

KS2 (Years 3-6): Scheme of Work



Theme: Let's go on an awesome Arctic adventure!

*Understanding the Arctic
and climate change.*

KS2 Themes

Explorers/invasers; Cold environments; Living on an island/island life; Europe; North America.

Lead subject

Geography.

Other subjects

English/literacy; drama; art; music;
science; computing.

Using this scheme of work

This scheme of work can be used as a complete resource over 6 (or more) weeks, or individual activities can be used on their own or to fit within other themes or subjects.

All resources are available on the Wicked Weather Watch website: www.wickedweatherwatch.org.uk

Learning outcomes:

All pupils will be able to:

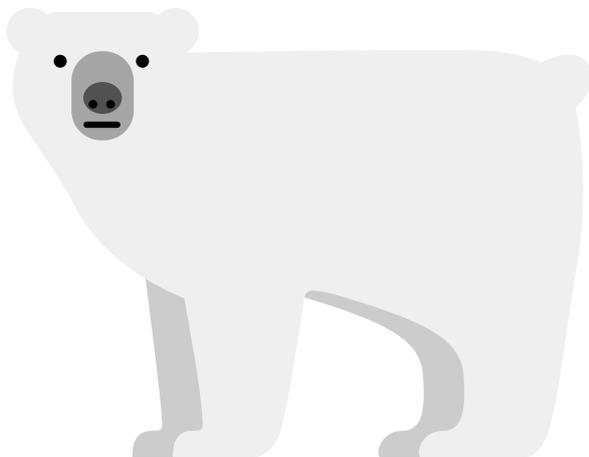
- begin to recognise and use some appropriate vocabulary to describe individual locations.
- show a developing awareness of more distant locations.
- recognise some physical and human features of the polar regions.
- respond to simple questions and make some deductions from the resources that they use.
- have an awareness of the inspirational value of such places.

Most pupils will be able to:

- use appropriate geographical vocabulary to describe some of the physical and human features of the polar regions.
- make connections between their own lives and the wider world.
- recognise the positive and negative impact that people have on the environment.
- understand how and why flora and fauna exist in certain parts of the world.
- select and use a range of images, atlases, maps and globes to ask and respond to questions about places and environments.

Some pupils will be able to:

- use a wide range of vocabulary to describe places and provide explanations about observed activities and places.
- offer reasons and explanations for what they learn about polar regions.
- recognise how significant events in the past, such as early exploration, have had an influence on the present.
- use a wide range of resources to help them select information, pose questions and seek answers to them.
- make connections between their own lives and the wider world.



Week 1: It's freezing here!



Learning objectives

- To locate the coldest places on Earth.
- To explain why they are so cold.
- To describe what they look like.

Key questions

- Where are the cold places around the world?
- Where are the North and South Poles?
- Why are these areas so cold?
- What types of ice formations would you find in these areas?

Key vocabulary

Freezing; temperature; Equator; glacier; iceberg; ice floe; ice shelf; North Pole; pancake ice; permanent ice.

Assessment opportunities

Pupils use a globe to show that they know where cold places on Earth can be found.

- Can they identify the polar regions, including the North Pole and South Pole, correctly?
- Can they give reasons why some places are colder than others?
- Can they name the different features created by snow and ice, e.g. match photographs with the appropriate text and caption?

Teaching and learning activities

Activity 1: Cold places - how do we know they are cold and where are they?

Show the WWW Arctic film clip: www.wickedweatherwatch.org.uk/the-arctic

Ask: 'How do we know this place is cold?'

Discuss: references in the film that show that the place is cold.

Challenge pupils to locate the coldest places on Earth using a globe (emphasise the North and South Poles; mountainous regions; cold deserts).

Activity 2: Focus on the Arctic. Why are these places so cold?

Show the first couple of minutes of the following film clip: www.bbc.co.uk/learningzone/clips/climate-zones-across-the-globe/11182.html

Ask: 'What is the Arctic climate like?'

Ask: 'Why are these places so cold?'

Ask: 'Where might permanent ice and snow be found?'

Explain: Not all of the Arctic region is cold all of the time. The polar regions are cold all year round, but many places in the Arctic are warm in summer. Reinforce the importance of the sun in supplying the Earth's warmth. Explain that the North and South Poles are the furthest points away from the Equator and curve away from the sun's rays. The sun's rays have to travel further to reach the poles. The further the sun's heat has to travel, the cooler it becomes, hence why very little warmth actually reaches the North and South Poles. Reinforce about climate change as the areas with permanent ice are reducing - reference the Polar Ocean Challenge (POC) press release on completing the NW passage and only encountering ice twice in 1800 miles of sailing (**Resource 1**).

Demonstrate: With a small torch and a globe. When you shine the torch, where is the strongest/weakest light? Use the analogy of trying to get yourself warm by a fire. Where would be the best place to stand? What would happen if you stood a distance away?

Work in pairs/small groups. Hand out a large image of the Earth. Get pupils to place labels/small cards at appropriate points. Reveal answers (**Resource 2**).

Activity 3: Heads and tails - hot and cold parts of the Earth.

Work individually. Complete the heads and tails activity (**Resource 3**). Reveal answers.

Activity 4: Different types of ice.

Work in pairs/small groups. Match images of different types of ice with its name and a brief description. (**Resource 4**). Reveal answers.

