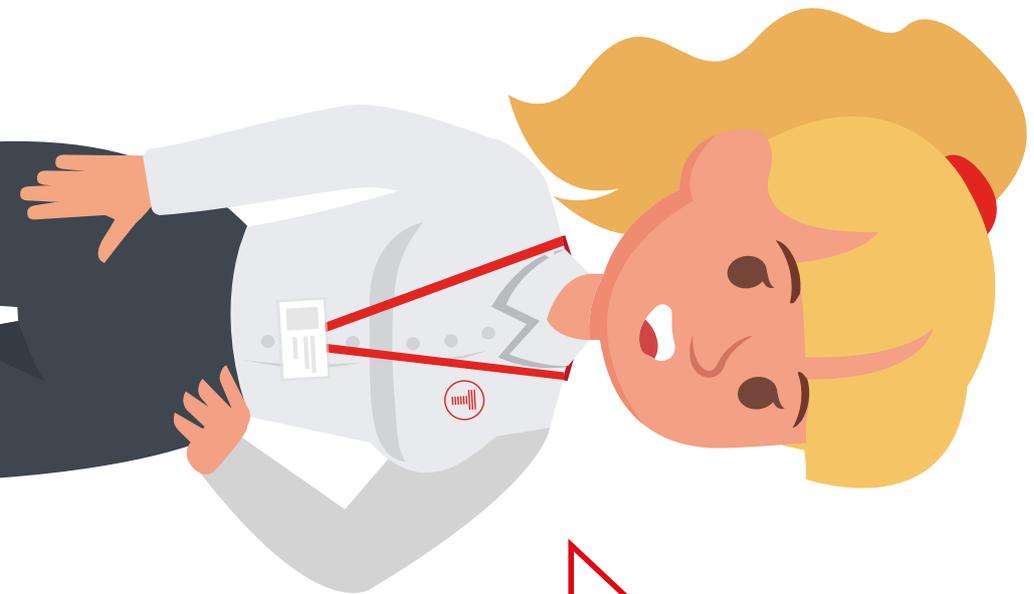
All transport uses fuel.

Even when you walk, you're using fuel: your body uses food to power it.

What sort of fuel do these forms of transport use?



Which ones are good for the environment and why?

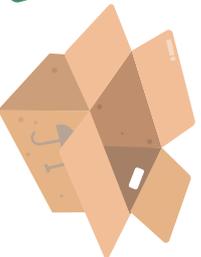
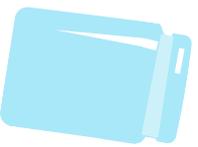


Based on everything you've learned about, **let's take some action.**
Even small things can make a difference.

What could we reuse or recycle?

Paper? Glass? Boxes?

What else?

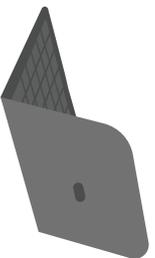


What can we stop doing?

Leaving computers on?

Switching off lights during the day
when we don't really need them?

What else?



Can you think of an eco-friendly or recycling project we could do?



Draw your own diagram of what climate change is.

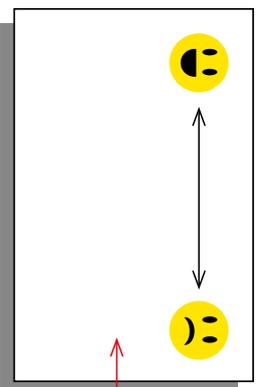
It could include:

- The sun
- The earth
- Trees
- At least one form of transport
- Different sources of carbon dioxide gas
- At least one negative consequence of climate change
- Labels



How environmentally friendly are these power sources?

1. Draw a line on the page with a smiley earth at one end and sad earth at the other.



2. Draw your own picture of these energy sources on your line in order from best (smiley face) to worst (sad face).



Petrol



Wave



Wind



Solar



Nuclear



Wood



Coal



Electricity



Gas

Can any of these be used to power transport?

