

FOR STEVE, HIS ADVENTURE ISN'T ALL BLACK AND WHITE.

Disney *nature*
nature



Disney *nature*
PENGUINS

CELEBRATE EARTH DAY - IN THEATRES APRIL 17

ACTIVITY PACKET

Created in Partnership with Disney's Animals, Science and Environment

Disney nature PENGUINS

IN THEATERS EARTH DAY 2019

Narrated by Ed Helms (**The Office**, **The Hangover** trilogy, **The Daily Show with Jon Stewart**), Disney nature's all-new feature film **Penguins** is a coming-of-age story about an Adélie penguin named Steve who joins millions of fellow males in the icy Antarctic spring on a quest to build a suitable nest, find a life partner and start a family. None of it comes easily for him, especially considering he's targeted by everything from killer whales to leopard seals, who unapologetically threaten his happily ever after. From the filmmaking team behind **Bears** and **Chimpanzee**, Disney nature's **Penguins** opens in theaters and in IMAX® April 17, 2019.



Acknowledgments

Disney's Animals, Science and Environment would like to take this opportunity to thank the amazing teams that came together to develop the Disney nature **Penguins** Activity Packet. It was created with great care, collaboration and the talent and hard work of many incredible individuals. A special thank you to Dr. Mark Penning for his ongoing support in developing engaging educational materials that connect families with nature. These materials would not have happened without the diligence and dedication of Kyle Huetter and Lacey Amos who worked side by side with the filmmakers and educators to help create these compelling activities and authored the unique writing found throughout each page. A big thank you to Hannah O'Malley and Michelle Mayhall whose creative thinking and artistry developed games and crafts into a world of outdoor exploration. Special thanks to director Jeff Wilson, director/producer Alastair Fothergill and producers Mark Linfield, Keith Scholey and Roy Conli for creating such an amazing story that inspired the activities found within this packet. Lastly, thank you Paul Baribault, Noah Duman and Beatriz Ayala at The Walt Disney Studios for their help and unwavering support of this project.

Allyson Atkins, Education Line of Business Manager, Disney's Animals, Science and Environment

Animals of Antarctica

Adélie Penguins average 27.5 inches (70 cm) tall and weigh between 8.5 and 12 pounds (4 to 6 kg), making them one of the smallest species of penguin. Consuming mainly krill, fish and small squid, Adélie penguins are rather low on the food chain and must be on alert for predators. The black and white coloring of Adélie penguins is a unique adaptation that allows them to hide from predators while swimming. The dark coloration on their backs blends into the ocean bottom to a predator from above. Likewise, their white undersides become nearly invisible against the light from the surface to a predator from below. This specific coloring is known as countershading. Adélie penguins live in large groups called colonies and mate for life. Though they are very social animals, Adélie penguins do not always make good neighbors, as they often steal pebbles from each other's nests to add to their own!



ADÉLIE PENGUIN



LEOPARD SEAL

Leopard Seals are considered the most skilled hunters of the seal family. Despite their hunting prowess, about 50% of a leopard seal's diet actually consists of krill, with the remainder including penguins, smaller seals, squid, fish and more. These seals get their name from the black spots on their coat which are similar to those of a leopard. Like most seals, leopard seals have a thick layer of blubber underneath their coat used to protect them from the frigid cold. They grow up to 11.5 feet (3.5 m) long and up to 840 pounds (381 kg), with the females tending to be slightly larger than the males. Due to the leopard seal's bulk and sleek shape, this solitary species prefers to do its hunting in the water, where it can be significantly stealthier.

Killer Whales, also known as orcas, are the largest of all warm-blooded predators, feeding on seals, dolphins, sea lions, sea otters, squid, fish, sea turtles, seabirds and octopuses. Despite their name, killer whales are not whales at all! They are actually the largest species of dolphin. Male killer whales grow up to 32 feet (10 m) long and can weigh about six tons (5,443 kg), while the females can be up to 28 feet (8.5 m) long and weigh about 18,500 pounds (8,391 kg) — that's similar in size to a school bus! Though some live in the waters surrounding Antarctica, killer whales have no specific geographic range, and are known to travel into tropical waters.