Activity 5: The Polar regions.

Show film clip: www.youtube.com/watch?v=63QOaNji1QQ

Ask: 'Both polar regions are cold, but which do you think is the coldest and why?'

Explain: The South Pole is colder than the North Pole. This is because ice at the South Pole sits on top of the land mass of Antarctica, whereas that at the North Pole lies over the Arctic Ocean. Water retains heat better than land. Hence, the North Pole is slightly less cold in winter and warmer in summer.

Week 1: It's freezing here!



You will need...

- Globe
- Atlases
- Torch
- **Resource 1:** POC press release
- **Resource 2:** Image of the Earth and labels
- **Resource 3:** Heads and tails
- **Resource 4:** Ice match
- **Resource 5:** The Week Junior article
- **Resource 6:** Background to *Winter* from Vivaldi's *Four Seasons*
- **WWW website:** Arctic page www.wickedweatherwatch.org.uk/the-arctic
Jargon buster www.wickedweatherwatch.org.uk/learn-more/jargon-buster

Differentiation

Activity 3: Head and tails.

LA: Example lines are given and the language has been simplified.

MA: After completing the heads and tails, copy out the paragraph and highlight any new words.

MA additional activity: Reading comprehension (**Resource 5**).

Read the article about the Polar Ocean Challenge that appeared in an earlier edition of The Week Junior and answer the questions.

Cross-curricular links

English

Look at poetry inspired by landscapes and extremes of temperature.

Drama

Play the first minute of the first movement of *Winter* from Vivaldi's *Four Seasons* during a movement or drama session and ask the pupils to show that it is a cold, chilly day. What if there was a strong wind? How could they demonstrate that it was icy?

Art

Look at art inspired by landscapes and extremes of temperature.

Music

Ask: 'Can weather be presented through music?' 'Does the music 'sound' icy and cold?' Share background to Vivaldi and *The Four Seasons* (**Resource 6**).

Listen to the first movement of *Winter* from Vivaldi's *Four Seasons*: [en.wikipedia.org/wiki/The_Four_Seasons_\(Vivaldi\)](http://en.wikipedia.org/wiki/The_Four_Seasons_(Vivaldi))

Ask: 'Can you spot any parts of the poem that seem to fit the music?' (Vivaldi does place some descriptions in the music score at particular moments, e.g. line 1 at the start; line 2 when the violin comes in; it would be interesting to hear their own ideas too).

Ask: 'Which words would you use to describe the sound that the music makes just at the beginning and then when the violin comes in?'

Ask: 'Which descriptive words does Vivaldi use in his poem?'

Look at other pieces of music inspired by landscapes and extremes of temperature.



Week 2: Let's sail to the Arctic!



Learning objectives

- To name the countries found within the Arctic Circle.
- To explain why different seasons exist and what impact this has.

Key questions

- Where is the Arctic Circle?
- Which countries lie within the Arctic Circle?
- What is the 'Midnight Sun'?
- What are the 'Northern Lights'?

Key vocabulary

Arctic Circle; Arctic Ocean; darkness; daylight; frozen; midnight sun; North Pole; permanent ice season.

Assessment opportunities

Pupils recommend to a friend which months would be best to visit the Arctic and why, using a globe, map or picture to illustrate and justify their reasons.

Teaching and learning activities

Activity 1: Travel from here to the Arctic Circle.

Use Google Earth to travel from your location to the Arctic Circle or look at a globe/atlas and trace the route from your location to the Arctic Circle.

Ask: 'If we were to travel to the Arctic Circle in real life/time, how far, and in which direction, would we need to travel?' (estimate the distance in kilometres, then check the exact distance via a Google search/using the scale line in an atlas).

Get pupils to finish off the following sentence starters (either verbally or in writing):

- It is near to ...
- It is far from ...
- It is north of ...
- It is north east of ...
- It is north west of ...

Activity 2: Explore the Arctic Circle from above.

Explain: There is a permanent ice cap at the North Pole; that the area around the North Pole is frozen sea and has ice two to three metres thick; that, during the Arctic winter, the sea will often freeze to cover much of the area within the Arctic Circle, but, over the summer months, some of this ice will break up and melt. Reinforce that the amount of ice breaking up and melting in the summer months is increasing due to climate change, and that it is breaking up earlier and freezing later which affects animal's habitats and hunting.

Explain: The Arctic Circle is, in fact, an imaginary line around the Earth that surrounds the area referred to as the Arctic. It shows the start of the area on the Earth's surface where, for at least one day per year, the sun does not completely set (around 21 June) or rise (around 22 December) – this is known as the 'Midnight Sun' (Resource 7, Box 1).

Activity 3: Countries within the Arctic Circle.

Share the 'Did you know ...?' fact sheet with pupils (Resource 7).

Ask: 'Were there any facts/details that surprised you?'

Work in pairs. Challenge pupils to piece together the Arctic map puzzle (Resource 8).

Ask: 'Can you name eight countries that have land within the Arctic Circle?'

Ask: 'There are some islands. Which of these are countries in their own right?'

Encourage pupils to share anything that they know about these countries or islands. Has anyone ever visited any of these? If time, link to relevant Polar Ocean Challenge's blog posts to share explorer's first-hand experiences (Resource 9).