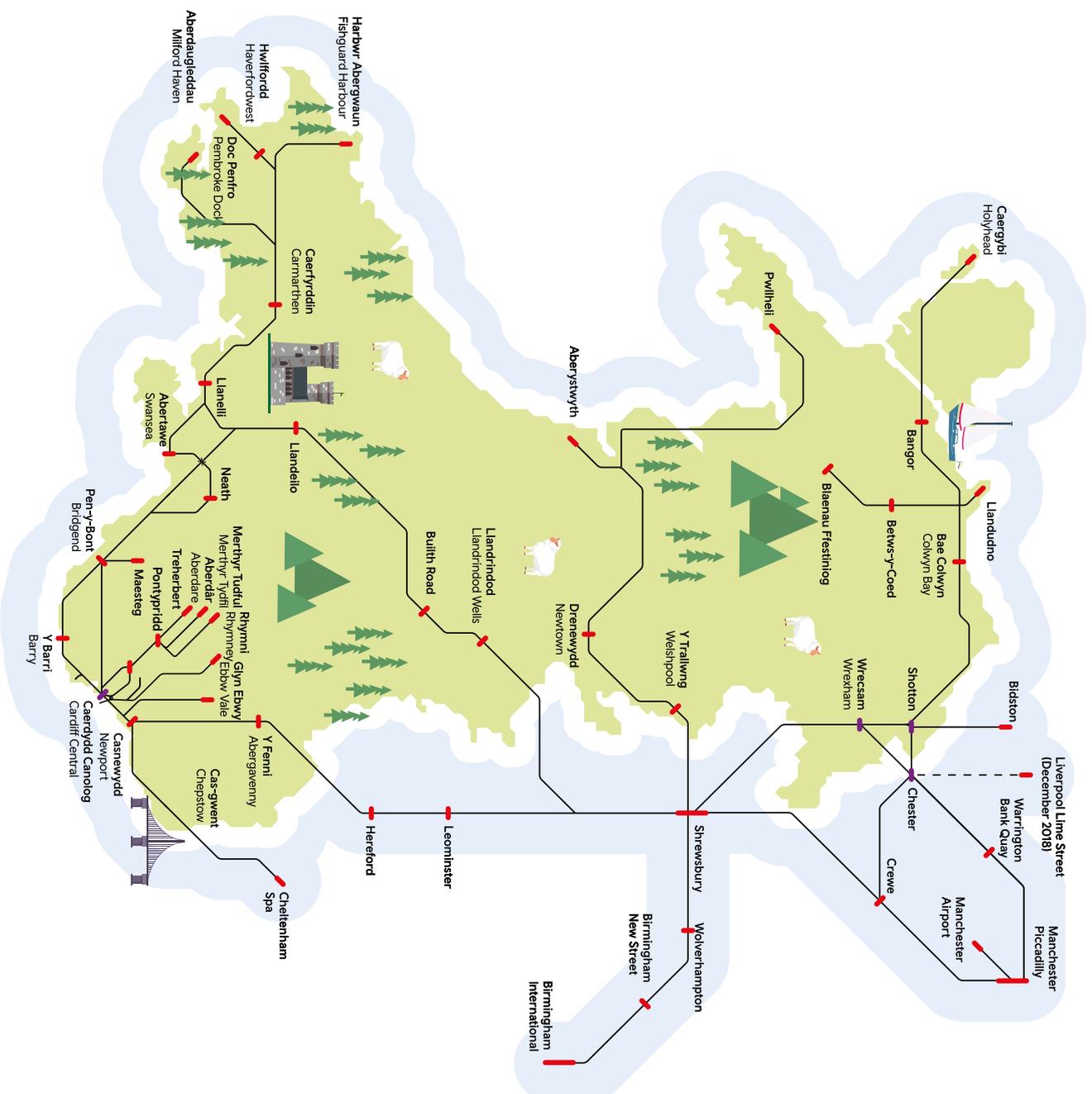


Lesson 2 - Activity 1

That's a lot of history in the
Wales and Borders rail network.

So far we've learnt about
Merthyr Tydfil and Swansea.

Can you find and mark
those places on the map?



Name: _____

Build and power your own train

It's time to get creative. Now you've seen some ways that engineers have found to power their trains, it's your turn.

Build a train using materials you have.



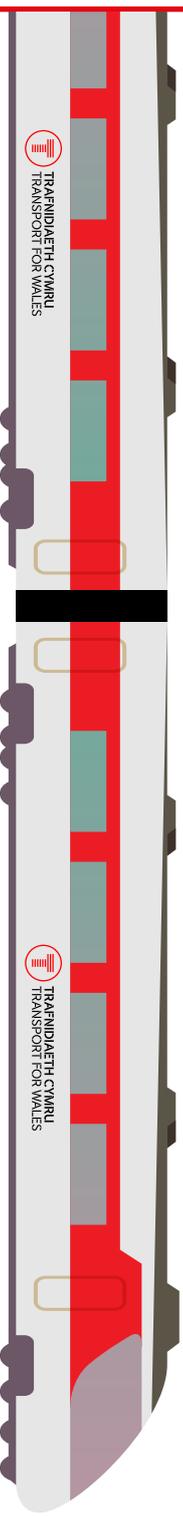
Top Tip

Your recycling bin might be a great place to find things to build with.

Once you've made your train, find as many ways as you can to make the train move without pushing it.

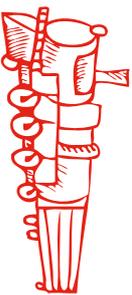
You might want to try:

- Blowing it
- Attaching a string and pulling it along
- Using a balloon
- Using a paperclip and magnet

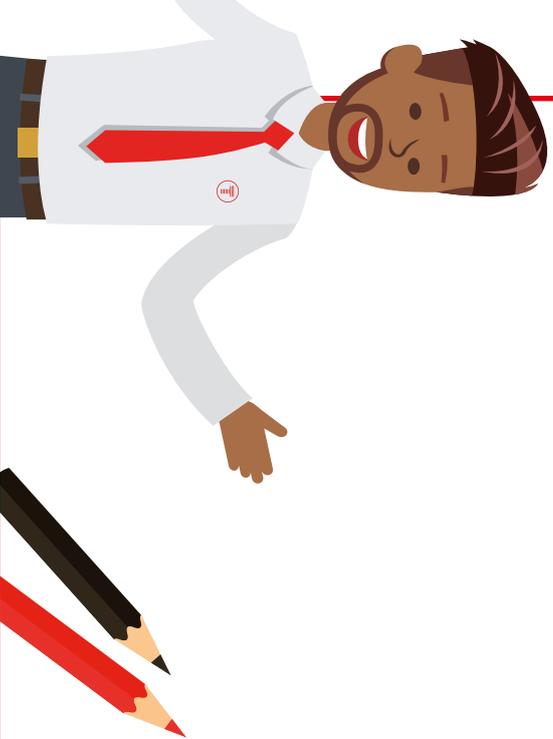
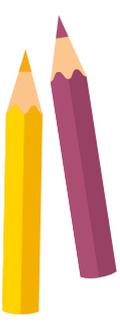