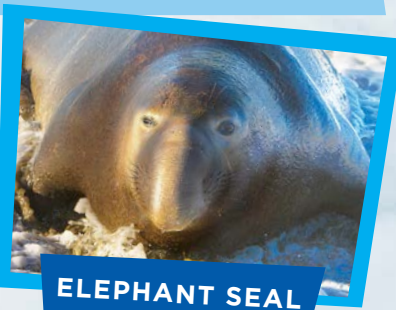
KILLER WHALE



POLAR SKUA

South Polar Skua are renowned scavengers and hunters, feeding on fish, penguin eggs, penguin chicks and carrion, or the decaying flesh of dead animals. While these seabirds typically hunt for their meals at sea and on penguin breeding grounds, south polar skua are also known to steal food already hunted by smaller seabirds. The smallest and most gray of the skua, these birds prefer to breed on rocky, snow-free areas in Antarctica, living entirely at sea during the remainder of the year.

Southern Elephant Seals are the largest species of seal, with the males growing up to 20 feet (6 m) long and weighing up to 9,000 pounds (4,082 kg). While they are considered to be the largest seal, this distinction refers specifically to the males, as the females usually weigh 8-10 times less than their male counterparts. Southern elephant seals get their name not from their massive size, but from the male's elephant trunk-like noses! They spend 70-80% of their lives underneath the sea's surface and eat mainly squid, but also hunt fish, crustaceans and sea squirts.



ELEPHANT SEAL



Antarctica is known for being cold, windy and almost completely covered by ice, but it's also home to lots of amazing animals! Seals, sea lions, whales and many more unique species hail from this frosty region of our planet. In fact, this is where we meet Steve, an Adélie penguin. We'll learn more about him later!

As you glide along the Disneynature **Penguins** Activity Packet, we invite you to experience the wonderful aspects of this majestic region and the incredible animals that inhabit its icy landscape. You might paint with colored ice cubes, protect your nest from pebble-stealing neighbors or put your drawing skills to the test. Maybe you can help spot the differences between Steve and his fellow Adélie penguins or even aid some penguins friends in their journey of survival! Discover these chilly adventures yourself in the pages ahead and don't miss Disneynature **Penguins** in theaters April 17, 2019.

ACTIVITIES

- 6 Spot the Difference
- 8 Pebble Panic
- 10 Lights Out
- 12 Snow Banks & Iffy Ice
- 14 Painting with Glaciers



Spot the Difference



Steve and his fellow Adélie penguins can be pretty tough to tell apart. Imagine if humans looked so similar that it was hard to tell the difference between you and your friends!

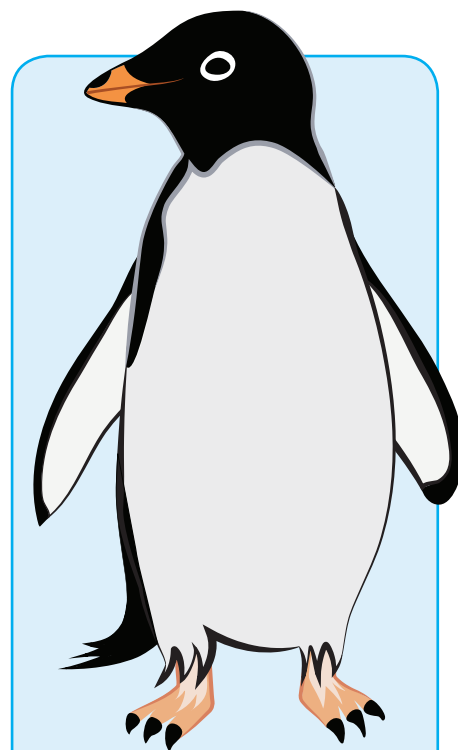
Male and female Adélie penguins are relatively indistinguishable and both have that classic “tuxedo” look with white bellies and black heads, faces, backs and tails. This black and white color combination is known as countershading — dark on the back and white on the underside. All adult penguins, regardless of species, have some type of countershading. The dark side blends with the deep, dark ocean and the lighter side blends with the surface of the water — this combination makes it quite tricky for predators to tell the difference between penguins and the surrounding environment, whether hunting from above or below.

