A lesson planning pack for ***Foundation Stage***, ***KS1*** and ***KS2***



Ice, Ice, Baby!

Climate change, public transport, and what *you* can do about it all.

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In fact, we really hope you'll go to town and have fun making this resource personal.

Ice, Ice, Baby!

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OVERVIEW

Yo, VIP, let's kick it:

Some problems are so impossibly huge and daunting that your brain doesn't feel large enough to fit them in.

Some problems are so impossibly huge and daunting that they make you want to pull the duvet over your head and hope somebody else sorts it all out.

And then some problems are so impossibly huge and daunting that they just scare the pants off you.

Climate change is real, urgent, difficult and frightening, but it's also the defining issue of our time. If you and your students don't change the world, nobody will.

Ice Ice Baby, a free online interactive, introduces your class to the fundamentals of climate change, encourages children to make a link between everyday decisions, such as travelling to school, and global consequences and empowers them to take action.

Ice Ice Baby is part of the award-winning DingDing website, providing free educational resources around topics in public transport.

At a glance

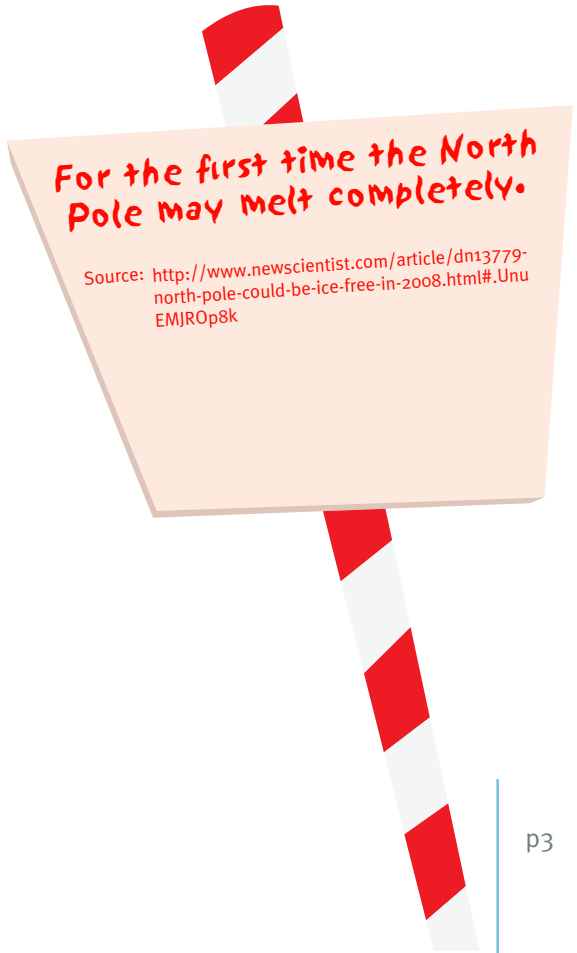
Foundation Stage	✓
Key Stage	✓
Key Stage	✓

Time required
One lesson

Resources required
Interactive whiteboard, internet access

Learning objectives
After completing the learning, students will have an elementary understanding of the connection between everyday travel decisions, and their consequences for the environment.

In particular, they will relate their chosen mode of travel to school to climate change and depletion of Arctic habitats.



Background

Where are we going, & what are we doing in this handbasket?

Climate change is *complicated*. It's hard for the non-specialist to keep abreast of the latest information. If you want to top up your own understanding of the issues, you might find it useful to check out the latest info online.

http://www.newscientist.com/topic/climate-change

New Scientist offers a great roundup of the latest developments, with thorough introductory material too (the 'Instant Expert' section is a must-see).

http://www.foe.co.uk/campaigns/climate/

Friends of the Earth, an activist site, and the information is slanted appropriately.

http://royalsociety.org/landing.asp?id=1278

The Royal Society, Ideal if you're from a scientific background and want to dig a little more deeply into the issues.

And, if your *enthusiasm* could do with a refresher too, you won't regret investing twenty-five minutes watching Al Gore's inspiring talk from 2008.

http://www.ted.com/talks/view?id=243

Preparation

Stop, collaborate and listen!

