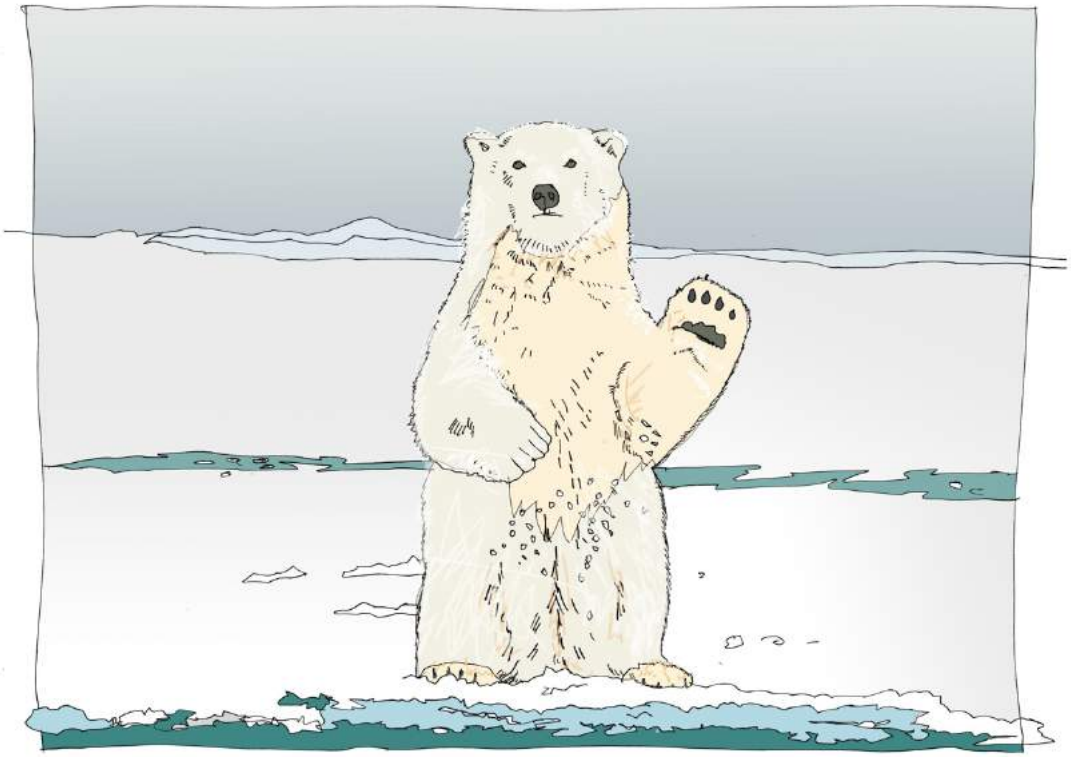
Caring for life on our planet

TalkforWriting

# Ice matters



## Introduction

This Talk for Writing English unit celebrates the beauty of the natural world – in particular the areas of our planet which are frozen (the North and South Poles). It focuses on some of the world's most endangered and remarkable animals that reside in these regions. The innovation stage will look at other areas of our world which are wonderful and how some animals have made remarkable adaptations to survive in the world's harshest conditions.

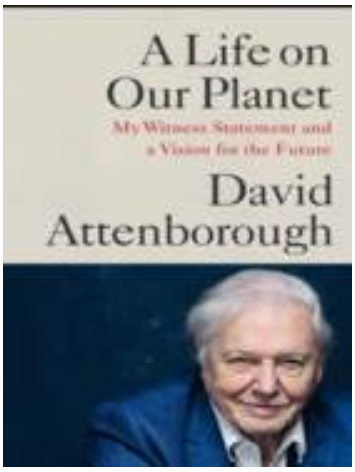
By Year 6, pupils should be familiar with all six non-fiction text types and are aware that most non-fiction writing has elements of more than one text type. Effective information writing, in particular, often includes elements that persuade, instruct, recount, explain and debate in order to give the reader a wealth of information. We have, therefore, chosen to focus on information writing (non-chronological report as it is sometimes called) including elements of persuasion and explanation.

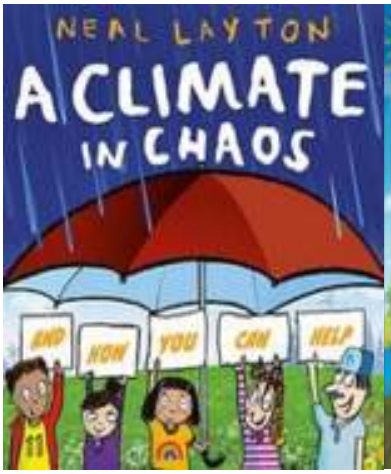
## By the end of the unit pupils should:

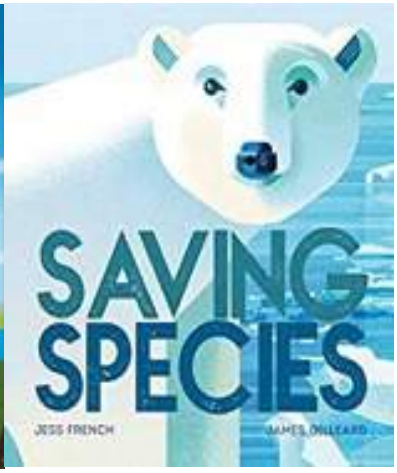
- Know of some of the most extreme climates on our planet – and how climate change is threatening the survival of some of the wonderful creatures that live there
- Be able to explain and describe the aspects of these environments which make them wonderful as well as the potential risks to animals and their habitats in these regions
- Be able to write information confidently and effectively about an animal that survives in this climate integrating a range of non-fiction text types into their report as appropriate.

## Recommended reading & websites to support the unit

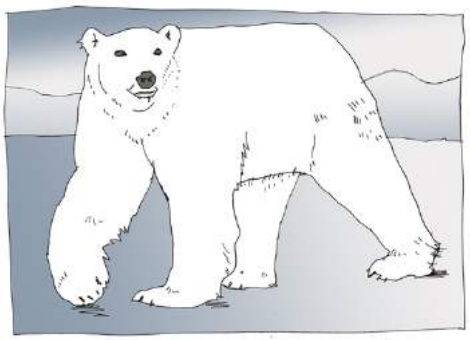
Extracts from David Attenborough's book *A Life on Our Planet*







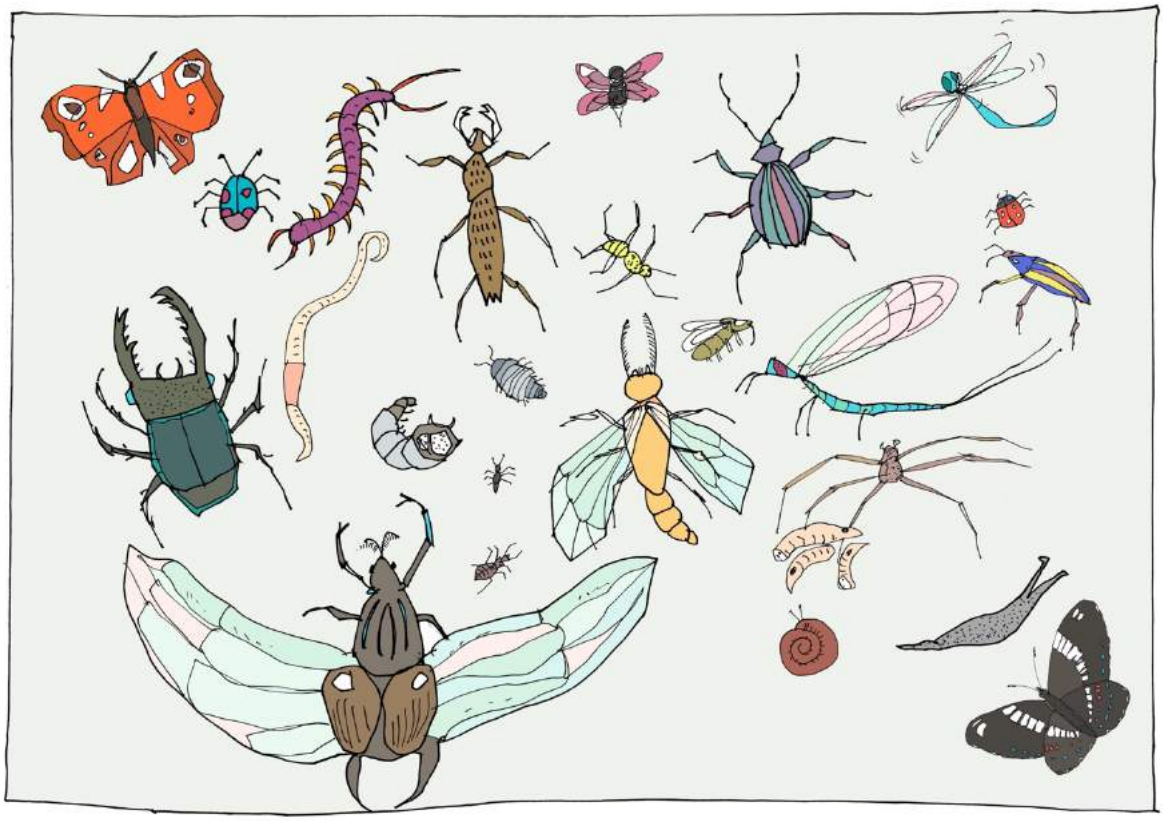

- https://kids.nationalgeographic.com/animals – provides videos and facts about particular animals.
- **https://www.youtube.com/channel/UCXVCgDuD_QCkI7gTKU7-tpg** - Natgeokids youtube channel provides videos on different climates and areas of the world.
- https://www.pexels.com/ and https://unsplash.com/images provide copyright free images of the Arctic and much more.