Adélie penguins are also pretty small for penguins — they weigh between 8.5-12 pounds (4-6 kg) and measure about 27.5 inches (70 cm) long. The Emperor penguin, a relative of the Adélie, is the

largest penguin in the world and weighs nearly seven times as much as Steve and his fellow Adélie penguins! Aside from size, another way to tell an Adélie apart from other species of penguin is by their eyes — Adélie penguins have a distinct white ring around each eye.

While all penguins are classified as birds, they don’t have wings or take to the sky like other birds. In fact, their “wings” are really paddle-like flippers that help them swim underwater. Their short tails, elongated bodies and webbed feet also help propel them through the water with ease.

With all this new information about Adélie penguins, can you help spot the differences between Steve and the Adélie penguins on the next page?

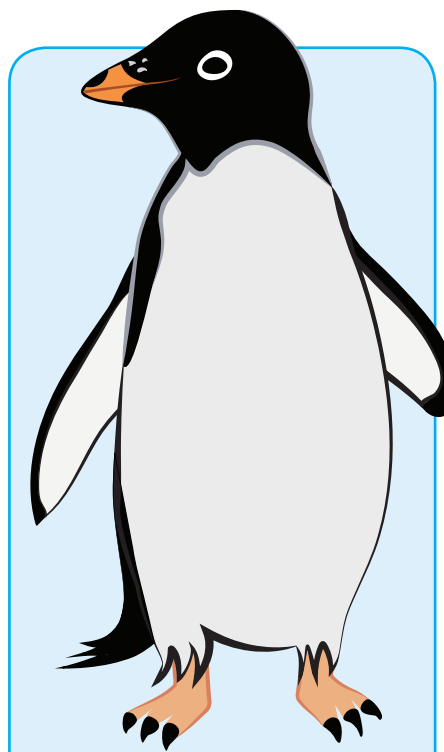


STEVE

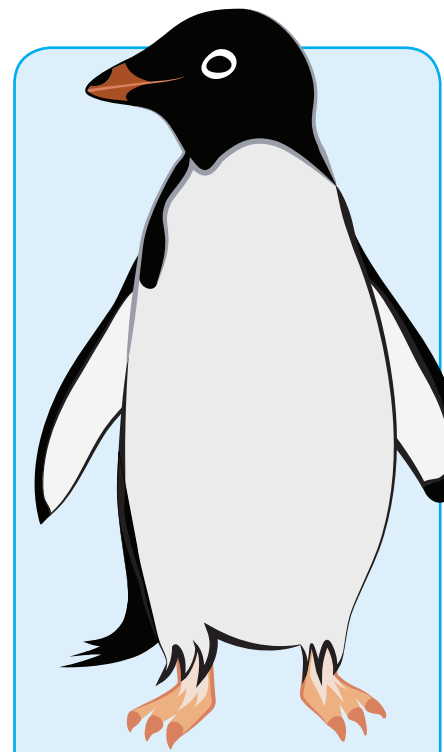


SIMILAR BUT NOT THE SAME

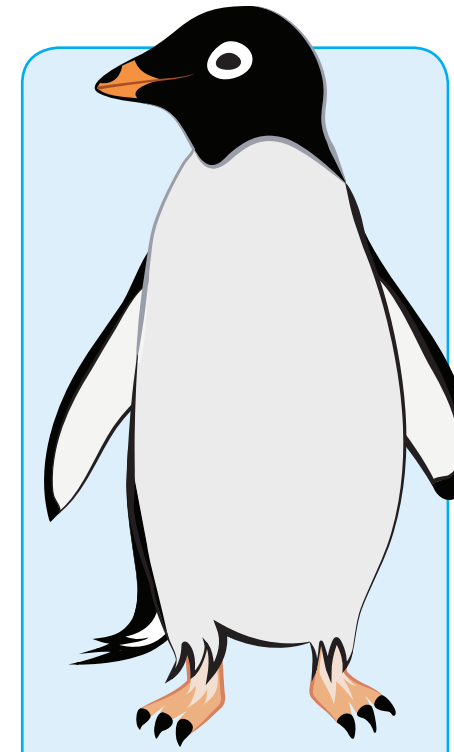
Adélie penguins all look very similar. This can make them very hard to distinguish from one another. Spot how Steve’s friends are just a little different than him, and circle each difference. Each friend has three differences.



FRIEND 1



FRIEND 2



FRIEND 3

1. freckles around beak, short right wing, discolored feet; 2. shortened black area by left wing, discolored claws, darker beak; 3. larger white eye ring, missing black area by left wing, white coloring under tail



Pebble Panic

Male Adélie penguins, like Steve, are responsible for building nests used to house their babies, also known as chicks. It's an important job and they take it very seriously! In fact, showing off their nest building skills is one way they attract a female — they strive to have the biggest and best nest in the area.

Antarctica is covered in ice, so finding traditional nest building items isn't really an option. Materials like twigs, leaves, seedpods or cones aren't available in this region; therefore, the Adélie penguins use a different method — rocks and pebbles! Remember how we said they take their nest building very seriously? They're so dedicated to having the biggest and best nest that they will often steal "better" pebbles from surrounding nests! Not only do the Adélie males need high quality nest building skills, they also need to be great at nest protecting.