Activity 4: The 'Northern Lights'.

Show the images of the 'Northern lights' (Resource 10).

Ask: 'What are the 'Northern lights' exactly?'

Ask: 'Why do they occur?'

Ask: 'When is the best time to see them?'

Ask: 'Where should you go to see them at their very best?'

Ask: 'Who would you take with you to see them?'

Ask: 'How might you feel if you saw them?'

Week 2: Let's sail to the Arctic!



You will need...

- Google Earth
- Globe
- Atlases
- Glue
- **Resource 7:** 'Did you know ...?'
- **Resource 8:** Arctic map puzzle
- **Resource 9:** Blog posts from the crew of *Northabout*
- **Resource 10:** Images of the 'Northern Lights' taken during the POC
- **Book:** *Arctic White* by Danna Smith
- **WWW website:** Jargon buster

Optional Activity 5: A closer look at the Arctic.

If you have access to the internet, watch an Arctic webcam: www.earthcam.com/world/arcticcircle/?cam=arctic

Ask: 'What can you see?'

Ask: 'What does not happen?'

Ask: 'How does this place change?'

Ask: 'Why is the webcam not able to show images at certain times?'

Ask: 'What happens towards the end of September?'

Differentiation

Activity 3: Countries within the Arctic Circle.

LA: Support from TA. Cut the Arctic map puzzle pieces in advance.

MA: Use **Resource 9** for guided reading.

Activity 5: The Northern Lights!

LA: Use the word cloud as a prompt to help answer the questions above.

MA: On your own, research about the 'Northern lights' and present back in your own way.

Cross-curricular links

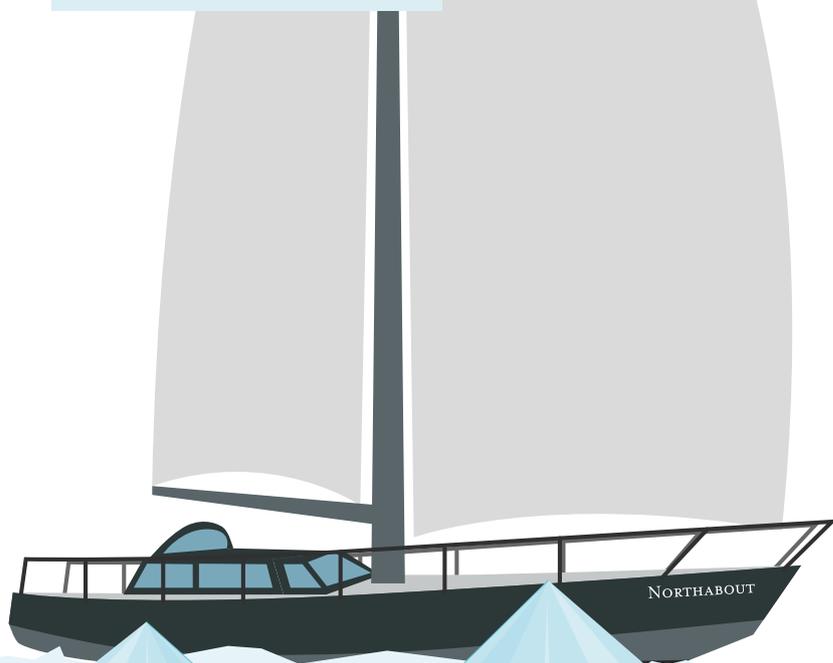
Science

Investigate materials and their properties and note the changes that can occur (start with water as a solid, liquid and a gas – make ice cubes; fill a beaker with water from the tap; boil a kettle).

English

Use **Resource 7: Did You Know...** for guided reading practice and handwriting practice.

Share the book: *Arctic White* by Danna Smith.



Week 3: Images of the Arctic



Learning objectives

- To illustrate how images can be used to convey meanings about people and places.
- To compare and contrast people's views of the Arctic.

Key questions

- Do we all have the same image of the Arctic?
- What stereotypes do people have of the Arctic?

Key vocabulary

Difference; diversity; identify; image; portrait; similarities; stereotype.

Assessment opportunities

Can pupils explain why people have different views of the Arctic?

Teaching and learning activities

Activity 1: What is the Arctic like?

Ask: 'What is the Arctic like?'

Give pupils an A4 sheet of paper and a dark/soft pencil. Ask them to sketch what they believe the Arctic to be like. Afterwards, allow pupils to wander around their table/classroom to view their peers' creations.

String a washing line and pin up all the children's pictures.

Ask: 'Were other individual's pictures similar or very different to your own?' 'How/why?'

Emphasise that different people perceive places in different ways.

Activity 2: Images of the Arctic.

Work in small groups. Distribute a set of images of the Arctic to each group. Pupils should sort the images into two piles, one for those relating to the Arctic and one for those relating to elsewhere (**Resource 11**). (The trick is they are all from the Arctic).

Reveal answers.

Ask: 'Were there any surprises?'

Work in pairs. Pupils should match each image with its appropriate caption to discover more about the Arctic. Reveal answers (**Resource 11**).

Activity 3: Describing the Arctic.

Work in groups. Make a list of words that best describe the Arctic.

