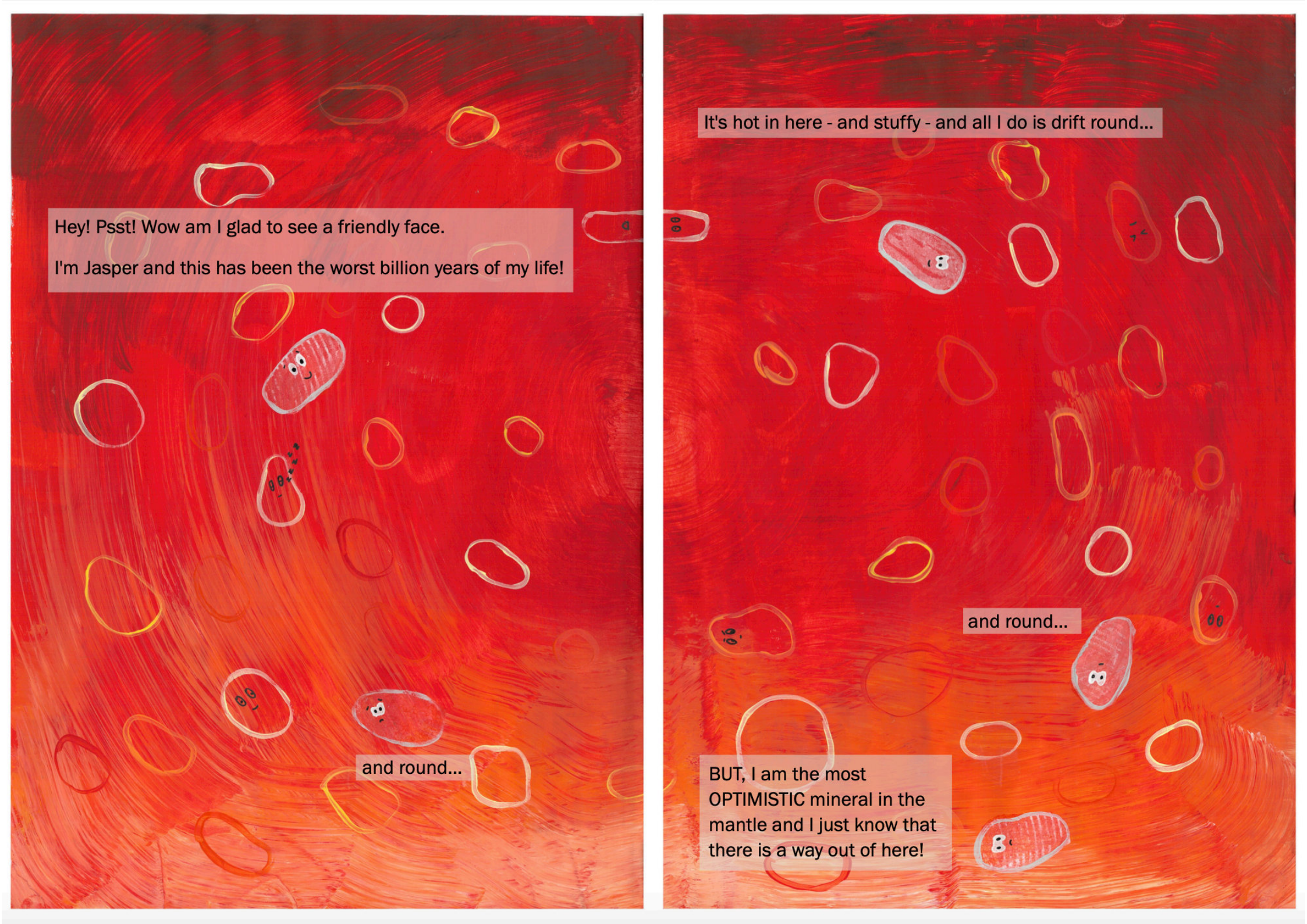


JASPER'S JOURNEY

by Amirah Farrell

A creative science communication project for
SCOM6006 - Science and Humour 2024



Hey! Psst! Wow am I glad to see a friendly face.
I'm Jasper and this has been the worst billion years of my life!

and round...