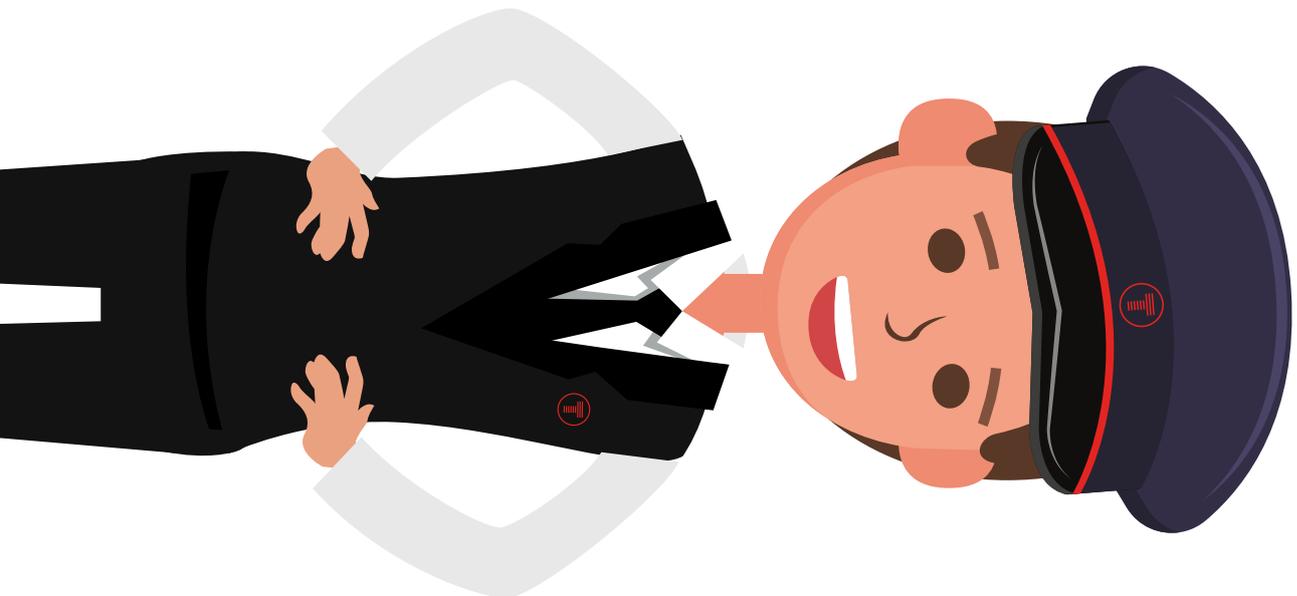
Design a train for the future

Your task is to design your dream train of the future.



How is it powered? What do the carriages look like?
Let your imagination run free.
Draw a picture and add some labels to explain your design.





Comprehension questions

Pick your favourite story.

Answer the following questions. Write down your answers.

1. Is this a myth, a legend or did this really happen?
2. What did you like about the story?
3. Is there a hero of the story?
4. Is there a villain?
5. Why do you think this story has been passed down and is still told today?

Bonus task: Draw a picture to illustrate the story.

Create your own mythical character!

Use these sentence starters to create your own mythical creature. Write down your answers.

1. My character is called...

.....

2. My character looks like this...

.....

3. Its special powers are...

.....

4. My character lives...

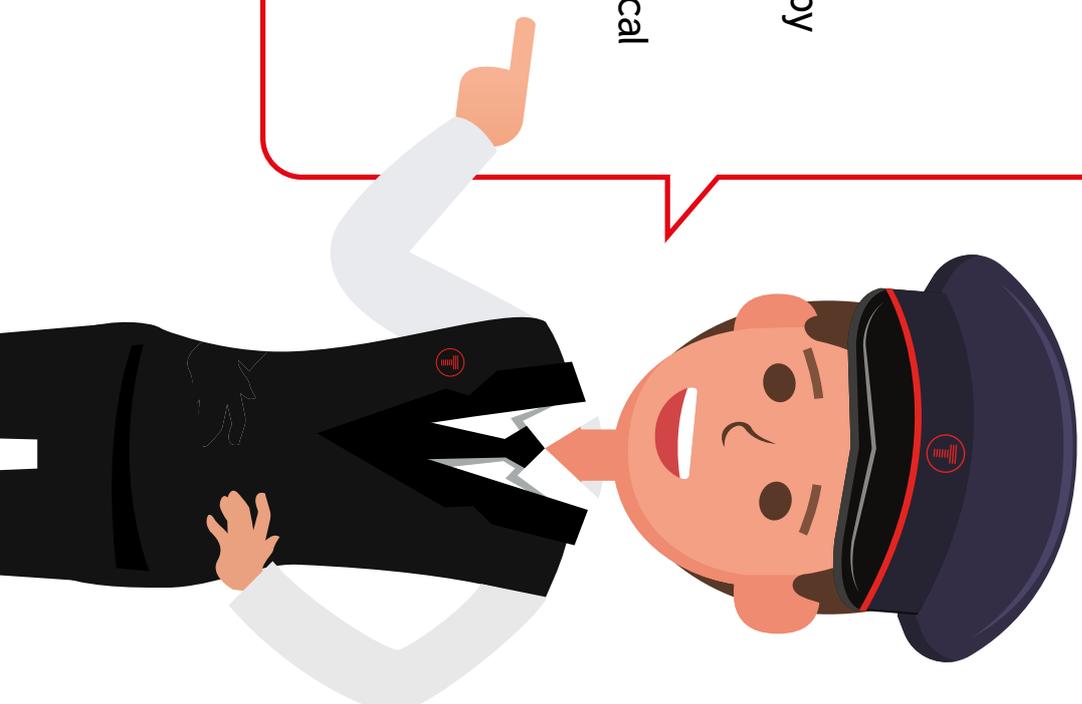
.....

5. My character likes to do...

.....

Words to describe my character are...
Choose from these:

- small big powerful
wicked helpful happy
noisy smelly fun
cheeky kind magical



Write your own myth or legend!

Use the 'Story Mountain' to create your own story.

There's lots of characters in folklore.
Could your story include any of these?

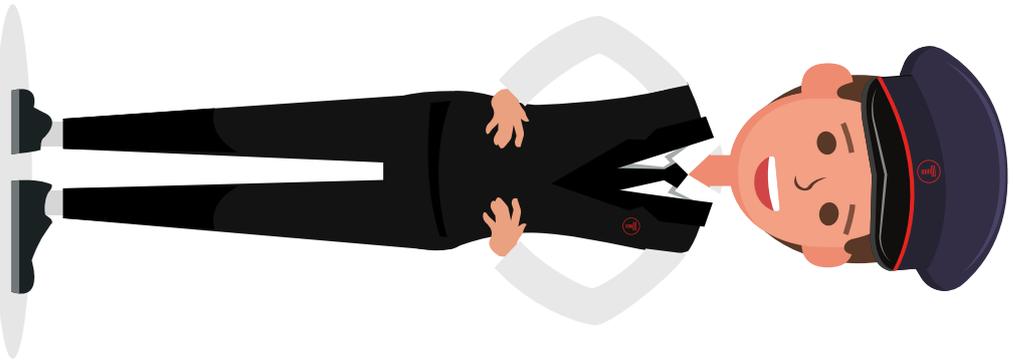
Coblynau - helpful spirits who assisted miners.

Morgens - mythical water spirits that are said to lure men into the water with their beauty and tales of treasures.

Y Tylwyth Teg - fairies that live in lakes and streams. There are lots of stories of them in Nantlle Valley, Snowdonia.

Y Gwyllygi - a frightening black dog, thought to have inspired the hounds of the Baskervilles.

Afanc - A Celtic water monster, that appears in lots of stories. They're said to feast upon people foolish enough to enter their waters.



Top Tip

Complete the 'create a mythical character' task first and use your character in your story!