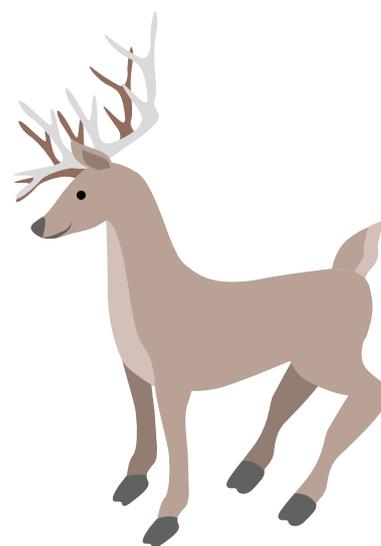
Share the words from each group and use www.wordle.net (or similar) to create a class word cloud.

Ask: 'Were each groups' words similar or very different?'

Create an A to Z of the Arctic as a class. Allocate a letter to each pupil. Ask pupils to come up with an image and some text to briefly describe and/or explain their chosen feature (**Resource 12a**). Display in the classroom and discuss.

Activity 4: Views of the Arctic.

Ask: 'If you could select just one image to represent the Arctic, which one would you choose and why?' They should consider their own and each other's common values, as well as different points of view.



Week 3: Images of the Arctic



You will need...

- A4 plain paper
- Dark/soft pencils
- Laptops/PCs
- A3 paper
- Chalk
- Charcoal
- Word cloud maker – online or app e.g. Wordle.net or Tagxedo.com
- **Resource 11:** Images and captions from the Arctic
- **Resource 12a:** Arctic A-Z template sheet
- **Resource 12b:** Arctic A-Z completed examples

Differentiation

Activity 2: Images of the Arctic.

LA: Support from TA. Use the numbered captions.

MA: Use the unnumbered captions.

Activity 3: Arctic A-Z Challenge.

LA: Use the completed Wicked Weather Watch examples (**Resource 12b**) to give more ideas or as a reference / guide.

Cross-curricular links

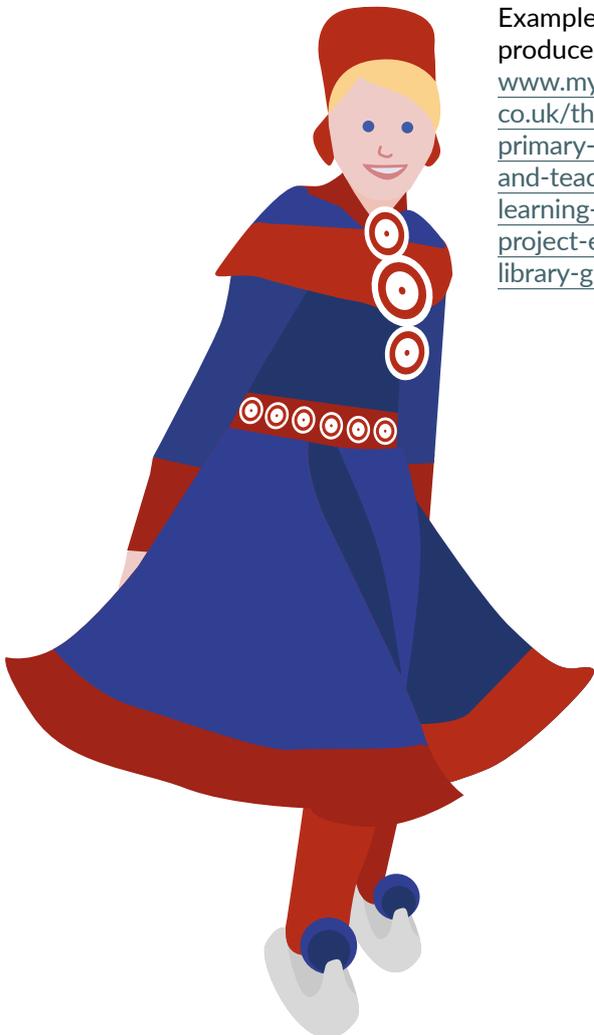
Art

Use charcoal and chalk to make a reproduction of one of Salgado's photographs from his time spent with the Nenets of Northern Siberia (included in his famous Genesis exhibition): www.theguardian.com/artanddesign/gallery/2012/dec/07/photography-sebastiao-salgado-genesis

Examples other children have produced may be viewed here: www.myrecentventures.primaryblogger.co.uk/the-geographicalassociation-primary-geographychampion-and-teacher-consultant/global-learning-programme-glpttransition-project-exhibitionquedgeley-library-gloucestershire

Computing

Make a class multimedia presentation using MS PowerPoint (or similar) or photo-story of the Arctic region and consider adding appropriate music, e.g. composed, played and recorded by pupils; added from a CD; downloaded from the Internet and inserted.



Week 4: Living in the Arctic

Focus on Greenland



Learning objectives

- To recognise and make connections between different places around the world.
- To explain how people adapt to living in difficult places.

Key questions

- What is Greenland like?
- What is it like to live there?
- How do people earn a living?

Key vocabulary

Corrugated roof; dog sled; Greenland; Inuit; sealskin.

Assessment opportunities

Pupils identify the ways in which life in Greenland is similar to and different from their own lives in the UK.

Teaching and learning activities

Activity 1: Introduction to Greenland and the influence of ice.