## Cold task and hook

This unit focuses on appreciating the beauty and wonder of the natural world. The cold task is based on invertebrates because the children have prior knowledge of these and they are readily available in the local area. Personal experience always engages interest so this activity serves as both the cold task and a hook.

Take the children on a nature walk to find a variety of minibeasts. Provide books on minibeasts to re-activate their prior knowledge. Then, having warmed up the content, ask the pupils to create their own information text based on a mini-beast of their choice. They are free to select their sections and headings as long as they include a section on the environment/habitat as the unit builds on the wonder of animals and their adaptations to the natural world.



Once the cold task has been completed, ask the children to name the key tools for information writing and co-construct an information toolkit using examples from the children's work and flipchart it. (All the examples here, are from the Y4 unit in this series.)


## The information writing toolkit
## To present information you can:

- **Use a topic sentence** to let the reader know what each paragraph is about: The Amazon is home to at least 2,500 different types of fish …
- **Keep your reader hooked** with interesting facts: Amazingly, more than 1,100 tributaries …
- **Sound like an expert** by providing detail or definitions: smaller rivers or streams that join another river
- **Use sentence signposts** to add information: Additionally, … Consequently, and to keep the reader engaged: Amazingly, …
- **Use generalisers** to sum up: all, more than, biggest, largest,
- **Use the present tense** to inform the reader: All rivers **follow** a similar journey … The Amazon **is** home to …
- **End with an amazing or unexpected fact** to leave the reader thinking: Did you know, it is a bad idea to snooze on the banks of the Amazon, …

## Additional hooks to grab the children's interest:

David Attenborough's – *Frozen Planet* series video clips.
David Attenborough's *Witness Statement*

https://www.youtube.com/watch?v=dbK4SVKWhM4 (2.5 minutes)

https://www.youtube.com/watch?v=XMJpv1eksjM (1.5 minutes)

## A real-life experience

This unit focuses on some of the most extreme places on Earth. Obviously, a visit to the Arctic is off-limits but there are other ways to engage the children.

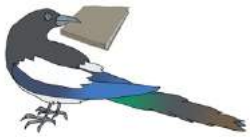
It is essential that pupils feel the wonder of the natural world in order for them to bring this unit to life. Giving them a real-life experience of the natural world will help them understand the delicate balance of animals and the environment. Take the pupils outside and get them to really notice the climate. Use their senses to describe how they feel outside. How are their bodies adapted to this temperature? How easy would it be to remain outside at this temperature all day? Indefinitely?

# Warming-up activities

## Activating vocabulary

It is essential that pupils make connections between their science and geography curriculum to date. Encourage them to define terms that they are familiar with and which will be used regularly throughout the unit and display the words: ***adaptation, evolution, mammal, environment,*** etc.


Throughout the unit, introduce/revisit the core vocabulary that the children will need to understand for the unit e.g., ***climate change, sustainability, environment, global warming, classification, evolution*** and ***species***.



Encourage the children to magpie key words from the model, role-play, film clips and recommended reading; embed the vocabulary by helping the children see how these words are used in a range of contexts throughout the unit. Also, encourage the children to use their magpie books to capture any phrases they particularly like across the unit.

Any vocabulary that they are not secure with should be explicitly taught and regularly referred to using the Isabel Beck routine. For example, if you selected the word ***species,*** tell the children that, ***"Species is the term for groups of living things that share common characteristics."*** Then spin that round: ***"A group of living things that share common characteristics is called a …"***

and pause for the children to say "*species*". Do this a few times and then ask the children to come up with other sentences with *species* in them.

## Experiencing the Arctic

Show pupils some high-quality video clips about the Arctic. Discuss the wonder and untouched beauty of this frozen landscape. This will be a great opportunity to introduce/embed the key vocabulary.

- *Frozen Planet*, David Attenborough
- *Life in the Freezer*, David Attenborough

Now look at some video clips of polar bears from the websites below. Discuss how they have adapted to their environment and the challenges faced by animals that live in such harsh climates.

- WWF: worldwildlife.org
- National Geographic: nationalgeographic.com
- BBC **Life on our Planet**

## Short-burst writing about the Arctic

Short-burst writing is a great way to help warm-up any unit that involves writing. Give the pupils a quality image of a polar bear and ask them to focus on perhaps just three features of the bear to home in on its beauty. Ask the children to generate vocabulary based on the image to create descriptive sentences which could be added to the model and flipcharted to support their understanding.