3. Problem

But they...
(What's the problem or challenge they run into?)

4. Resolution

They had an idea...
(How do they get over it?)

5. Ending

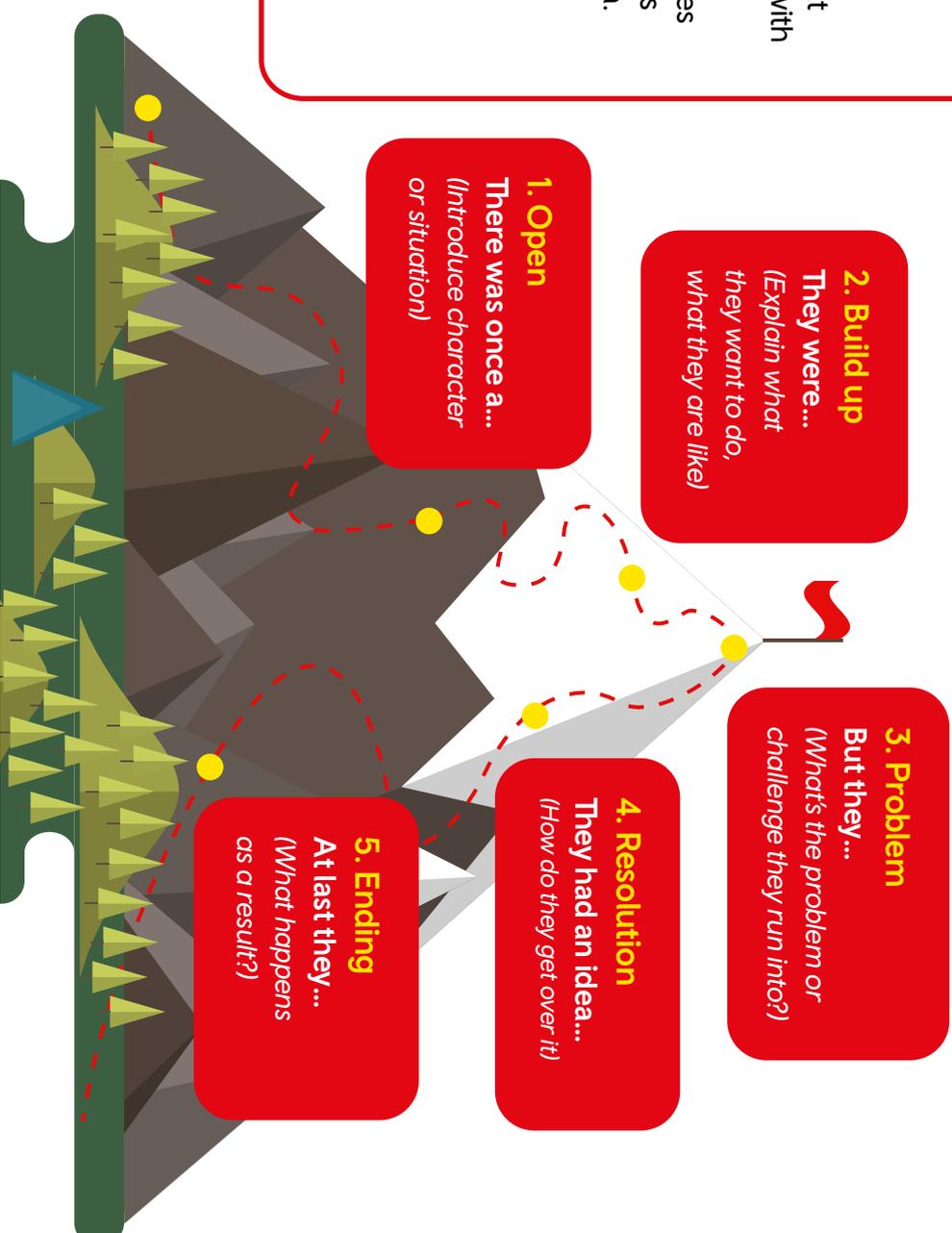
At last they...
(What happens as a result?)

1. Open

There was once a...
(Introduce character or situation)

2. Build up

They were...
(Explain what they want to do, what they are like)



Travelling to story locations

The stories we read are about real places in Wales and its borders.

1. Mark the locations of the stories on your map.

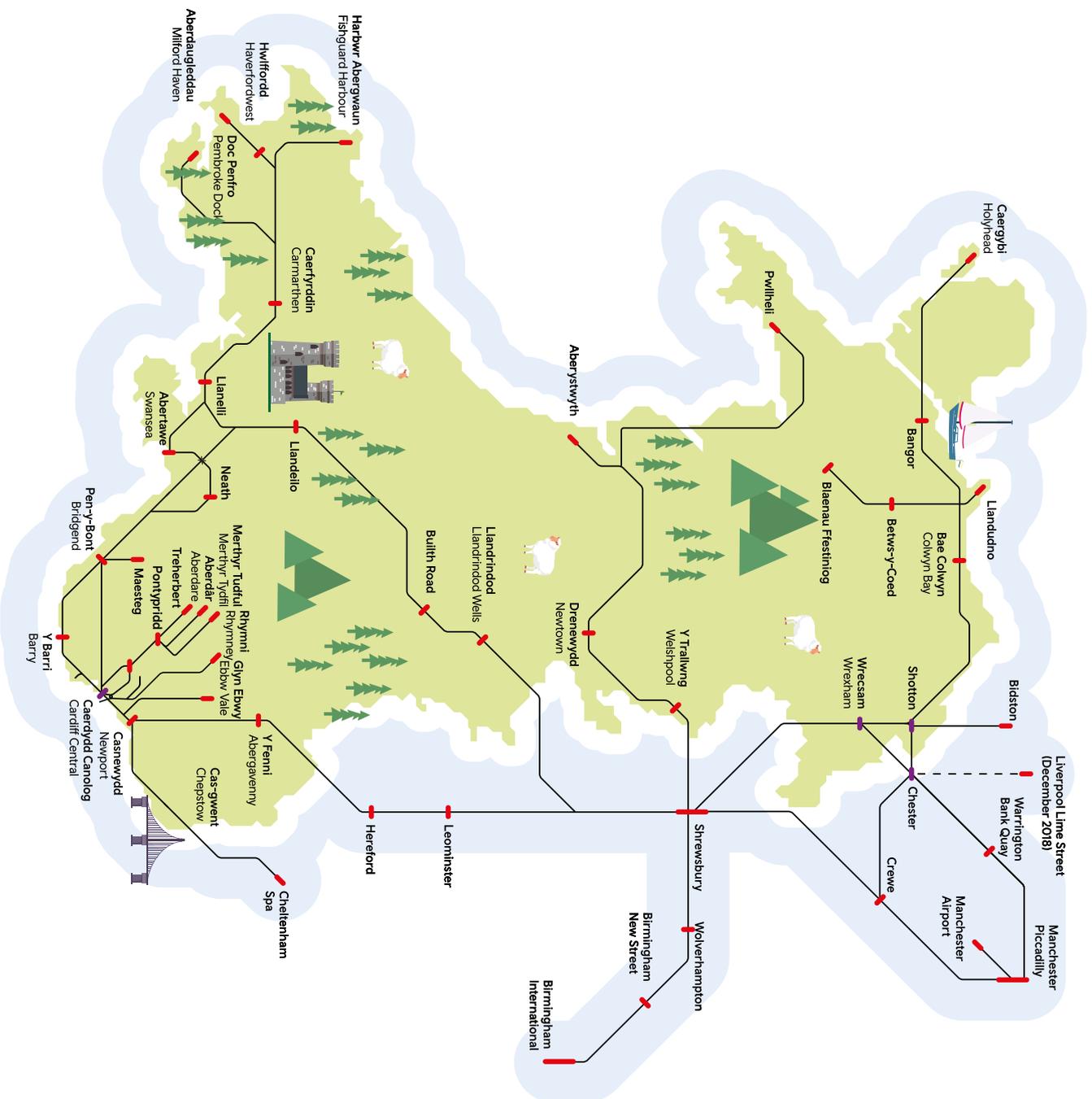
You might need to do some research to help.