You might think once their nest is complete and they've found their partner it'd be smooth sailing; however, their work has only just begun. Now here comes the fun part — baby penguins! Female Adélie penguins typically lay two eggs in their nest and both parents work hard to keep those eggs

warm and safe. Mom and dad will rotate egg-watching duties until the babies hatch — while one parent stays put at the nest, the other heads out to sea for food. After about 30 days, those baby Adélie penguins begin to break out of their protective eggs and start learning how to be a penguin themselves! However, mom and dad's work isn't done quite yet — they will alternate between feeding and protecting their chicks for up to four weeks after hatching. The following few weeks of the chicks' lives will be spent in a crèche (krĕSH) — a group of young Adélie penguins — for added protection while mom and dad both search for food. After a little more than 55 days in the crèche, those little baby penguins are ready to become independent! Aww... they grow up so fast!



Do you have what it takes to build and protect your nest, like Steve and the Adélie penguins? Head to the next page to find out!



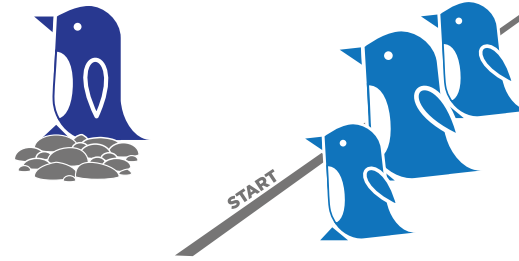
GUARD YOUR NEST

Adélie penguins work hard to collect pebbles for their nests, but sometimes their neighbors steal their pebbles! Gather some friends and play this game to see if you can protect your pebbles!



Game Setup:

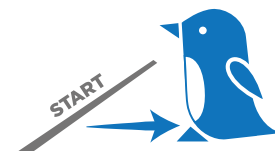
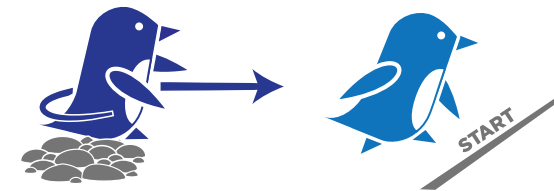
1. With your friends, go outside and assemble a pebble nest. You can use rocks, toys or other small objects to create your pretend nest.
2. Make a starting line about 10 steps away from the nest. You'll need at least 1 friend to be a Neighbor, but the more the merrier! Players acting as Neighbors gather behind the starting line.
3. Choose someone to be the Nest Guardian. Have them stand by the nest, facing away from the starting line so they can't see the Neighbors.
4. Your goal as a Neighbor is to steal a pebble without being caught by the Nest Guardian!