Ice Ice Baby is for use on your interactive whiteboard. It takes the form of a guided questionnaire with hands-up responses, leading your class through an examination of their everyday journeys to/from school and opening a conversation about how those journeys affect the planet. You'll want to set aside a full lesson to make sure you have time for discussion.

One of the inevitable responses to global warming is that "t-shirt weather all year can't be bad". For Ice Ice Baby, we've chosen the example of the polar bears: T-shirt weather isn't so great when you're in a fur coat, and your home, as well as the home of everything you eat, is made of *ice*. The way things are looking it's very unlikely polar bears will survive into the next century.

It's important to emphasise that the issue is much bigger then polar bears however, and you might want to broaden your classes' investigations to explore the human cost of climate change as well.

Differentiation

Ice Ice Baby was conceived to enable you to easily tailor your lesson for widely different ability ranges. Loads of extension activities and follow ups are provided to spark your imagination.

Bookmark

http://www.dingding.org.uk/games/manchester/iceicebaby/index.html

Using the interactive, part one

Setting the scene

In this section, we *break the ice* with some easy scene-setting aquestions to get everyone into the swing.



What's your school called?



What's your school year and class name?



How many boys and how many girls are there in your class?



(We start to connect the kids to the bears - the bears form groups corresponding to your class)



How many of you own a bike?

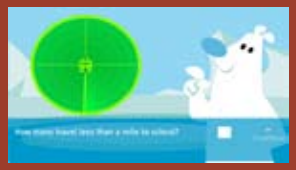


(Polar bears on bikes establish that from now on, the animations will visualise the class's answers)

Using the interactive, part two

On the radar

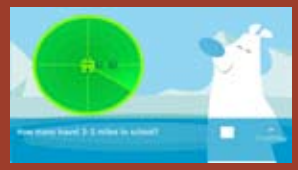
The next questions are about how far the class live from school. Younger children may need lots of help with this, or you may prefer to prepare answers from the register beforehand. Older groups who aren't comfortable with distances in miles may prefer to phrase the questions along the lines of "Who lives in Hulme or Trafford?". You might want to put a list of home areas by distance. ie: A mile — Hulme, 1-3 miles — Chorlton, Over 5 miles —Stockport.



Who lives less than 1 mile away?



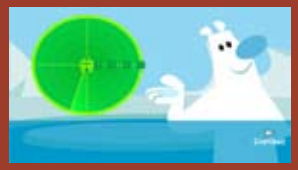
How many travel 1-3 miles to school?



How many travel 3-5 miles?



How many travel over 5 miles?



With all the answers on the radar screen, you might want to think about how your class and school stacks up to others. How might a school in the city compare to a school in the countryside?

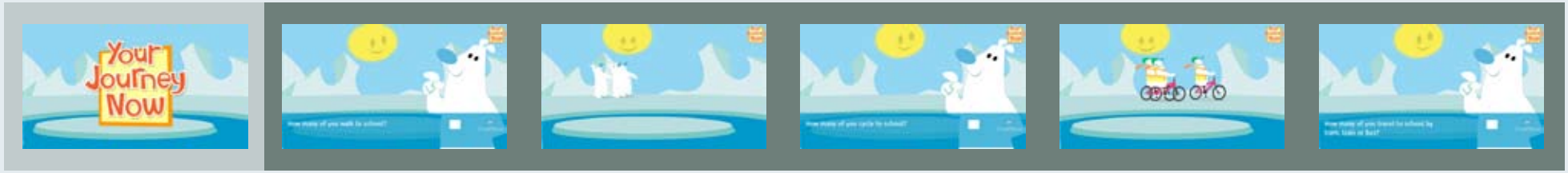
Using the interactive, part three

How we travel at the moment

In this section, we think about the journeys we make every day. First of all, we'll deal with the journey to school, in the morning, then we'll think about the return journey.

For each journey, the class will be asked how they travel, and will see the effects on the climate, personified as the mood of the Sun. Travelling on foot or by bike, the Sun stays calm, public transport is next best (lots of travellers can fit in just one tram, bus or train), but lots of car trips make the sun more than a bit hot under the collar.