2. Mark your own location on your map.

A teacher or someone at home might be able to help.

3. Can you see a route to get to each location from where you live?

If you're struggling, you can use www.traveline.info to plan a route.



Welsh Mountain Zoo, Colwyn Bay

Task 1: Research activity

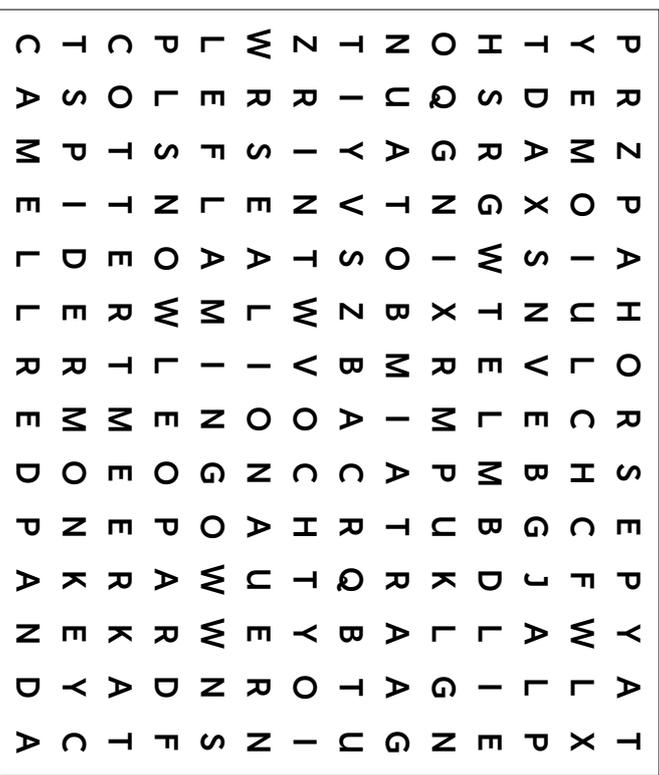
The zoo does a lot of conservation around the world.

Find out more about this from their website and extend the lines on your map of Wales to different places around the world.



Task 2: Quick activity

Try our wordsearch of zoo animals.



- ALLIGATOR CAMEL CAMEL FLAMINGO GIBBON HORSE LEMUR
- MACAW MARGAY MEERKAT OSTRICH OTTER
- PENGUIN PINE MARTEN PYTHON RED PANDA SNOW LEOPARD
- SEA LION RED SQUIRREL SPIDER MONKEY WALLABY

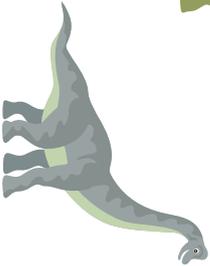
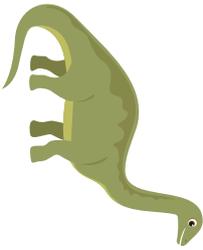
Dan-yr-Ogof Caves



There are dinosaurs at Dan-yr-ogof Caves.

1. How many dinosaurs can you name?

2. Draw a picture of your favourite dinosaur.



Pontcysyllte World Heritage Site



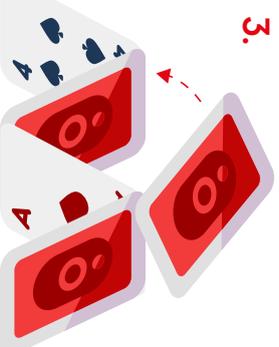
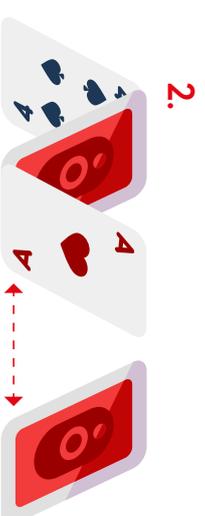
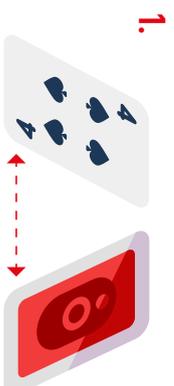
Could you build a bridge? Use a pack of cards to build your own aqueduct.

1. Take two cards, stand them up on a table and lean them against each other to make a triangle.
2. Then do the same again next to it. You should now have two triangles next to each other.
3. Lay two cards flat across the top. You have a bridge.

How long can you make it?

4. You can also add another level to your bridge by adding cards to the top.

Have fun seeing how high you can go!



