# BIG BOOK SNOW AND ICE

### ŠTĚPÁNKA SEKANINOVÁ & NIKÉ PAPADAPULOSOVÁ

How does snow form, and how many types of snow are there? Are any two snowflakes the same? What is the use of snow and ice? Every chilly question gets a frozen answer in this package of full-page illustrations, openable flaps and information charged with cold. What's it like to be hit by an avalanche, to live in an igloo or to sleep on a bed of hardened ice? What are you waiting for, curious reader? Give it a try. Don't forget to bring warm gloves, a scarf and a proper hat. And watch out! There's a snowstorm on the way.





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MARNING: CHOKING HAZARD –
Small parts. Not suitable for childre
under 36 months.

ABIG BOOK
OF SNOW AND ICE ILLUSTRATED BY NIKÉ PAPADAPULOSOVÁ @ SNOW AND ICE BOOK BIC ◂ WRITTEN BY ŠTĚPÁNKA SEKANINOVÁ 

## ABOUT SNOW AND ICE

They say of wicked people that they have cold hearts or hearts of ice. A kind, caring person is described as having a warm, sunny disposition. Don't you think we are a little unfair to ice? Where does our hostile attitude to cold come from?





## IS IT THE FAULT OF THE ICE AGE?

The Ice Age was a long period of cold, dry weather. Probably it happened owing to a change in Earth's position in relation to the sun. In the history of our planet there have been many ice ages. The last of them ended about 8000 BCE. Although this came as a relief to prehistoric humans, who could put their furs away for another time, mammoths and woolly rhinoceroses could no longer find anything to eat; they paid for the end of the Ice Age with their lives, and so became extinct.

### NIFLHEIM

According to the Vikings, before the creation of our world there existed a polar world of cold, mist, darkness and ice called Niflheim, whose well was the source of twelve rivers of ice. This Land of Ice was ruled by a spiteful snake, the source of all evil in the world. This sinister reptile was said to have wrapped itself around the Tree of Life, which it sought to destroy by gnawing at its roots.



### **YUKI-ONNA**

The Japanese have a snow woman known as Yuki-onna, a raven-haired icy demon who wears a white kimono and has snow-white skin. In snowstorms and blizzards, Yuki-onna entices pilgrims from their path. Sometimes she is crueller still, freezing them with her icy breath.



### SNOW QUEEN

Everyone knows The Snow Queen, a fairy tale by Danish writer Hans Christian Andersen. This beautiful winter queen, too, is an embodiment of cruelty and spite. But Gerda frees her friend Kay from the Snow Queen's clutches, the palace of ice melts, spring arrives and all is well again...

### OLD MOTHER FROST

Do you know what falling snow reminds me of?
A nice fluffy quilt – that's right! Perhaps you know
the fairy tale Old Mother Frost by the Brothers
Grimm, in which a kind old lady rules over winter.
When the old lady shakes out her quilts, the whole
land is covered by the down that floats down from
them.



### SANTA CLAUS

Santa Claus, too, lives in a land of eternal ice and snow – but he is the opposite of evil. He is a smiling, kind-hearted, white-bearded man in a red and white outfit. He makes regular trips on his flying sleigh, which is pulled by reindeer and fitted with jingling bells. He brings joy to children in the form of gifts.

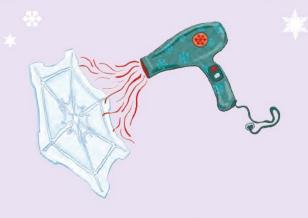






### ICE AND HONEYCOMBS

The first scientist to describe the hexagonal shape of the snowflake was Johannes Kepler, whom this arrangement of ice crystals reminded of a bees' honeycomb or the configuration of seeds in a pomegranate. Introducing Johannes Kepler – an eminent German mathematician, astrologer and astronomer of the late 16th and early 17th centuries.



### AIR AND FLAKES

The form of the flake is determined by the temperature and the different air zones the flake falls through. Drier air supports the origination of flat shapes, while greater humidity increases volume and makes flakes into magnificent lace-like patterns.

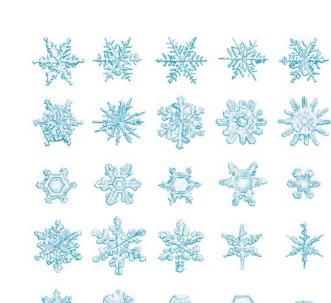
### SNOWFLAKES

A snowflake under the microscope. Little miracles, ice flowers, letters from the heavens ... what scientists call snowflakes when they look at them under the microscope.

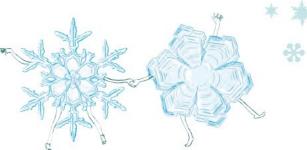


### SHAPES OF SNOWFLAKES

A flake originating into a relatively dry environment at a temperature of -15 degrees Celsius is shaped like a pancake. At a temperature of around -25 degrees, the flake is shaped like a short chip. For a snowflake to acquire its beautiful six-pointed shape, moist air and a temperature of around -14 degrees Celsius are needed.







### AN ORIGINAL ORIGINAL

No two snowflakes in the world are the same. Each flake contains 1018 molecules of water, which can be arranged in an infinite number of variations. What's more, each flake makes its own journey down to earth; this, too, has an effect on its final shape. ("We snowflakes simply love variety and originality").



Did you know that snowflakes sing when they fall on water? Well, sing...to be accurate, they whistle. They make sort of High pitch squeaking type of sound. Unfortunately human ear cannot detect it. What a shame.



### A PROPER STORM

In the course of a single snowstorm an average of 40 tons of fall to earth. For comparison, an African elephant weighs seven tons. Imagine the weight of nearly six elephants hitting the ground at once!

### GIANT SNOWFLAKE

"We snowlakes are ... big, small, fat, thin, dry, wet, you name it." Snowflakes tend to be between **0.5 cm and 1 cm** in size. The biggest snowflake ever recorded – a massive 38 cm – fell in Montana, USA. What a whopper!





# BIG BOOK SNOW DICE

### ŠTĚPÁNKA SEKANINOVÁ & NIKÉ PAPADAPULOSOVÁ

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