*Dark and all-encompassing, the bear's eyes scan the sea ice for a seal.*
*Snuffling, its snout raised to the air, the bear searches tirelessly for a life-saving meal.*
*Its fur reflects the morning sun – a glittering white mass of beauty.*

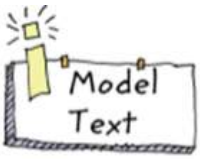
The pupils could then be given an image of a different animal from a very different environment, for example,  an animal from the African savannah. This would allow them to generate rich vocabulary which they could use during the innovation stage. These could then be turned into descriptive sentences to be used in their own information writing during the innovation.

In this example, an animal has been selected as the stimulus for short-burst writing. On the following day, to warm up the next session you might want to choose an image of the frozen landscape, like this one from Iceland.

Photo by Julia Strong

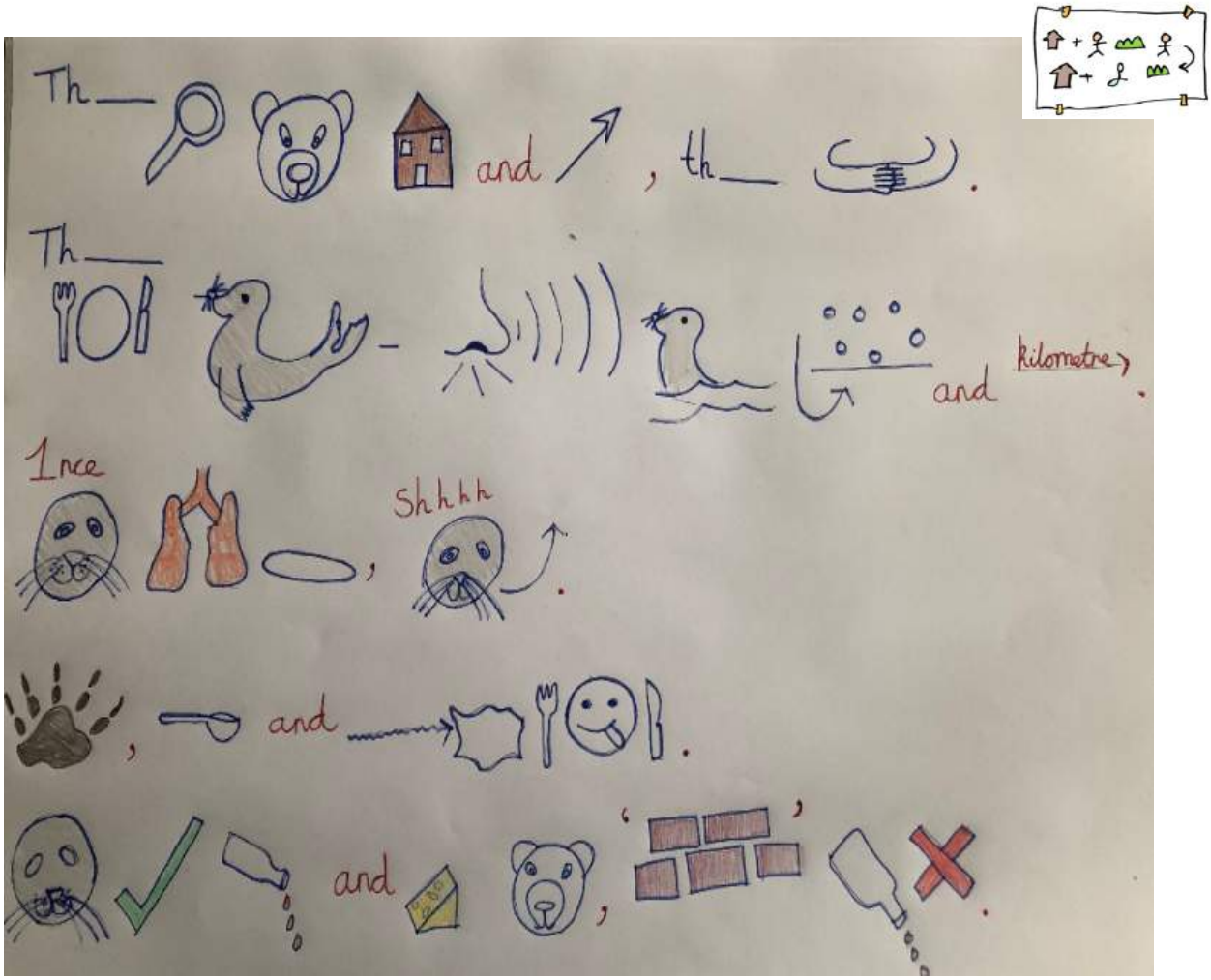
## Imitation stage

During this stage, pupils gain a deep understanding of the ideas in the model text on page 9, drawing on their prior learning from science and geography. The children break the text down and look at its structure. They embed the idea that although information is written in logical order, it is compartmentalised into sections signposted by headings because it does not have to be read in any specific order. The reader picks and chooses what they want to find out about. They also examine the different text-types within the



text (information, explanation and persuasion) and identify the key language and sentence structures that are linked with a mixed non-fiction text. They explore the author's purpose and audience and reflect on their own reactions as a reader.