Show image 1 of **Resource 13**.

Ask: 'Which country is this?'

Ask: 'What does the image show?'

Ask: 'Where do you think people might live?'

Explain: For much of the year, Greenland is mostly covered in ice. This means that people have to live on the coast.

Show image 2 of **Resource 13**.

Ask: 'Do you notice any differences between the two images?'

Explain: The Greenland ice sheet has shrunk rapidly in the last several years due to surface melting and iceberg calving. These comparison images show that between 2002 and 2016 Greenland lost approximately 280 gigatons of ice per year, causing global sea level to rise by 0.03 inches (0.8 millimetres) per year.

Activity 2: The landscape, people and climate of Greenland.

Work in small groups. Together, pupils should look carefully at the photoset that they have been given (**Resource 14**). Give each group a large sheet of paper. In the middle, they should write the word **GREENLAND**. Ask them to create a spider diagram adding as much information about Greenland as they can from the images they have and then share them with the rest of the class, identifying where groups have similar or different words.

Activity 3: Fantastic facts about Greenland.

Read the facts on page one together. (**Resource 15**).

Ask: 'Can you now give three, further fantastic facts about Greenland?'

Explain: Greenland has close links with Denmark (locate on a world map), but is independent in many respects. It is the largest (non-continent) island in the world, with a population of just over 56,000 (the UK's population is just over 65 million), based on UN Data 2016.

Activity 4: Living in Greenland.

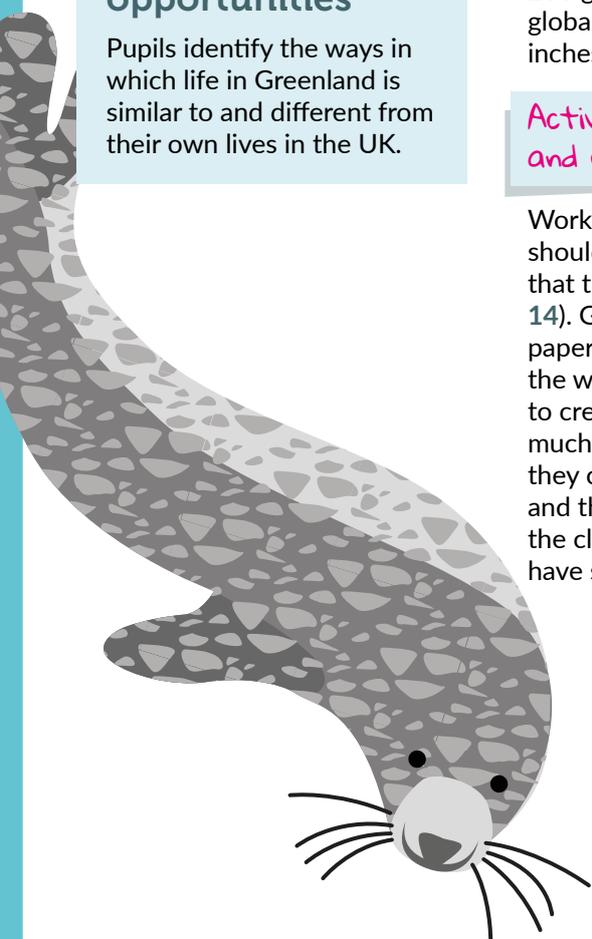
Look carefully at the image of the houses on the shore at Ilullisat (**Resource 16**).

Ask: 'How are these houses different to those we see in the UK?'

Emphasise that:

- the living area within the houses is built well above ground as the snow and ice are likely to be very deep in winter;
- buildings are generally constructed from stone, concrete and corrugated metal since few trees grow to provide wood for construction;
- peat is often burned in fires.
- Pupils should then identify and add labels to the accompanying sketch, e.g.
 - corrugated roof of house.
 - concrete base of house.

Explain: Since Greenlanders have to live on the coast, fishing is very important. Fish and seals are the main items caught. Seal meat has a very thick layer of blubber, but is extremely high in protein. Sealskins are used to make a range of clothes, e.g. coats, shoes, mittens, handbags and slippers.



Week 4: Living in the Arctic

Focus on Greenland



You will need...

- **Resource 13:** Greenland ice melt images
- **Resource 14:** Photographs of different aspects of Greenland
- **Resource 15:** Greenland – fantastic facts
- Large sheets of paper
- Marker pens
- **Resource 16:** Image and sketch of houses on the Greenland shore
- **Resource 17:** Gap-filling activity
- **WWW website:** Arctic people www.wickedweatherwatch.org.uk/the-arctic/people-of-the-arctic
Arctic animals www.wickedweatherwatch.org.uk/the-arctic/animals-of-the-arctic

Activity 5: How climate change is affecting Greenland?

Allow pupils time to read page 2 of the gap-filling activity (**Resource 17**).

Afterwards, pupils should attempt to complete the gap-filling exercise (page 1 of **Resource 17**) without referring back to page 2.

Ask: 'How is climate change affecting the people living in the Arctic?'

Explain: It is affecting different parts of the Arctic in different ways. Remember the changes in ice? That is one way that Greenland is affected.

Differentiation

Activity 3: The landscape, people and climate of Greenland.

MA: When pupils have finished the spider diagram, circle anything linked to the landscape or climate, and underline anything related to people.