RULES

CATCH 'EM IN THE ACT!

The Nest Guardian can turn around to try and tag an approaching Neighbor before the Neighbor gets back to the starting line.

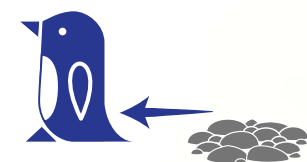


STEP BACK!

If caught, the Neighbor has to start from a giant step behind the starting line on their next attempt.

BE CAREFUL!

If the Nest Guardian turns around to check for Neighbors and none are approaching...



STEP BACK!

...the Nest Guardian must take a giant step away from the nest.

BECOME THE NEST GUARDIAN!

If a Neighbor successfully steals a pebble, it's their turn to be the Nest Guardian!





Lights Out

Unlike most places in the world, Antarctica only has two seasons each year — summer and winter — each lasting about six months.

Because Antarctica is situated over the earth's South Pole, its seasons are more drastically dictated by the earth's orbit and relationship to the sun. During the summer season, Antarctica is positioned closest to the sun and exposed to direct sunlight. However, during the winter season, Antarctica is angled away from the sun and the continent remains mostly dark for six months.

During these winter months, there might be a period of roughly three weeks where the sun never makes it over the horizon. Conversely, during the summer months, there might be a period of time where the sun never completely disappears! However, a good portion of both seasons is not spent in either total darkness or 24-hour sunlight.

For several hours a day, you might see a twilight effect along the horizon rather than a completely dark night sky. Twilight is when the sun has dipped just below the horizon line, but still produces enough light to illuminate the atmosphere and make for some truly beautiful views of the surrounding landscape.



Head to the next page and see how well your drawing skills would do in total darkness or complete sunlight!



DRAW IN THE DARK

Because of how the earth's axis is tilted, Antarctica is left in darkness for about half of the year. Adélie penguins tend to migrate north in the winter months to avoid living in total darkness. Would you thrive in Antarctica's dark season? Let's find out!

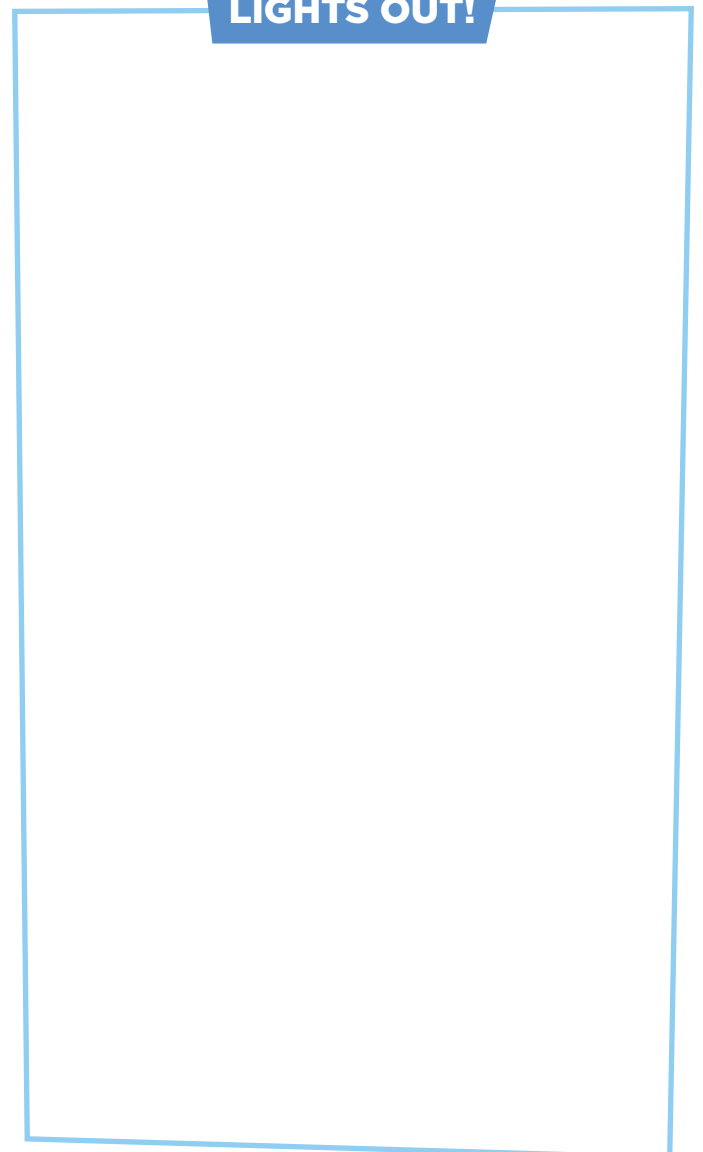
Directions:

In the left box, draw your best Adélie penguin. Then, attempt to draw your best Adélie penguin in the other box, but do it with your eyes closed or with the lights out!

LIGHTS ON!



LIGHTS OUT!





Snow Banks and Iffy Ice

Steve and his fellow Adélie penguins have a thick layer of fat under their skin to help keep them warm in the chilly Antarctic weather, but how do they fuel their tiny bodies with enough energy to keep up with the cold? Through their diets!

Adélie penguins eat mostly small aquatic animals — fish, squid and shrimp-like krill. But during breeding season, these penguins aren't just finding food to fuel their own bodies — they're also collecting food to take back to their babies! Taking care of baby penguins is a tough job — when seeking food for their chicks, parent penguins can be gone from the nest for up to 72 hours and may swim over 74 miles (119 km) into the ocean to catch food!

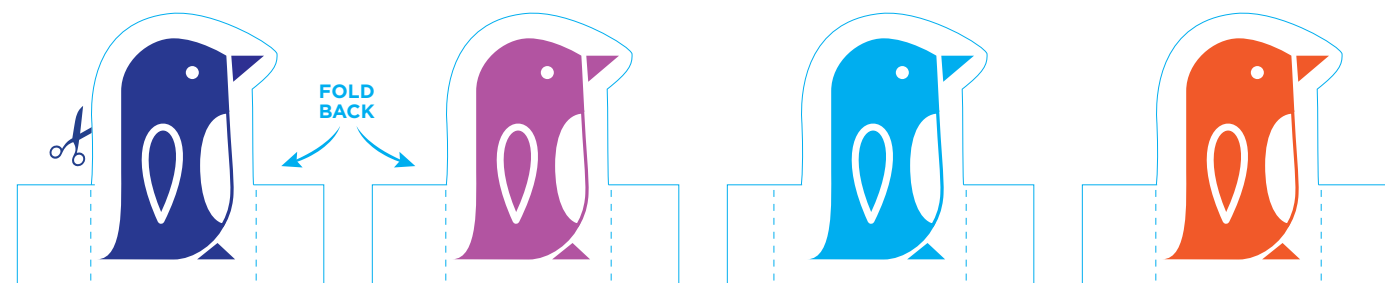
While Adélie penguins are on land, they walk at an average speed of 1.5 miles per hour (2.4 kmph). However, when there's enough snow, you'll likely find these animals sliding around on their bellies — also known as tobogganing! Once they reach the water,

Adélie penguins are excellent swimmers. They are able to swim at speeds up to nearly 5 miles per hour (8 kmph) and can even dive up to 574 feet (175 m) into the ocean! These swimming and diving skills come in very handy when trying to catch food and when avoiding predators. While adult Adélie penguins do not have land-based predators, their biggest predators in the water are leopard seals. Adélie penguins have learned to avoid leopard seals by swimming in large groups rather than as individuals.