Centre for Alternative Energy



Construction activity

Wind power is one of the things used at the Centre for Alternative Energy.

Can you build a windmill from paper?

What you need:

1. Thick paper cut into a square
2. Drawing pin
3. Cardboard straw or pencil with a rubber on the end.

Step 1: Cut out a square sheet of paper 20cm x 20cm.

If you want to make it more colourful decorate both sides using different colours or patterns.

Step 5: Fold in the corners of the paper to the centre and place your drawing pin through all the holes.

Step 2: Make diagonal lines across them as below

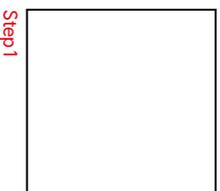
Step 6: Pin into your cardboard straw or to the rubber on the end of your pencil.

Step 3: Cut along diagonal lines leaving about 4cm from the centre.

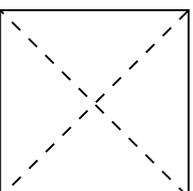
Step 7: Blow and watch your windmill spin round.

Step 4: Make holes using your pin on all 4 corners and in the middle

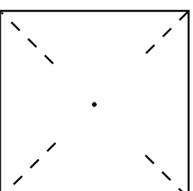
See if you can catch some wind outside too.



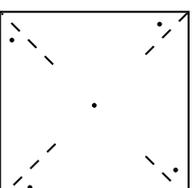
Step 1



Step 2



Step 3



Step 4

Wales Millennium Centre



Construction activity

Make a model
of the Wales
Millennium Centre.

Like the real building,
it should be made
from some materials
you find outside.

If you had to carve
some words into your
school building what
would you choose?



Name: _____

Learn more about a destination of your choice



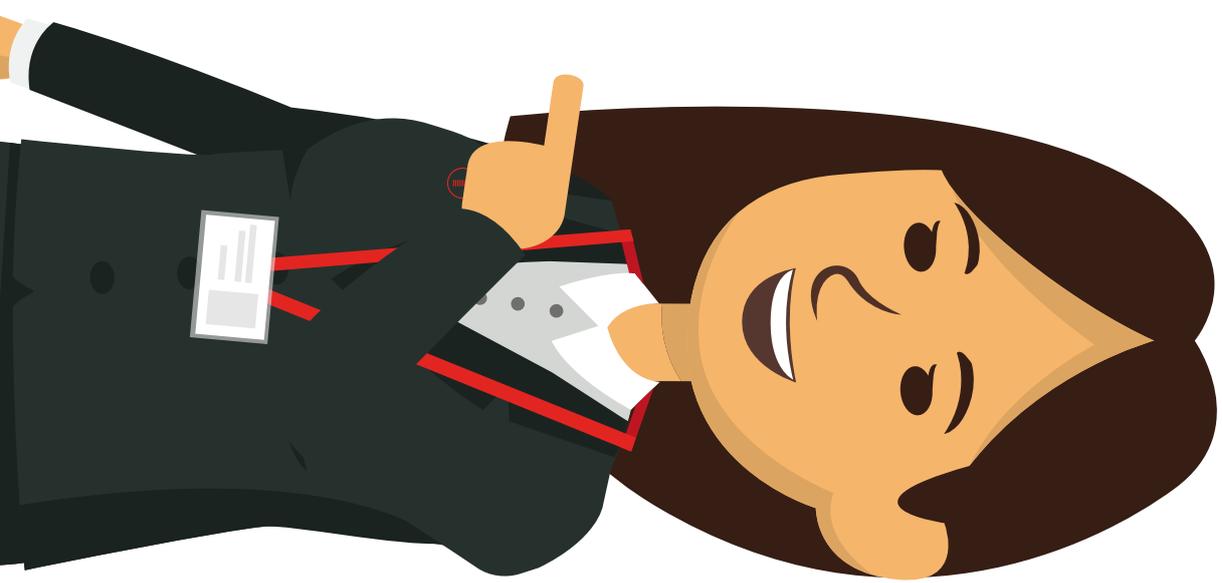
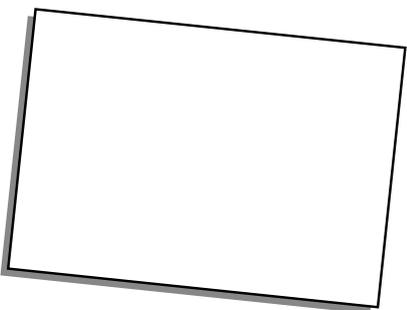
Do some independent research using the internet to find out a place. Find out at least three things that interest you about it. Got your information? On to the next task.



Create a poster advertising this place to your class.



The poster should include the three interesting things, its location and cost of entry.