Ask: 'Was there anything that overlapped or were there items that did not fit into a particular category?'

- Describe what activity tourists can do.
- Describe what people do to earn a living in Greenland.

Activity 5: Living in Greenland.

LA: Support from TA; older/MA help younger/LA pupils, or add a label together to start pupils off.

Activity 4: Fantastic facts about Greenland.

MA: Guided reading task. Share page two of **Resource 15** (Further facts about Greenland). Ask pupils to read it carefully. Pupils should now write two sentences to:

Activity 6: How climate change is affecting Greenland?

MA: Further reading and investigation, e.g. Find out more about how climate change is affecting the people and the animals of the Arctic by accessing and reading further content on WWW website Arctic pages.

Cross-curricular links

English

Read *The Polar Bear Son – An Inuit Tale*, retold and illustrated by Lydia Dabovich. Get pupils to imagine that they are the old Eskimo-Inuit woman. Write a diary extract for the day that she adopts the orphan polar bear cub; the day that Kunikdjuag left and/or the day that he returned.

an indigenous person and a visiting scientist, who is attempting to discover how climate change is affecting people living in the Arctic.

Computing

Research how groups, such as the Sami in Northern Scandinavia, the Nenets in Northern Siberia and the Inuit in Canada, have adapted to living in the Arctic. Present findings in an interesting and appropriate way and later share with the rest of the class.

Drama

Script and perform a conversation/interview that takes place between



Week 5: Arctic wildlife



Learning objectives

- To recall different types of wildlife found in the Arctic.
- To explain what impact seasonal change can have on a place and its wildlife.

Key questions

- What can we learn about the life of a polar bear?
- What other wildlife is found in the Arctic?
- What is the tundra and how is it different in summer and winter?

Key vocabulary

Arctic skua; caribou; polar bear; reindeer; solitary; tundra.

Assessment opportunities

Can pupils identify different species of animals and understand that the time of year affects how they feed?

Teaching and learning activities

Activity 1: The life of a polar bear.

Show the image of a polar bear (**Resource 18**). Ask pupils to complete the KWHL grid (**Resource 19**). Discuss what they have noted down. Show film clip: www.bbc.co.uk/nature/life/Polar_bear#p00ctslv (Select the clip titled 'Polar Bear Life').

Ask: 'What else does this tell you about the life of a polar bear?'

Activity 2: Polar bears are big!

Chalk the dimensions of a polar bear outside in the playground/measure with a measuring tape or metre stick, so that pupils can fully appreciate their size (a male polar bear can be up to 1.6 m high to the shoulder when walking and up to 4 m high when standing upright; up to 2.6 m in length; its feet alone can be up to 30 cm long and 25 cm wide).

Activity 3: Test your knowledge about polar bears.

Work in pairs. Access information about polar bears via WWW's website and use it to complete the quiz (**Resource 20**).

Reveal answers. Allow pairs to mark each other's work.

Explain: The polar bear is just one creature that lives within the Arctic environment. Tell the class that you will now work together to find out about other animals and birds that live here.

Activity 4: Other animals of the Arctic.

Work in small groups. Allocate an animal/bird to each group (one of the other nine displayed at: www.wickedweatherwatch.org.uk/the-arctic/animals-of-the-arctic

Small groups should explore the links alongside the image of their allocated animal/bird and use them to complete a fact file (**Resource 21**). Afterwards, ask each group to share their findings with the rest of the class.

Activity 5: What habitats do animals live in?

Show film clip: www.bbc.co.uk/nature/habitats/Tundra#p00380jt

Ask: 'What is the tundra like during the winter?' (it has a layer of ice).

Ask: 'What is the tundra like in the summer?' (temperatures are warmer; there are longer hours of daylight; ice thaws; water becomes available).

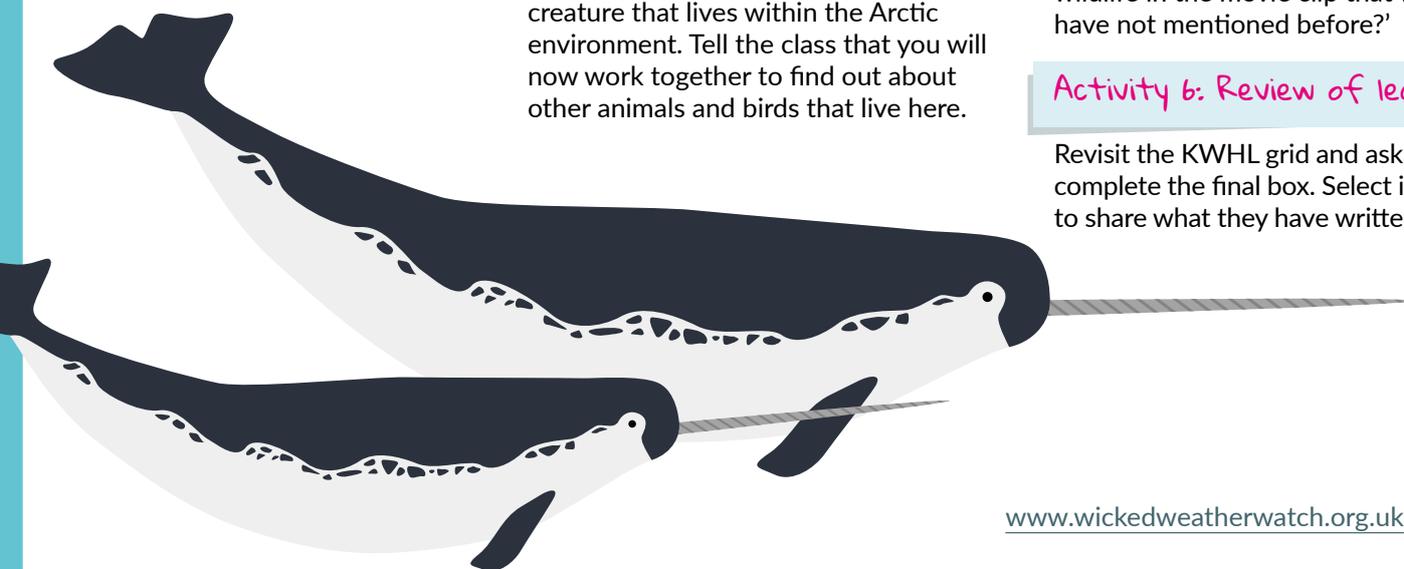
Ask: 'Why is this a good time for some birds and animals?'