See if you can help the Adélie penguins navigate through iffy ice and snowy terrain as they collect food for their babies and avoid predators!

How To Play:

1. Choose and cut out a penguin to be your playing piece. The game can be played with 2-4 players. Find a die and decide your playing order by rolling; the player with the highest number goes first.
2. Take turns moving your penguin from your nest, to the ocean in search of food, and back to your nest again. Players roll the die to determine the number of spaces to move.
3. To get fish for your chicks, roll a number that is equal to or higher than the number needed to land in the ocean.
4. Once you have gotten fish by landing in the ocean, your turn ends, and the ocean will be the starting point for your next roll.
5. Try not to land on the iffy ice, marked by the dark blue spaces! If you do, follow the directions on the space.
6. If you land on a snow bank, slide forward in the direction you are going to the end of the snowbank.



JOURNEY TO THE SEA

Adélie penguins work hard traveling to and from the ocean to find food for their newly-hatched chicks. Grab a die and follow the directions to travel over snow banks and iffy ice, just like Adélie penguins!



START/ FINISH
Grab a die and follow the directions to travel over snow banks and iffy ice, just like Adélie penguins!

SNOW BANK!
Slide on your stomach to skip spaces and get closer to the ocean!

SNOW BANK!
Slide on your stomach to skip spaces and get closer to your chicks!

IFFY ICE!
Watch out for leopard seals! Go back three spaces to avoid falling through iffy ice!

SNOW BANK!
Slide on your stomach to skip spaces and get closer to the ocean!

SNOW BANK!
Slide on your stomach to skip spaces and get closer to your chicks!

IFFY ICE!
Watch out for leopard seals! Go back two spaces to avoid falling through iffy ice!

IFFY ICE!
Watch out for leopard seals! Go back two spaces to avoid falling through iffy ice!



Antarctica is known for being cold, windy and almost completely covered in ice. However, the continent is not only covered, but is also surrounded by ice! This surrounding ice band is known as “pack ice” — a type of sea ice that is highly mobile and moves with the wind and sea currents. “Fast ice” will also occur along the Antarctic coastline.

Unlike pack ice, fast ice is physically attached to something (shores or ice walls) and can extend several hundred miles seaward from the coast.

With all that ice, you might think it’s always snowing in Antarctica but it’s actually not! This continent is the driest on Earth — receiving about as much precipitation as the world’s hottest deserts. All that ice makes for a pretty chilly region though. Temperatures typically range from 14 °F (-10 °C) on the coast to -76 °F (-60 °C) on elevated inland regions; however, it’s been known to drop as low as -112 °F (-80 °C) during the winter! It’s a good thing Steve and his fellow Adélie penguins have a thick layer of fat under their skin to help keep them nice and warm in the frigid climate.

When looking at the continent of Antarctica on a typical map it may seem a bit small, but it’s actually quite the opposite! Covering over 5 million square miles (over 12 million square kilometers), Antarctica is larger than Europe and nearly twice the size of Australia. The icy continent is divided in two by the Transantarctic Mountains — one of the world’s longest mountain chains. This mountain range stretches for more than 2,000 miles (more than 3,000 km) and reaches a peak of over 48,000 feet (over 14,000 km) at Mount Kirkpatrick. These mountains, combined with the beautiful variations of ice across the region make for some incredibly breathtaking landscapes.

Slide over to the next page and create your version of an Antarctic landscape using “glaciers” from your own freezer!



ILLUSTRATE THE ANTARCTIC

The Antarctic is a vast and harsh environment, but if you look closely, you’ll find incredible beauty across the massive landscape of ice and snow. Using ice and color, paint your own masterpiece to create the habitat Adélie penguins call home.