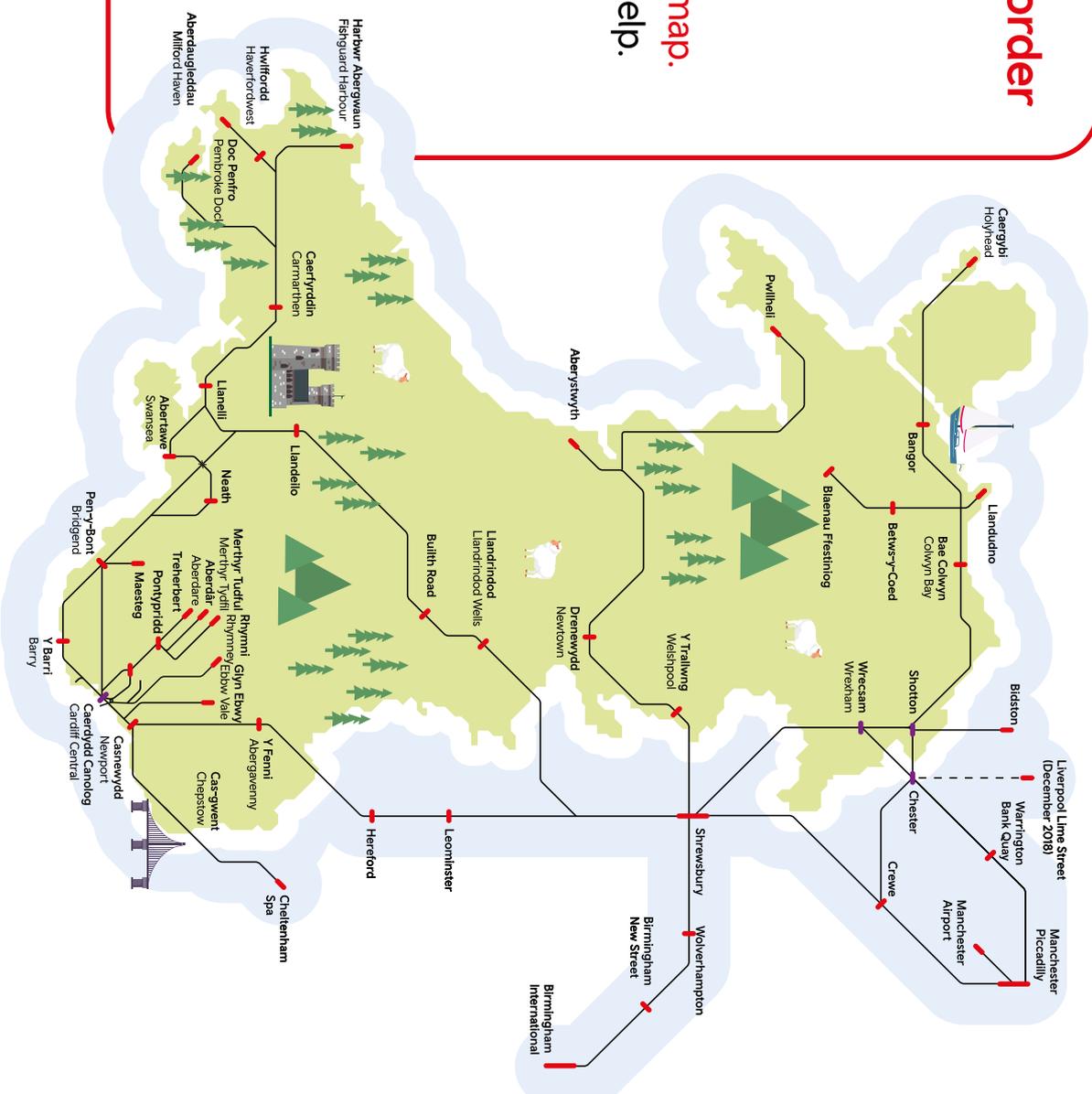


Visiting places in Wales and its border



We've visited the places on the magnificent train, but one day you may be able to visit them for real.

1. **Mark the locations of the places on your map.**
You might need to do some research to help.
2. **Mark your own location on your map.**
A teacher or someone at home might be able to help.
3. **Can you draw the route to get to each location from where you live?**
Use www.traveline.info to plan a route.





1. From our journey so far, what ideas do you have for train names?

Write down your best 3.

2. Now choose your favourite.

3. Now you have your idea choose how you want to present it.

Poem

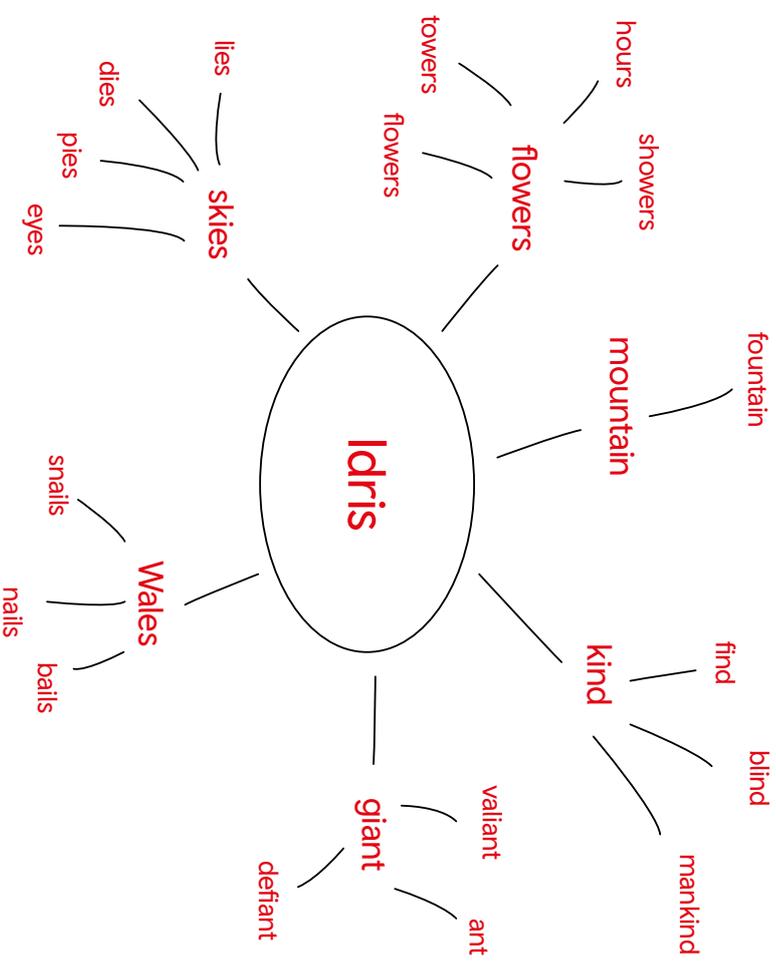
Picture

Story

Creating a 'Word Windmill'

1. Start by writing your idea for a train name in the centre of your paper.
2. Draw lines out from your word and write in some more words connected to your idea at the end of each line. Have about 5 or 6.
3. Draw more lines from these connected words and write as many rhyming words as you can at the ends.
4. If one of your words is 'kind', your rhyming words could be 'blind, find, mankind'. To help you find words that rhyme you could use a rhyming dictionary. There are free versions on the internet.

Use your word windmill to create a poem.