At the end of the journey, we cut to the polar bears on their ice floe - if your answers have made the temperature rise, the bears might be on thin ice..



Travelling ***to*** school...



Travelling home ***from*** school...



The effects on the ice.

Using the interactive, part four

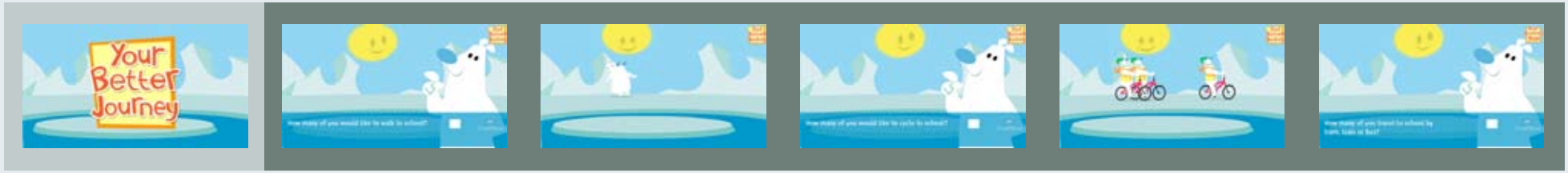
A better journey

In the final section, we have a second chance, an opportunity to imagine how we could do better.

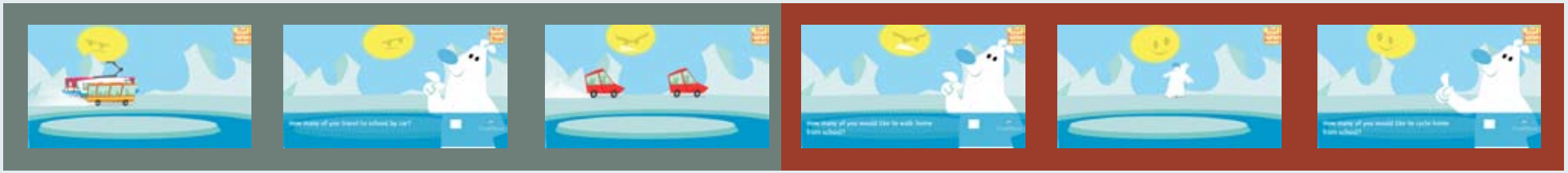
Would some of the class prefer to walk or cycle? Could some of the car users switch to public transport for one or both journeys?

Finally, we'll return to the ice floe and see if we've been able to help. If your class has proposed a more thoughtful plan for its journeys, we should see an improvement!

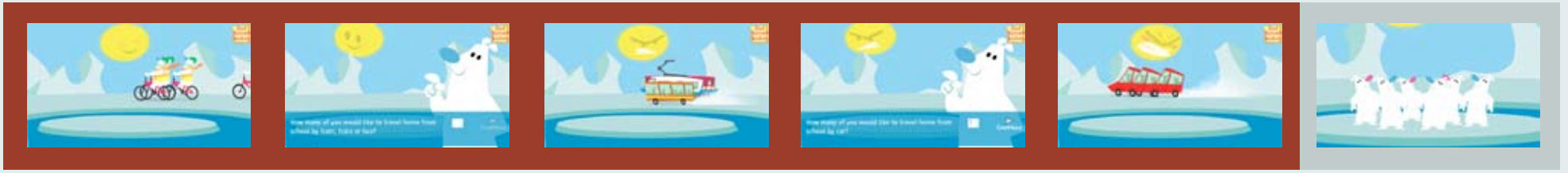
Last of all, to round it all off, there's a cute payoff as we realise that all the bears we've seen so far are kids... like us!



Travelling ***to*** school...



Travelling home ***from*** school...



The effects on the ice.

FOLLOW-UP

Where next?

Once you have used Ice Ice Baby in class, the results can be printed off and saved to see if your pupils' travel habits change over time. You might want to compare your results to the survey results included in your school's existing travel plan.