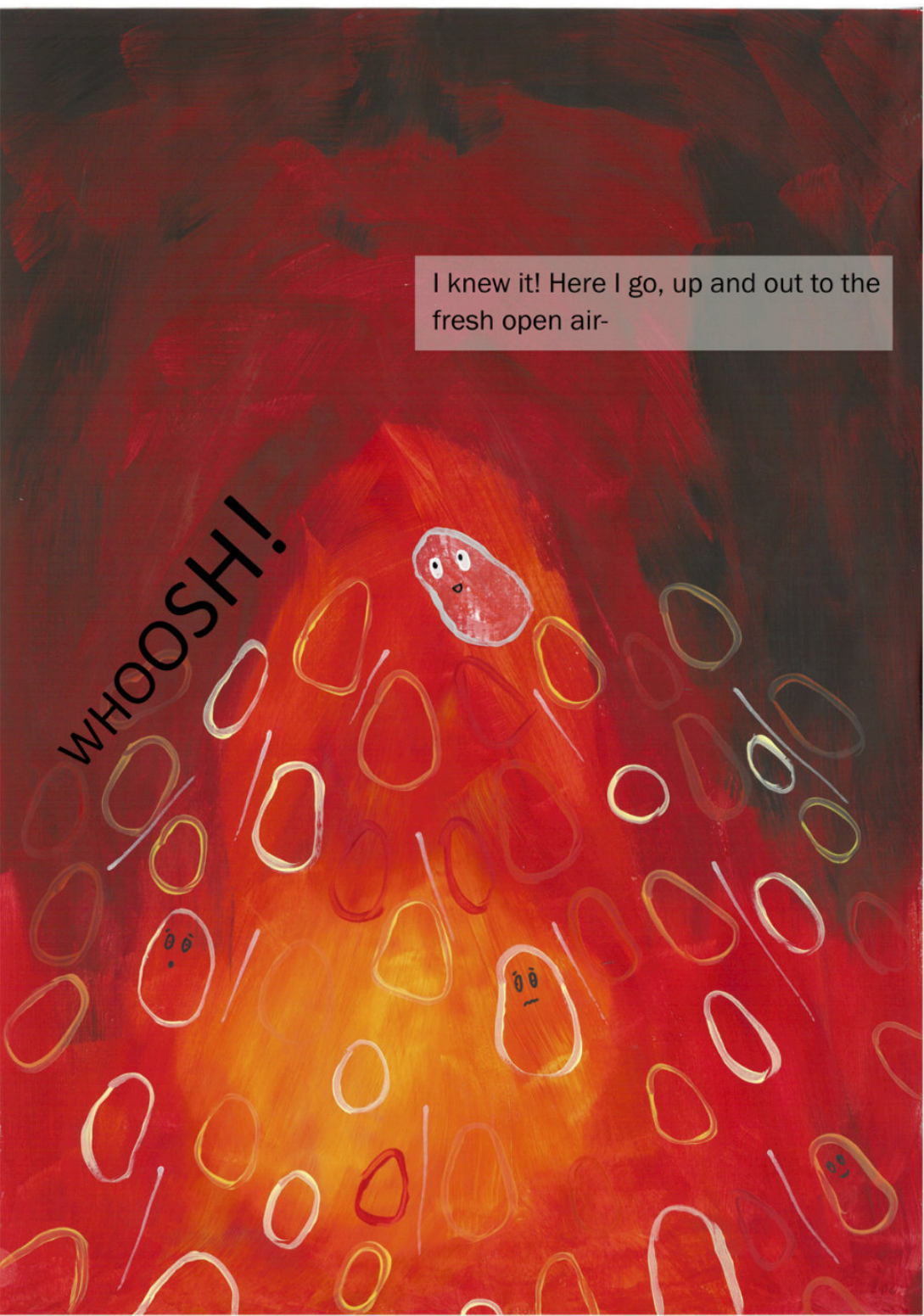
It's hot in here - and stuffy - and all I do is drift round...

and round...

BUT, I am the most
OPTIMISTIC mineral in the
mantle and I just know that
there is a way out of here!