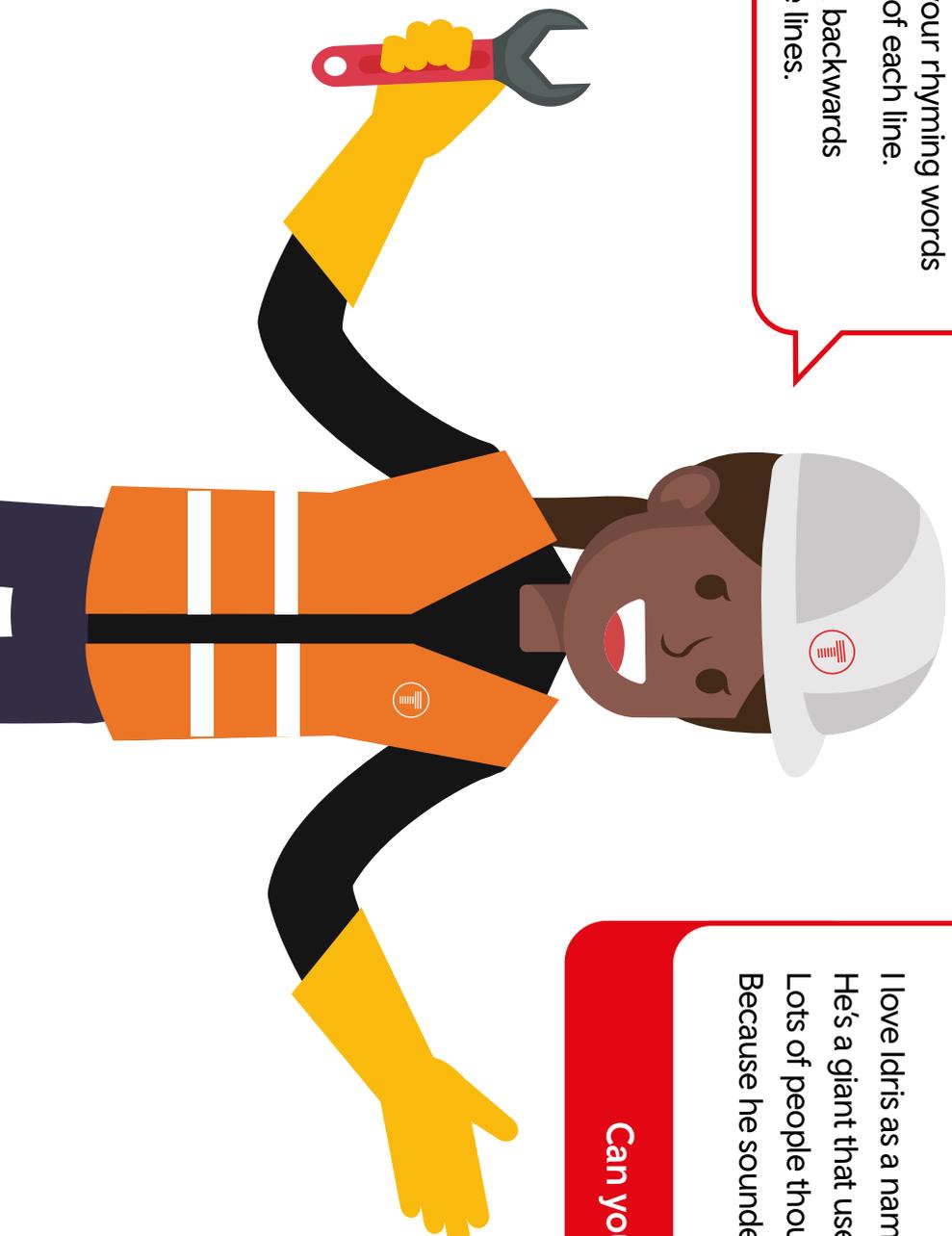
Name: _____

Use your rhyming words and make them into a poem.

First, decide how many lines your poem will be.

Next, put your rhyming words at the end of each line.

Then work backwards to fill in the lines.



Idris was a giant, big and kind.

He looked after the flowers for all of mankind.

Every day he would stare up at the skies,

In his pyjamas, eating pies.

I love Idris as a name for my train.

He's a giant that used to live on a mountain in Wales.

Lots of people thought he was in pain,

Because he sounded like he'd stepped on a bag of nails.

Can you write a better one?



Top Tip
Poems don't have to be serious.

Let's create a picture

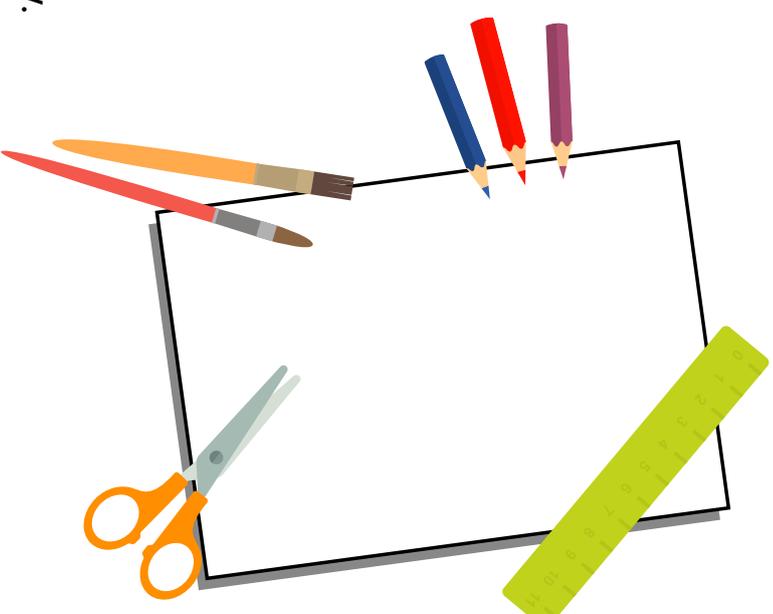
Your picture needs to show why Transport for Wales should pick your idea for a train's name.

You can do it lots of different ways.

Here's some ideas you could use to help:

- Draw the mythical character or local place you're naming your train after
- Illustrate a story you want to tell
- Use the computer to make a digital picture
- Cut out pictures from magazines and use those for a collage
- Use paint, glitter, tissue paper, felt tips, crayons, whatever you like to do.

There are no rules as long as we can see what your idea is and why.



Lesson 5 - Activity 5

Let's write a short story

You've had some practise writing a short story.

This time, write a story that shows why you've chosen your train's name.



2. Build up
They were...
(Explain what they want to do, what they are like)

1. Open
There was once a...
(Introduce character or situation)

3. Problem
But they...
(What's the problem or challenge they run into?)

4. Resolution
They had an idea...
(How do they get over it)

5. Ending
At last they...
(What happens as a result?)



Name: _____