Explain: Some animals and birds migrate to and from the Arctic, often to find food or somewhere to bring up their young.

Ask: 'Did you spot any other wildlife in the movie clip that we have not mentioned before?'

Activity 6: Review of learning.

Revisit the KWHL grid and ask pupils to complete the final box. Select individuals to share what they have written.



Week 5: Arctic wildlife



You will need...

- Chalk
- Measuring tape/ metre stick
- **Resource 18:** polar bear photograph
- **Resource 19:** KWHL grid www.bbc.co.uk/nature/life/Polar_bear#p00ctslv
- **Resource 20:** Quiz about polar bears
- **Resource 21:** Animal fact file
- **Resource 22:** Sibelius fact sheet

Differentiation

Activity 3: Test your knowledge about polar bears.

LA: Support from TA.

MA: Hand out the further information section of **Resource 21** and use for guided reading.

Activity 5: What habitats do animals live in?

MA: Further questioning. Explore Wicked Weather Watch's website for information about other animals.

Ask: 'What impact is climate change and extreme weather having on Arctic wildlife?' (see text at www.wickedweatherwatch.org.uk/the-arctic/animals-of-the-arctic for further information).

Cross-curricular links

Music

Share background information about Sibelius with pupils and challenge them to the task on the sheet (**Resource 22**): www.youtube.com/watch?v=V8qiAMOiys

Computing

Conduct further research on migration. Where might the swans that Sibelius saw have come from? Have you ever seen swans? When do the swans leave Finland and where do they go? Use an online atlas to locate some of the places that swans migrate to. Plot the route that they take on a blank outline map of the world. Research how different wildlife adapt to living in such cold conditions.

English

Explore poems about the Frozen North together (*Polar Bear* and *Arctic Hare* by Eileen Spinelli). The poem, entitled *Polar Bear Family* on p. 6-7 may be a good starting point.

Ask: 'Which is your favourite poem and why?' Afterwards, pupils could attempt to write their own poem about an Arctic animal/feature.

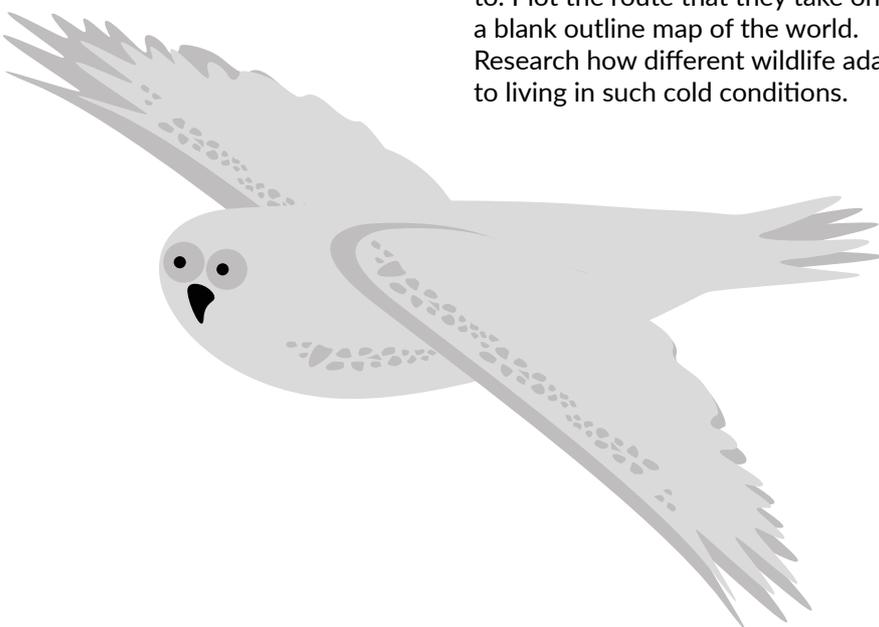
Read *The Rainbow Bear* by Michael Morpurgo together. There are some wonderful illustrations produced by Michael Foreman too. Give each pupil a sticky note and ask them to write their name on it. Get pupils to close their eyes and imagine that they are sitting on a magic carpet and are being whisked away to the setting of the story. Invite them to come and place their sticky note at the point in the story where they imagine they have landed.