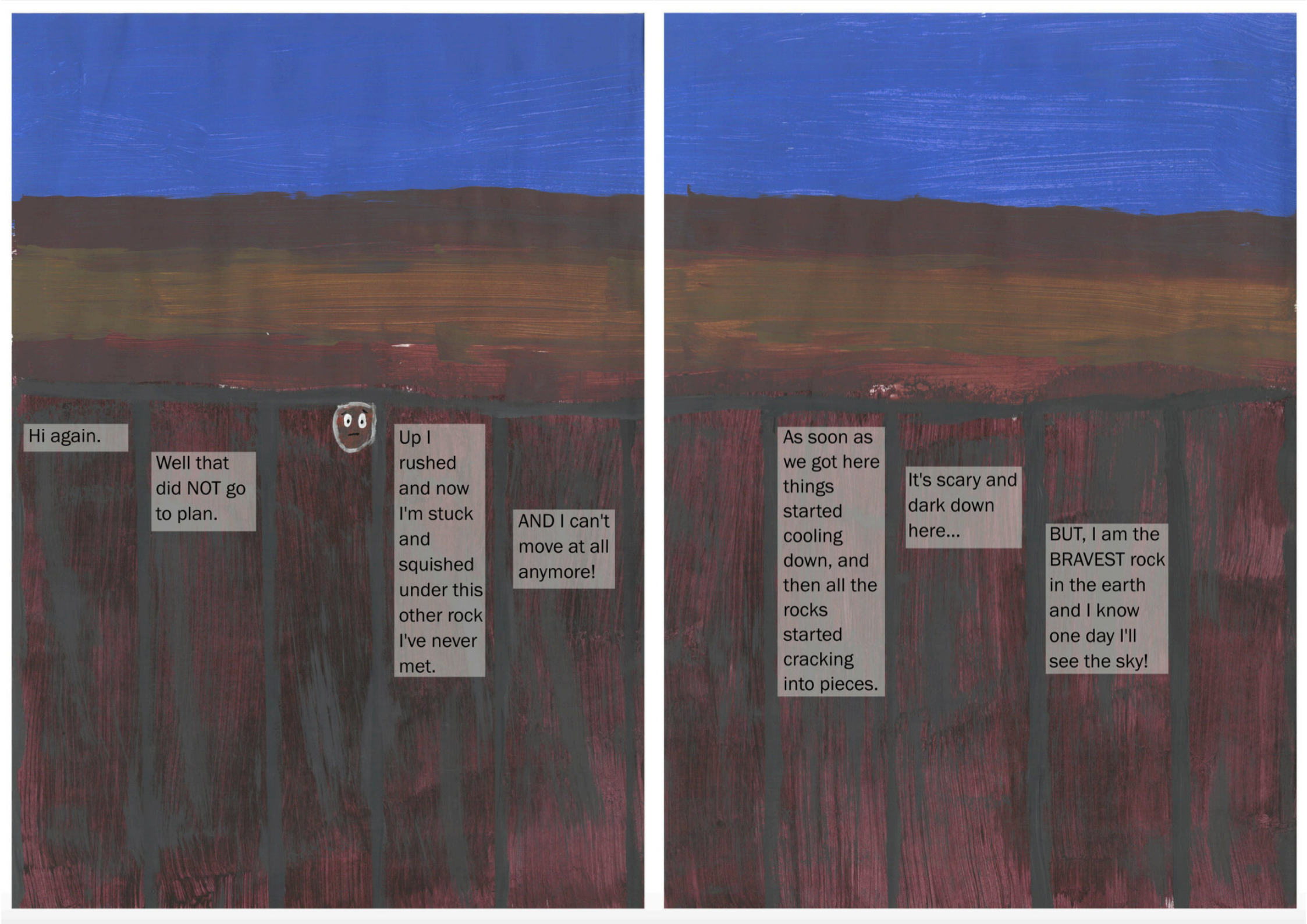
I knew it! Here I go, up and out to the fresh open air-

WHOOSH!



oh no I'm stuck!





Hi again.

Well that
did NOT go
to plan.