A buffet of ideas and suggestions follows, for ways to work on environmental and sustainability issues with your class, together with curriculum links. There may well be links to other subjects as well as the Every Child Matters Agenda.

The following aren't intended to be full lesson plans, they are ideas from which you can develop your own plans for classroom sessions, assemblies or projects.



If I ran the world...

Whole school

Pshe/citizenship curriculum links:
Ks1: 1e, 2c, 2g, 3a, 5d,
Ks2: 1c, 2h, 3a, 5d

Objective: pupils will be able to actively take part in sustainable activities and will encourage each other to walk more through healthy competition

It would take an average person nearly 5 million steps to walk around the World. All your school needs are pedometers to measure everyone's steps (pedometers available from: http://public.schoolsonthemove.co.uk/) and the collective will to make the difference.

Encourage your pupils to wear their pedometers and walk to school. Get each pupil to keep a running total. Count the steps and keep a cumulative total. How long will it take your school to collectively walk the 4,731,285 steps it takes to walk around the world?

Why not keep a visual record of how far your school has travelled, marking your progress each week on a large map in the school hall or on the classroom wall. Children can wear their pedometers during break time as an added incentive to collectively improve the fitness of your class.

Where in the World have we got to?

Key stage 1 and key stage 2

Pshe/citizenship curriculum links:
Ks1: 1b, 1e, 2b, 2c,2e, 2g 3a 5c, 5d, 5g
Ks2: 1a, 1c, 2a, 2e, 5c, 5d, 5g

Objectives: pupils will be able to actively take part in sustainable activities and will encourage each other to walk more through healthy competition.

Pupils will begin to understand the environmental impacts increased car use is having in other parts of the world

During your school's bid to walk around the World, keep a cumulative total of the miles walked.

At the end of the week calculate how many miles the school has walked. Pick a starting spot on the equator and then measure the distance your school has walked on a globe or atlas. Wherever you end up is the topic area for that week: It could be the middle of an ocean or a countryanywahere in the World. Children can investigate the culture of each country and look into some of the impacts global warming, pollution, congestion etc is having in that area.

This is a great opportunity for the whole school to get involved around a single issue and will present loads of opportunities for displays

Willy Wonka's Greenhouse

Key stage 2

Pshe/citizenship curriculum links:
Ks2: 1a, 1c, 2a, 3a

Objective: pupils will begin to understand the processes involved in global warming.

Of course you could use ice for this mini-experiment, but chocolate is more fun!

This is a meltingly, delicious way of explaining the greenhouse effect. Beware: things could get messy if you are not fully prepared.

Each pupil needs to design a way in which to melt a piece of chocolate in the fastest possible way, without using direct heat (i.e. no lighters, blow torches and pots of boiling oil allowed). Their designs should support the chocolate both when solid and when melted.

Examples of the sort of design that could be used include:

A foil coffin
A black card box
A little glass chocolate house

Pupils should decide where best to locate their experiments and then time how long it takes for their piece of chocolate to melt; a south facing window could be popular, as is the radiator. An equal sized piece of chocolate should be placed on a plate next to each pupils design as a control. A square of chocolate (organic 70% cocoa solids is not essential for this!) Should be supplied to each pupil.

If you really want to bend their minds have a discussion about where we get chocolate from, the energy expended it its transfer from the tropics and in the production of chocolate from the raw material, cacao.

These boots are made for walking

Whole school

Pshe/citizenship curriculum links:
Ks1: 2c,2e, 2g, 3a
Ks2: 1a, 1c, 2a, 3a,

Objective: pupils will design their own footwear to encourage them to walk to school more often.

If your pupils are going to commit to walking more, then they will need comfy, durable footwear. Why not hold a competition to design a pair of shoes for walking to school in. Encourage imaginative, wacky ideas. There could even be a shoe decorating competition with prizes for the most outlandish designs. You can use the Gallery feature on DingDing to display and share those designs.

Heroes

Key stage 2

Pshe/citizenship curriculum links:
Ks2: 1a, 2a, 2e,

Objective: pupils will be encouraged to think of innovative solutions to environmental problems.