If you think your class needs more support with the tune of information text, you may want to select one or two of the paragraphs to learn orally before they see the whole text. In which case, create a simple text map for that paragraph like the one here for the section entitled ***Food glorious food!***




If you feel confident that your class is good at information, introduce the model text by reading it aloud to the class. Ask the children to identify any words that they don't feel they can stand up and explain and teach these using the Isabel Beck technique, explained on page 5. Then hand different sections to different groups to practise how they would performance read their section before giving them a chance to perform. In this way, they will internalise some key phrasing of the text.

# Polar bear – ice bear of the Arctic

Have you ever contemplated coming face to face with a creature whose fur is white as snow? A hyper carnivorous predator that resides in the most solitary and unforgiving environment on our planet today? The polar bear is just such a creature.

**Classification:** mammal | **Diet:** seals | **Scientific name:** 'ursus maritimus' | **Life span:** 15-18 years

**The wonder of the Arctic!**

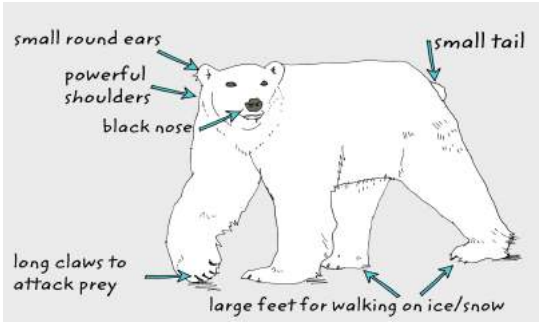
Residing in the Arctic Circle, polar bears live in the northernmost part of the Earth consisting of the Arctic Ocean, adjacent seas and parts of Alaska, Canada, Finland and Iceland. This harsh environment is home to glittering glaciers, snow covered landmasses and clear sea-ice. The climate is comprised of cold winters and cool summers, receiving only 50cm of precipitation yearly in the form of snow.

**Have you ever wondered where polar bears come from?**

First, there were only brown bears that had smaller paws and darker fur. This allowed them to blend in with their woodland surroundings. After a while, the brown bears' food source ran low which caused them to travel further north in search of nutrition. Here, the weather was colder and, as a result, the landscape was covered in snow. Some bears were born with fur, due to a genetic mutation. Only the bears with white fur survived as they were able to blend in with their surroundings. This meant that it was these bears who could reproduce. Over thousands of years, all bears born in that region had white fur. This process of adaptations evolving over time continued until the bear had all of the necessary features to survive: the snout and jaw became elongated (better suited to grabbing seals from ice holes); the paws became wider (to allow its weight to be more evenly distributed on the ice).

**Brrr!**

**Polar bears** are highly specialised mammals, having evolved many of their characteristics to suit their environment. Intriguingly, these bears are superbly insulated by up to 10cm of tissue. Their fur consists of dense layers of under fur and outer hair which to the unwitting eye appears white or tan, however the fur is transparent!




**Food glorious food!**

These fascinating animals generally live and hunt alone, though they can be quite sociable too. They mainly eat seals. Using their remarkable sense of smell, they can detect a seal in the water beneath a metre of compacted snow from almost a kilometre away. Once a seal's breathing hole is detected, it waits silently for the seal to emerge and take a breath. With a powerful paw, it scoops out its victim and drags it onto the ice to feast on. Seals are a good source of fat and protein for these bears, allowing them to 'stockpile' fat for the extreme winters.

**Just keep swimming!**

Adults are strong swimmers – they can swim for several hours to get from one piece of ice to another. Aside from being well-insulated from layers of fat and dense fur, these predators have developed extremely large feet for scooping through the water as the bear swims in a doggy-paddle fashion. Despite being the world's biggest **land** carnivore, they are suited to the **water** as their fat layer provides buoyancy. Many experts believe that polar bears can reach speeds of up to 10mph when swimming and can travel over 1,800 km before reaching land.

**An endangered species**

Tragically, these magnificent creatures are at risk of extinction. Due to climate change, the ice is melting and these beautiful creatures are being forced inland, unable to hunt for their main source of food (seals). It is hard to imagine such impressive, powerful predators being vulnerable. However, man-made climate change is making life tough for them. Their fate could be in our hands. We must not let them down.

## Reading as a reader

### Make use of techniques such as line by line reading, thinking aloud like a reader and close reading

Explore each section through oral comprehension to build understanding of the text. Activate prior knowledge from other areas of the curriculum, particularly science (evolution) and geography (climate change).