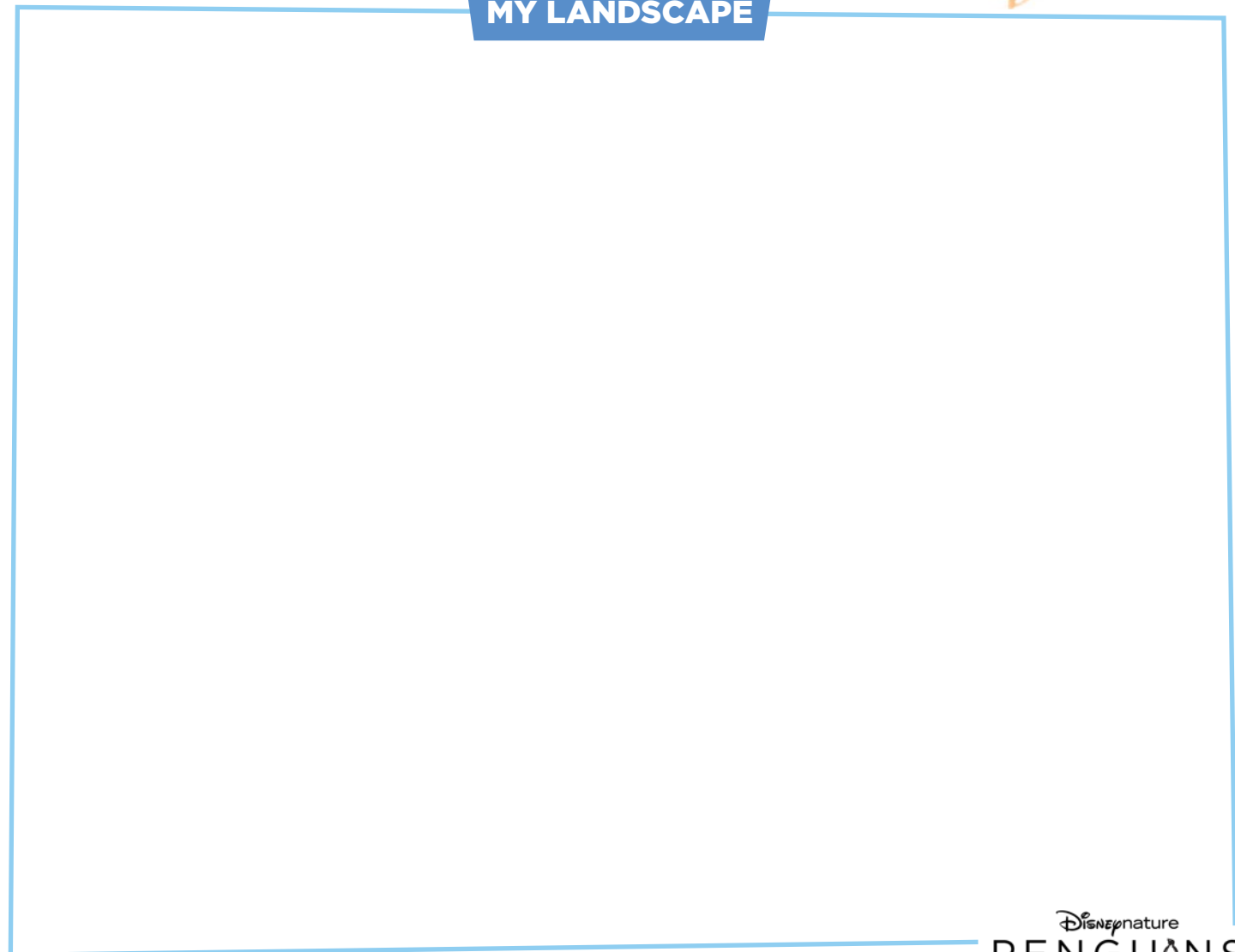
Materials: Tube watercolors or tempera paint, ice cube tray, water, popsicle sticks

Directions:

1. Pour a few different combinations of paint mixed with water into an ice cube tray and put in the freezer.
2. When the water is partially frozen, insert popsicle sticks into the cubes.
3. Once the cubes are solid, use these “watercolor glaciers” to create your own Antarctic landscape below.



MY LANDSCAPE



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