'Save the cheerleader, save the world'

Everyone loves a superhero, if not cheerleaders... Ask your pupils to create a 'green' super hero to promote sustainable travel, sustainability and recycling. Then ask them to devise a comic strip where their new super hero saves the planet.

Use the Storyboard template provided

On yer bike

Key stage 2

Pshe/citizenship curriculum links:
Ks2: 1c, 2h, 3a, 5c, 5d,

Objectives: pupils will begin to become confident safe cyclists capable of cycling on the road to school

Children love riding their bikes and it's a great way to stay fit and healthy. Encouraging your pupils to cycle to school is often a concern, particularly for safety reasons, but given the chance, many children would take the opportunity to cycle to school.

Imagine the impact on your school if large numbers of children were cycling instead of arriving at school by car.

Bikeability is the new national standard for cycle training and is the cycling proficiency test for the 21st century, designed to give the next generation the skills and confidence to ride their bikes on today's roads. There are three bikeability levels that progressively build children's confidence in riding a bike and in road craft. To find out more about bikeability and how your school can get involved check out the web site: http://www.bikeability.org.uk/

www.dingding.org.uk

Pedestrian training

Key stage 1

Pshe/citizenship curriculum links:
Ks1: 1b, 1e, 2c, 2e, 2g, 3a, 5c, 5d, 5g

Objective: pupils will understand how to find safe places to cross the road, how to cross safely from behind parked cars and at junctions. They will understand procedures for crossing the road safely.

Lots of local authorities up and down the country offer practical pedestrian training schemes. They are a great way for your younger pupil's to learn how to be safe on the roads, learning in the road environment, in a practical way. What better way to encourage your pupils to walk to school than by ensuring they have the pedestrian skills to cope with today's roads?

Contact your local authority road safety team for more details.



Appendix

Curriculum links

Each lesson idea for Ice Ice Baby is linked to the PSHE non-statutory guidelines for Foundation Stage, Key Stage 1 and Key Stage 2 (see below) and fits neatly into the *Every Child Matters* framework and particularly addresses the 'Make a positive contribution' outcome.

Every Child Matters

Outcome: Make a Positive Contribution

Aim: Children and young people engage in decision making and support the community and environment. Being healthy.

Early Years Foundation Stage

Early Learning Goals and Development Requirements:

PERSONAL SOCIAL & EMOTIONAL DEVELOPMENT

Children should:
• Have a developing awareness of their own needs views and feelings and be sensitive to the needs views and feelings of others
• Have a developing respect for their own cultures and beliefs and those of other people
• Understand that people have different needs, views and cultures that need to be treated with respect
• Understand that they can expect others to treat their needs views, cultures and beliefs with respect

KNOWLEDGE & UNDERSTANDING OF THE WORLD

Educational Programme
•Children must be supported in the knowledge, skills and understanding that help them make sense of the world. Their learning must be supported through offering opportunities for them to use a range of tools safely; encounter creatures, people, plants and objects in their natural environments and in real-life situations; undertake practical 'experiments' and work with a range of materials

PSHE & Citizenship Non-statutory Guidelines

Key Stage One

Knowledge Skills and Understanding

1. DEVELOPING CONFIDENCE AND RESPONSIBILITY AND MAKING THE MOST OF THEIR ABILITIES

Pupils should be taught:
b) To share their opinions on things that matter to them and explain their views.
e) How to set simple goals

2. PREPARING TO PLAY AN ACTIVE RÔLE AS CITIZENS

Pupils should be taught:
b) To take part in a simple debate about topical issues
c) To recognise choices they can make and recognise the difference between right and wrong
e) To realise that people and other living things have needs and that they have responsibilities to meet them
g) What improves and harms their local, natural and built environments and about some of the ways people look after them

3. DEVELOPING HEALTHY, SAFER LIFESTYLE

Pupils should be taught:
a) How to make simple choices that improve their health and well being.