- **The wonder of the Arctic!** What is the *wonder of the Arctic* and why is it a wonder?
- **Brr!** Discuss how polar bears have evolved to suit their environment.
- **Have you ever wondered where polar bears come from?** Summarise how polar bears evolved from brown bears and discuss what the timeline would look like.
- **Food glorious food!** What impression do you get of the polar bear from the author's choice of language? Explain in your own words how a polar bear captures a seal.
- **Just keep swimming!** Why are polar bears such expert swimmers?
- **An endangered species:** Discuss why the author has used the word ***tragically*** to begin this section.

- **Reader's perspective:** Allow the children the freedom to decide which order to re-read the text in, thus embedding the idea that it can be read in any order. Ask them to explain the reasons for their choice.

## Explore the text through drama

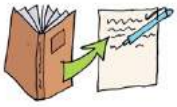
- **The teacher, in role as an Artic explorer, models the language and emotion of a blog.** In this example, the teacher takes inspiration from Arctic blogger Amber Lincoln to inspire pupils, alongside using the structure of recount text to organise their ideas.

"You might have a picture in your mind of the Arctic – with its vast icy landscapes and plentiful wildlife – but you can't truly understand its beauty until you visit. The Arctic captures the imagination, calling to mind a pristine, empty, icy world that in many ways stands still: frozen and timeless. This romantic idea is appealing but of course false. Temperatures are rising, altering weather patterns, sea ice is shrinking, raising global sea levels, and permafrost, the once permanently frozen ground that served as bedrock, is melting and sinking. These changes are dramatic and unlike any experienced in the Arctic before."
– Amber Lincoln

Pupils then get the opportunity to ask this *Arctic Explorer* questions and, of course, the teacher has a range of photographs and artefacts to bring the role-play to life.

Now that pupils are more knowledgeable about the environment, they get to play at being an Arctic explorer in pairs in Professor Know-it-all mode.

- **Phone a friend** – Pupils are placed in pairs and given a stunning picture of the Arctic to look at while they sit back-to-back with their partner: one is the explorer; the other is a reporter asking her/him what she/he can see/hear/feel etc.
  **Reporter**: "How did it feel to see the natural world in all its beauty?"
  **Explorer:** "The sunlight glittering on the ice was breath-taking and I felt so lucky to be the one who was seeing it. Not many people get to experience the beauty of the Arctic."

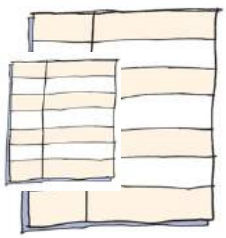


## Reading as a writer

### A. Understanding the structure

Begin by asking a few questions to help the children think about how the text has been structured. For example:

1. Why did the writer include these sections and why did they choose to start with a section called *Brrr!* focusing on how polar bears are insulated?
2. How does the structure of the text allow the reader to take ownership of what they read?
3. Tell me about the headings. Were there any that grabbed your attention and why?
4. How does the organisation of the piece interest the reader?



### Boxing up the structure

The pupils now understand the text and its vocabulary and some aspects of the structure. So, this is the right time to start considering how a writer might structure the whole of the text. As always, boxing up is a great way to do this. Assuming that

they have been using boxing up for many years, they should be able to box the structure up independently with ease. (If not, co-construct the boxing up with them.) Present the pupils with a blank grid and encourage them to think of the key headings themselves. They could then work in pairs to box up the structure and bullet point a few key points for each section. The bare bones of the boxing up would look like the example on the next page.

| The underlying structure | The key points from the model text |
|---|---|
| Introduction | |
| Habitat | |
| How suit environment | |
| How evolved | |
| Diet | |
| Habits | |
| Warning: threat to their future | |

## Refining the information toolkit

Select a section or two, e.g. *Food glorious food!* and ask the children to identify the key features that make this information text. Flipchart these, plus examples from the text, adding additional features to the list you created at the start of the unit. The additional features below are indicated by the asterisks*. These show significant progression from the features from the Y4 unit which have been used on page 4 as an example of what the children might have recalled following the **cold task**.

# The information writing toolkit


## To present information you can:

* Introduce what is being described by classifying it: Classification: mammal; diet: seals
- **Use a topic sentence** to let the reader know what each paragraph/section is about: Polar bears generally live and hunt alone …
* **Use headings to guide the reader:** Food glorious food!
* **Use organisational devices** to aid conciseness e.g. numbered lists, information boxes, diagrams, images, headings and sub-headings: see diagram of polar bear
* **Include topic specific technical language** – with an explanation if necessary: their main source of food (seals)
* Use pronouns wisely – to avoid repetition but not confuse: This meant that …
* **Vary sentence length** – short ones for emphasis: This is now threatened by climate change.
* **Use the passive to help generalise:** Once a seal's breathing hole is detected, …
    - **Keep your reader hooked** with interesting facts: With a powerful paw, …
    - **Sound like an expert** by providing detail or definitions: the paws became wider (to allow its weight to be more evenly distributed on the ice).
    - **Use sentence signposts** to add information: Once, … though, and to keep the reader engaged: Tragically, …
    - **Use generalisers** to sum up: generally, mainly,
    - **Use the present tense** to inform the reader: … it waits …, Seals are …
    - **End with an amazing or unexpected fact** to leave the reader thinking: This is now threatened by climate change!

