Appendix: Additional Information

P.1-2	
	The Arctic has freezing cold weather, with average temperatures ranging from 0°C to -40°C. Despite the cold, many animals and even humans, have adapted to the extreme environment in a variety of ways.The picture shows an Arctic structure called an igloo. The Inuit, who live in the Arctic, build igloos as temporary shelters to protect them from strong winds and snow while they are on hunting expeditions. Inside the igloo the temperature is approximately 2°C, which can be raised to 10°C to 20°C if the igloo is covered with animal skins. (The Inuit are more commonly known as Eskimos. In fact, they call themselves Inuit because the name “Eskimo” carries the negative meaning of “raw meat eater.” Therefore, calling the Inuit Eskimos is considered disrespectful.)
	Arctic hares resist strong winds and keep themselves warm with two layers of fur. They also form dense colonies of up to 300 individuals to warm each other with their body heat.
P.3-4	
	To many, polar bears are the most iconic animal in the Arctic. Their white bodies allow them to completely blend into the snow. But are they actually white? Hidden beneath the white fur is a layer of dark skin, allowing them to effectively absorb the warmth from sunlight. In fact, polar bears actually have colourless and transparent fur. Their transparent fur reflects sunlight, giving us the illusion of a white polar bear.
	The Arctic tern next to Redd is no ordinary migratory bird. Arctic terns have the highest rate of daylight exposure of all the animals in the world! They breed in the Arctic during summer. When the northern hemisphere becomes cold, they migrate to the warmer southern hemisphere, where they stay till the next summer. They have the farthest annual migration of all birds. Research has shown that the average distance travelled by an Arctic tern throughout its life is equivalent to three return trips between the Earth and the Moon!

P.5-6	
	The news reporter in the story is a snowy owl. These owls can twist their heads 270°, which allows them to take aim and strike their prey from high above, with no blind spot. As male snowy owls age, their feathers become whiter, sometimes turning pure white. Female snowy owls have dark spots on their feathers throughout their lives.
	Is the snowy owl in the story male or female? (Answer: Female)
P.15-16	
	The “horn” on the head of an Arctic-bound narwhal is actually its tusk. Tusks only grow on males; some males may even have two tusks. Narwhals are social animals, usually forming groups of fifteen to twenty. Newborn narwhals are blue-grey. As they mature, they turn grey with spots on their skin, becoming nearly all white as they grow old.
P.17-18	
	Avalanches are common natural disasters in snowy mountains. They are caused by the destabilisation of accumulated snow, resulting in the rapid flow of an enormous amount of snow downhill. Strong winds, overly heavy snowpack, rainfall and sunlight are among the causes that can destabilise layers of accumulated snow. The vibrations of sound waves can also trigger avalanches. Climate change is a factor too.

<table>
<tr><td colspan="2">P.21-22</td></tr>
<tr><td rowspan="2">  </td><td>The average temperature on Earth has been increasing rapidly since the 1980s. The sixteen years between 2001 and 2016 are the hottest years on record.</td></tr>
<tr><td>Reasons for climate change:
1. Excessive greenhouse gasses produced by human activities such as the high consumption of electricity, as gasses are released from power plants.
2. Greenhouse gases have absorbed the heat that would otherwise escape Earth through the atmosphere. This is breaking the balance of the normal greenhouse effect and causing global temperatures to rise.
3. Rising global temperatures result in climate changes such as melting glaciers, droughts, floods and extreme weather conditions.</td></tr>
<tr><td>  </td><td>How would ice melting in the Arctic affect polar animals?
• Habitat loss, making it harder to breed
• Shelter loss, increasing exposure to predators
• Greater difficulty in finding food</td></tr>
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