Breadth of Opportunity
5c) Take part in discussions
5d) Make real choices
5g) Consider social and moral dilemmas that they come across in everyday life

Key Stage Two

Knowledge Skills and Understanding

1. DEVELOPING CONFIDENCE AND RESPONSIBILITY AND MAKING THE MOST OF THEIR ABILITIES

Pupils should be taught:
a) To talk and write about their opinions and explain their views on issues that affect themselves and society.
c) To face new challenges positively by collecting information, looking for help, making responsible choices and taking action

2. PREPARING TO PLAY AN ACTIVE RÔLE AS CITIZENS

Pupils should be taught:
a) To research, discuss and debate topical issues, problems and events
e) To reflect on spiritual, moral, social, and cultural issues, using imagination to understand other people's experiences
h) To recognise the rôle of voluntary, community and pressure groups

3. DEVELOPING HEALTHY, SAFER LIFESTYLE

Pupils should be taught:
a) What makes a healthy lifestyle, including the benefits of exercise and healthy eating, what effects mental illness and how to make informed choices.

Breadth of Opportunity
5c) Take responsibility
5d) Make real choices and decisions
5g) Consider social and moral dilemmas that they come across in life

All curriculum links are available from **http://www.education.gov.uk/-schools/teachingandlearning/curriculum**

Appendix

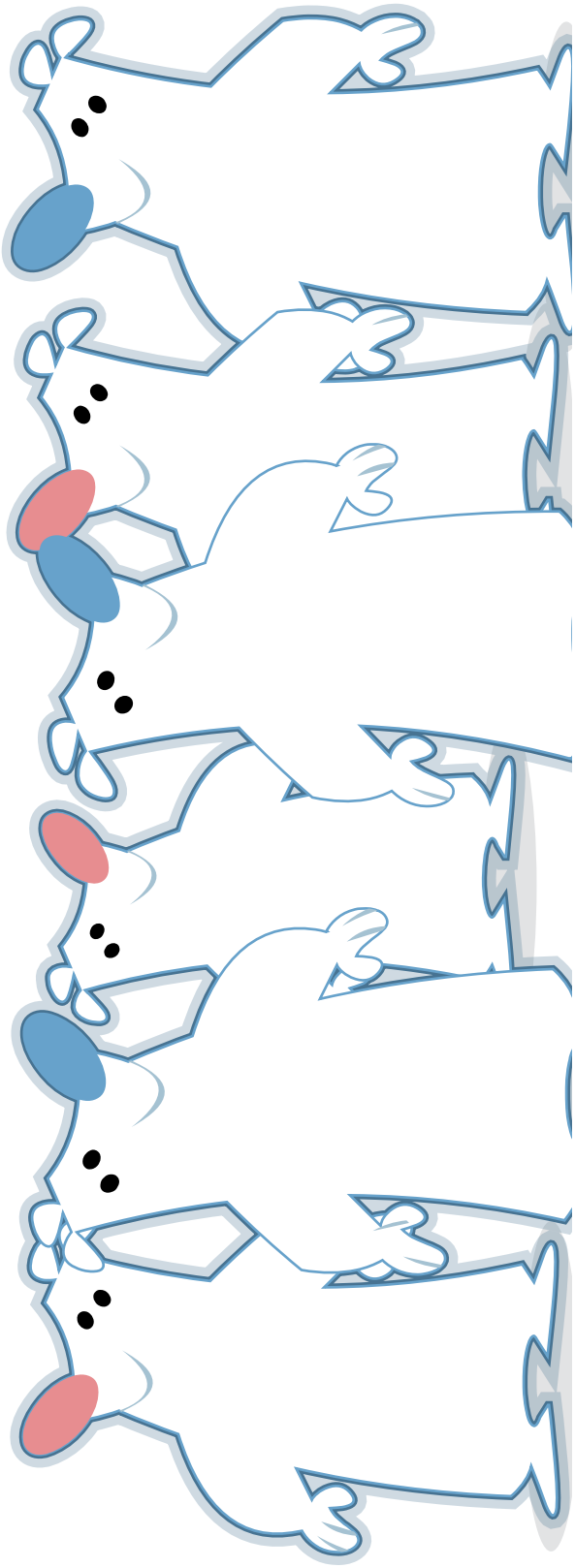
Print and cut classroom resources

Over the next few pages, you'll find a number of art resources you can print, cut out and use as the starting point for classroom displays or in your own learning activities.