## Then ask additional questions like:

- Can you tell me where the style of writing changes to become an explanation/persuasive piece?
- Given the headings, what age group did the writer have in mind as the audience for this writing?

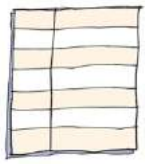
# The innovation stage

Now that the pupils have investigated the model text, comprehended it, analysed its structure and key writing ingredients, they can now innovate and create their own information text based on another harsh environment: the desert.

## Start with a hook

Pupils learn best from real-life experiences so a visit from an animal expert who can bring in a range of animals from your chosen climate will spark the pupils' writing. If pupils are given the opportunity to observe and touch some mammals, invertebrates, arachnids and reptiles that reside in such climates, their fascination with the natural world will grow immensely.

## Boxing up the structure of the new information text



Return to the boxed-up structure as illustrated on page 13 and, with the children's help, fill in the planner for the new information text focusing on a dry, hot climate. It's a good idea to have a range of animals that they can research. The more the children have ownership over what animal is chosen, the more they will engage with the work. Children can also have more ownership over which headings they want to use in their report since different headings may suit the new animal better. As you will see on page 17, the shared, innovated writing on elephants has used some different headings. Boxing up should liberate effective planning not fence it in.

## Shared writing of sections

Using a large box-it-up plan as a guide, share your writing with the class day by day, using separate sheets of flipchart paper for each section. The wise teacher prepares the shared writing well so they have drafted a coherent version before embarking on the shared writing with the class. You don't want to try demonstrating how to write off the cuff – it is liable to end in tears for the teacher and boredom for the class.

In the shared writing example on the next page, the class chose to write their report on the African elephant, a creature that is increasingly affected by drought during the dry season. The teacher planned to include some instructions, persuasion and discussion, while focusing on information.

As the purpose of the writing is to create wonder about the natural world and marvel at how animals have adapted to match their environment, a good introduction to the shared writing would be to include extracts from the National Geographic, selecting particular parts that show how your animal survives in such a harsh climate. This will help to fill the children's minds with vocabulary and ideas so that they engage with the shared writing and have a wide range of ideas when they write their own innovation:

https://www.youtube.com/watch?v=GyI2fbz9404

# African elephant

## Quick facts!

- Scientific name: Loxodonta
- Diet: herbivore
- Habitat: Sub-Saharan Africa
- Lifespan: 60-70 years
- Weight: up to 6 tonnes
- Height: 11 feet
- Length: 19-24 feet
- Extinction risk: **vulnerable**

## Perfectly adapted

The African elephant is the largest animal walking the Earth. They are easily recognised by their trunk which is used for communication, foraging and handling objects. Large ears allow them to radiate excess heat (a fantastic adaptation for living in the African bush!) Their distinctive tusks are actually upper incisor teeth which grow throughout their lifetime. These incredible tusks have a range of purposes: in males they are used for fighting for the ideal mate, defence against predators and lifting heavy objects out of their path.

## Amazing Africa!

These intelligent creatures live in one of the most natural and beautiful parts of the world! They wander in herds across 37 countries in Africa. The continent is full of life, from incredible species of animals to luscious plant life never seen before!

To the untrained eye, African and Asian elephants can be indistinguishable, but there are key physical features that make these two species relatively easy to tell apart.

- First, compare the size of the elephant. African elephants are much larger.
- Next, examine the shape of the ears. African elephants have large ears, shaped much like the continent of Africa itself.
- Then, study the head itself. African elephants have fuller, more rounded heads, and the top of their head is a single dome.

## Why we matter!

The presence of African elephants helps to maintain suitable habitats for many other species. In central African forests, up to 30 percent of tree species may require elephants to help with dispersal and germination. They play a pivotal role in shaping their habitat because of the enormous impact they have on factors ranging from fresh water to forest cover.

## Vulnerable

In recent years, growing demand for ivory, particularly from Asia, has led to a surge in poaching. Populations of elephants- especially in southern and eastern Africa – that once showed promising signs of recovery – could be at risk due to the recent surge in poaching for illegal ivory trade.

## Independent application Hot task

Pupils are now ready to make more choices as they become the author of their own information text.