Ask: 'Where did you land?'

Ask: 'What could you see, hear and smell there?'

Ask: 'How did you feel?'

Use this as a stimulus for writing an informal letter/postcard back home to a family member/s or friend, sharing their recent experience of the Arctic.



Week 6: The Arctic in the Future



Learning objectives

- To explain why we should care about our environment.
- To discover that the choices we make individually can make a difference.

Key questions

- What are the challenges facing the Arctic today?
- What will the Arctic look like in the future?

Key vocabulary

Arctic; changes; choices; environment; futures; poem; prediction; sustainable development.

Assessment opportunities

- Can pupils recall at least one impact of climate change for both natural systems and people?
- Can they give one argument for and against the reality of climate change?
- Ask pupils to provide a definition for a selected key term.

Teaching and learning activities

Activity 1: What is climate change?

Watch the video 'Climate Change according to a kid': www.wickedweatherwatch.org.uk/climate-change

Explain:

- Climate change describes how our planet's average temperature, rainfall, wind and other weather conditions have changed over a long period of time.
- It can be caused by natural events, such as a volcanic eruption or human activity, e.g. burning fossil fuels and deforestation.
- The Earth's climate has changed many times over thousands of years. However, over the last 50 years, we – humans – have caused the planet to warm much more quickly by our everyday activities releasing too much carbon dioxide and other greenhouse gases into the atmosphere.
- The Earth is getting warmer, both on land and in the oceans. Between the years 1880 and 2012, the average world temperature rose by 0.85°C. This might not sound much, but even a small increase in temperature can have a huge impact on the planet and upset the delicate balance of our climate system.
- We are seeing changes as to how heat is moved around the world by the oceans and air and rising sea levels.
- If we continue to add greenhouse gases to the atmosphere at this rate, it is thought that temperatures will continue to increase by between 1.4°C and 5.8°C this century.

Activity 2: Arctic climate trends.

Work in pairs. Complete the 'mix and match' activity, to find out more about Arctic climate trends/patterns (Resource 23). Reveal answers.

Ask: 'What else have you learnt about how the climate in the Arctic is changing?'

Activity 3: What impact is climate change having on the natural environment and people?

Work in small groups. Complete the diamond nine activity (Resource 24).

Ask: 'Which did you consider to be the greatest and least impact on natural systems and why?'

Ask: 'Which did you consider to be the greatest and least impact on people and why?'

Activity 4: The Arctic in the future.

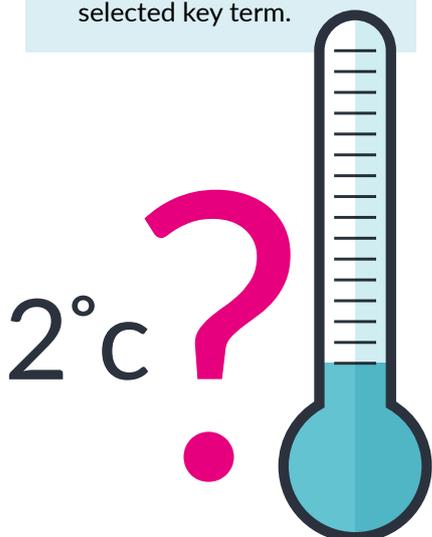
Ask: 'What do you think the Arctic will be like in 2050?'

As a class, compile a list of ten things that now need to be done in order to secure a positive future of the Arctic.

Ask: 'Is there anything that you could personally do?'

Activity 5: Arctic Bingo.

Play Arctic bingo to reinforce understanding of key terms (Resource 25). (Teacher and pupil instructions provided as part of resource).



Week 6: The Arctic in the Future



You will need...

- **Resource 23:** Mix and match - Arctic climate trends
- **Resource 24:** Diamond mine activity
- **Resource 25:** Jargon buster bingo
- **WWW website:** Kid's Explorers Club

Differentiation

Activity 3: What impact is climate change having on the natural environment and people?

LA: Support from TA.

MA: Gather any newspaper or magazine articles relating to climate change or the Arctic, e.g. 'geography/science in the News?' and use them to find further information about the impact of climate change in the Arctic.

Activity 4: The Arctic in the future.

MA: Research five things that pupils can do at home or schools to reduce our impact on the planet.

Activity 5: Arctic Bingo.

LA: Support from TA; older/MA help younger/LA pupils,

Cross-curricular links

Science

Visit the Kid's Explorers Club section of the WWW website and get hands on with our Awesome Experiments!

PSHE/Citizenship

Take action by joining a wider movement. WWW is part of The Climate Coalition, why not access some of their resources – notice early signs of changing seasons, craft a green heart or join the annual Show the Love campaign www.theclimatecoalition.org/show-the-love

English

Do you want to be an explorer? In 500 words, describe where you would explore, what you would take on an expedition and why. Be as creative as you want and go on an adventure to a real or imagined place!

Perhaps you could send an informal letter to a family member or friend telling them about your expedition? Encourage pupils to increase their reader's awareness of climate change and its impacts. They could also suggest an action or two that their reader could now take in order to 'do their bit' to conserve our planet.