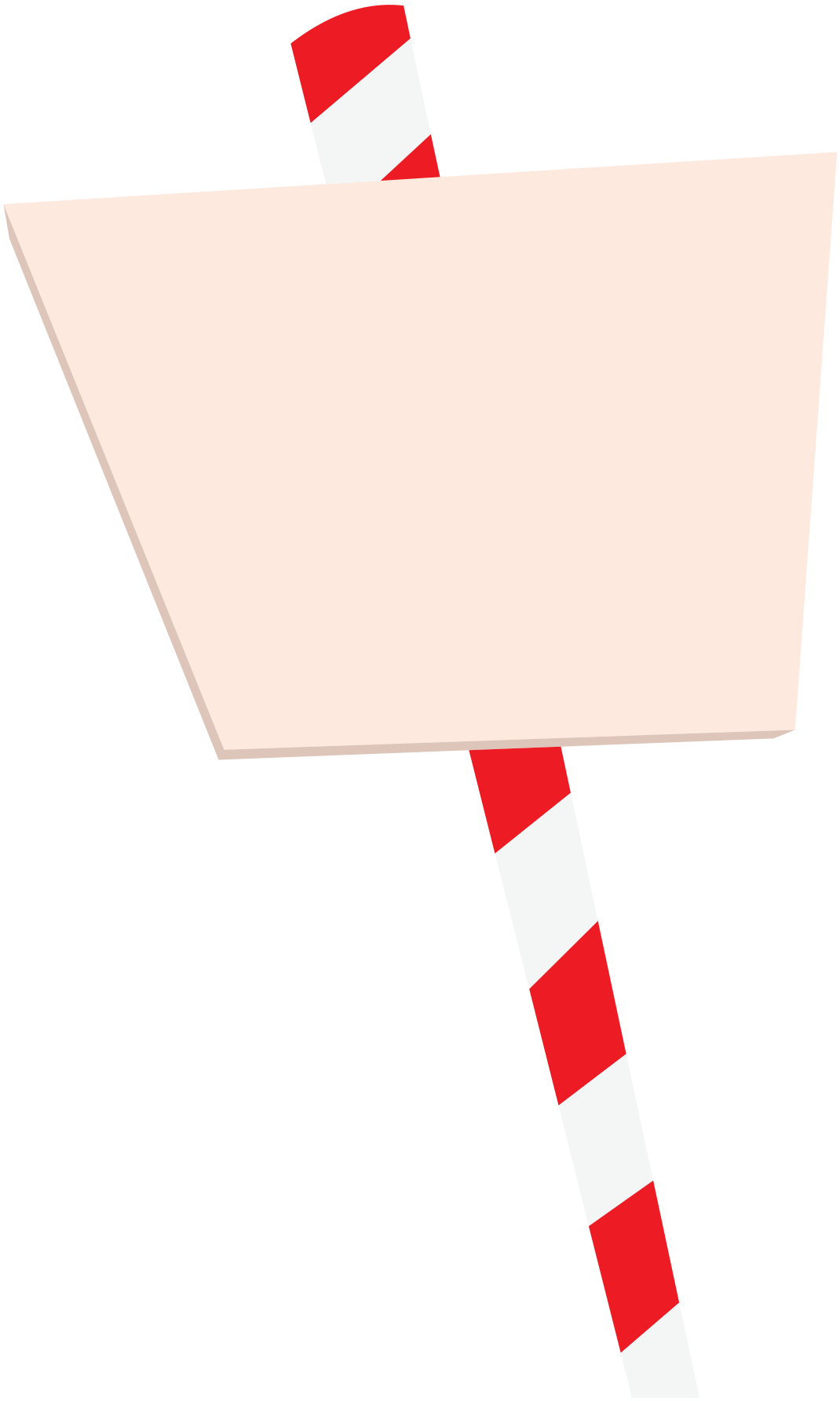
Note that these graphics are stretchy, so if you have access to a large format printer, you can print them out as big and gorgeous as you like with no loss of quality.

Have fun!









Storyboard:



Description



Description



Description



Description



Description



Description