Start them off by asking them to select a region around the world that interests them. They may choose to focus on an area affected by monsoons, droughts, scorching temperatures or melting ice caps, based on their prior learning in geography lessons. Within that environment, encourage the pupils to select an animal with interesting adaptations, knowing that the overall purpose of their writing is to create a sense of wonder around the animal and how perfectly adapted it is to its environment. There is no shortage of great examples!

In wider curriculum lessons (science and geography) pupils will have studied animals that live in harmony with their natural habitat and the adaptations they have developed to succeed. Encourage them to use this knowledge and refer back to content within these books and any knowledge organisers that they may have. Knowledge is key to success, so encourage the pupils to deepen their understanding of their chosen animal and region at home, as well as referencing books from the school library.

Just as in the model, encourage the childen to include a range of text-types within the information they provide, for example, discussion, explanation and recount.

Also encourage the pupils to plan and write their report in any order they think is logical, selecting which sections they wish to include in the report. They could plan by adding a third column on their box-it-up grid but a blank grid may be preferable to encourage greater independence and creativity.

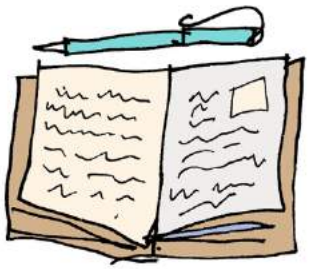
Throughout the writing process, reading and editing are essential. Encourage the pupils to read their writing aloud and demonstrate why this matters through shared writing. Ask them to check that their writing includes the language features of their chosen text-type or text types. Most importantly, get them to check that their writing meets the overall purpose of the unit: to evoke a sense of wonder for the natural world in the reader and a wish to help this natural world survive.


## Reflection on learning

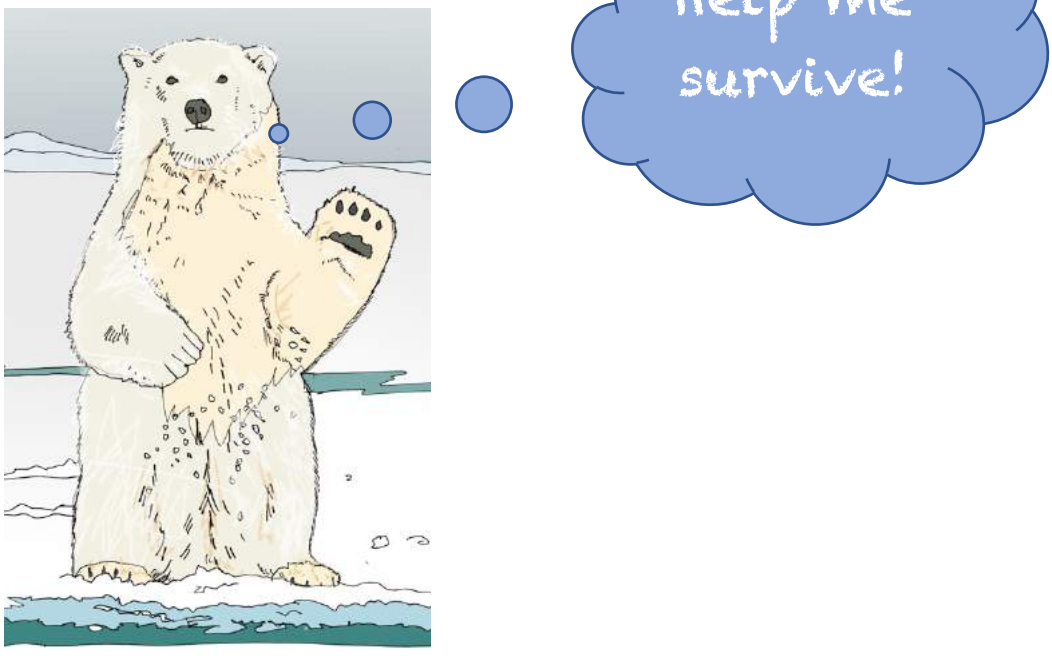
It's a good idea to go back to the **cold task** and get the children to compare what they wrote at the start of the unit with what they wrote at the end, the **hot task**. Hopefully, they will be able to see a significant improvement.

Ask the children to briefly reflect on all that they have learnt from this unit and to jot down the key things that they think they have learnt.

## Publishing their work



This unit provides a great opportunity for children to publish their work for other year groups to read within school giving them another element to purposeful writing. They could share them with a corresponding class or younger year groups. Pupils could also be challenged to create a class book of incredible animal adaptations. If the children have access to chrome books or laptops, this provides a great opportunity to create authentic-looking information text with great photographs as well as the children's drawings, alongside all the layout features that the children are used to such as bullet points and varying fonts.







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**Thanks to Jon Ralphs for the illustrations: jonralphs.com**
**Many thanks to Pexels & Unsplash for providing free photographs**



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