Up I
rushed
and now
I'm stuck
and
squished
under this
other rock
I've never
met.

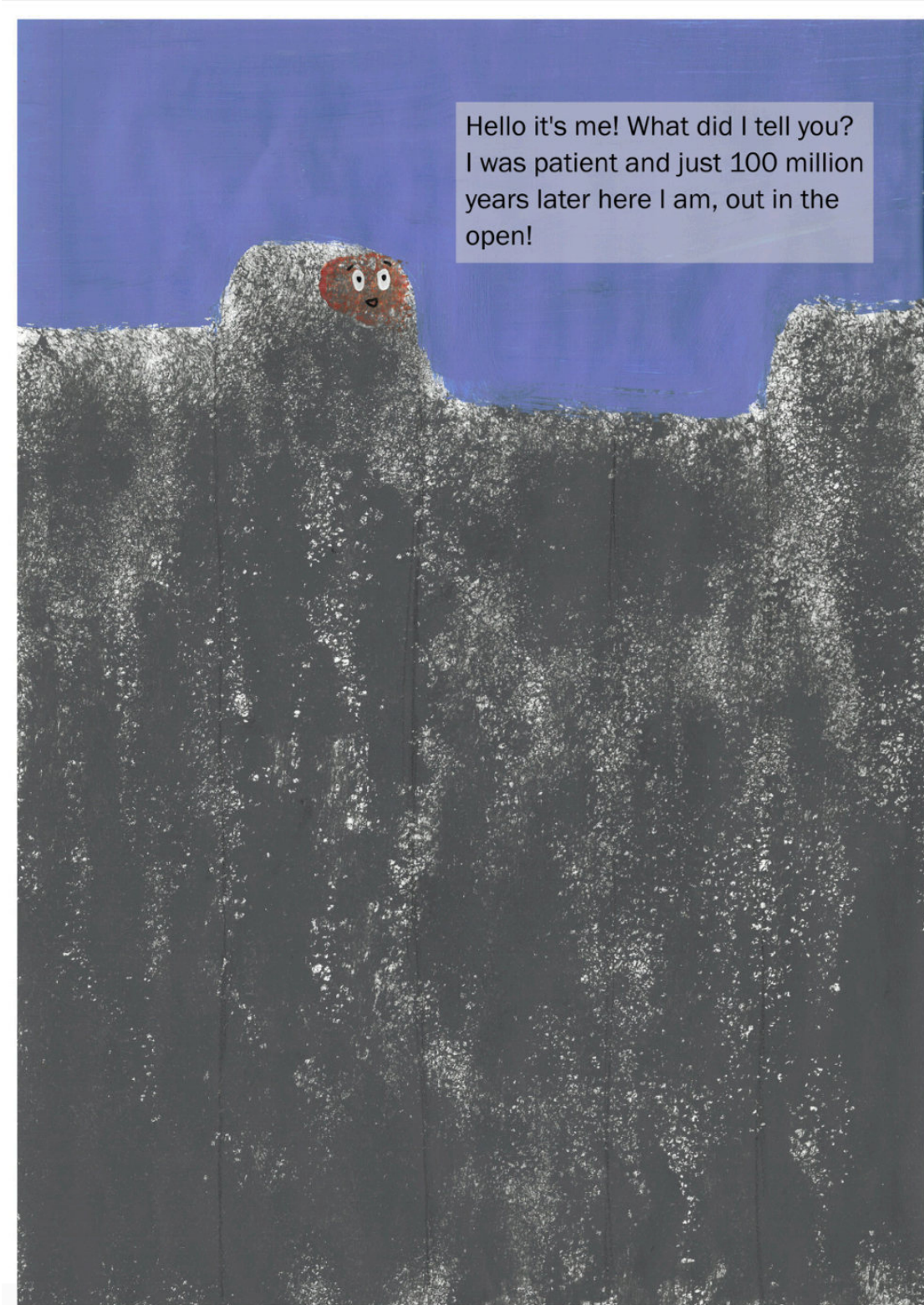
AND I can't
move at all
anymore!

As soon as
we got here
things
started
cooling
down, and
then all the
rocks
started
cracking
into pieces.

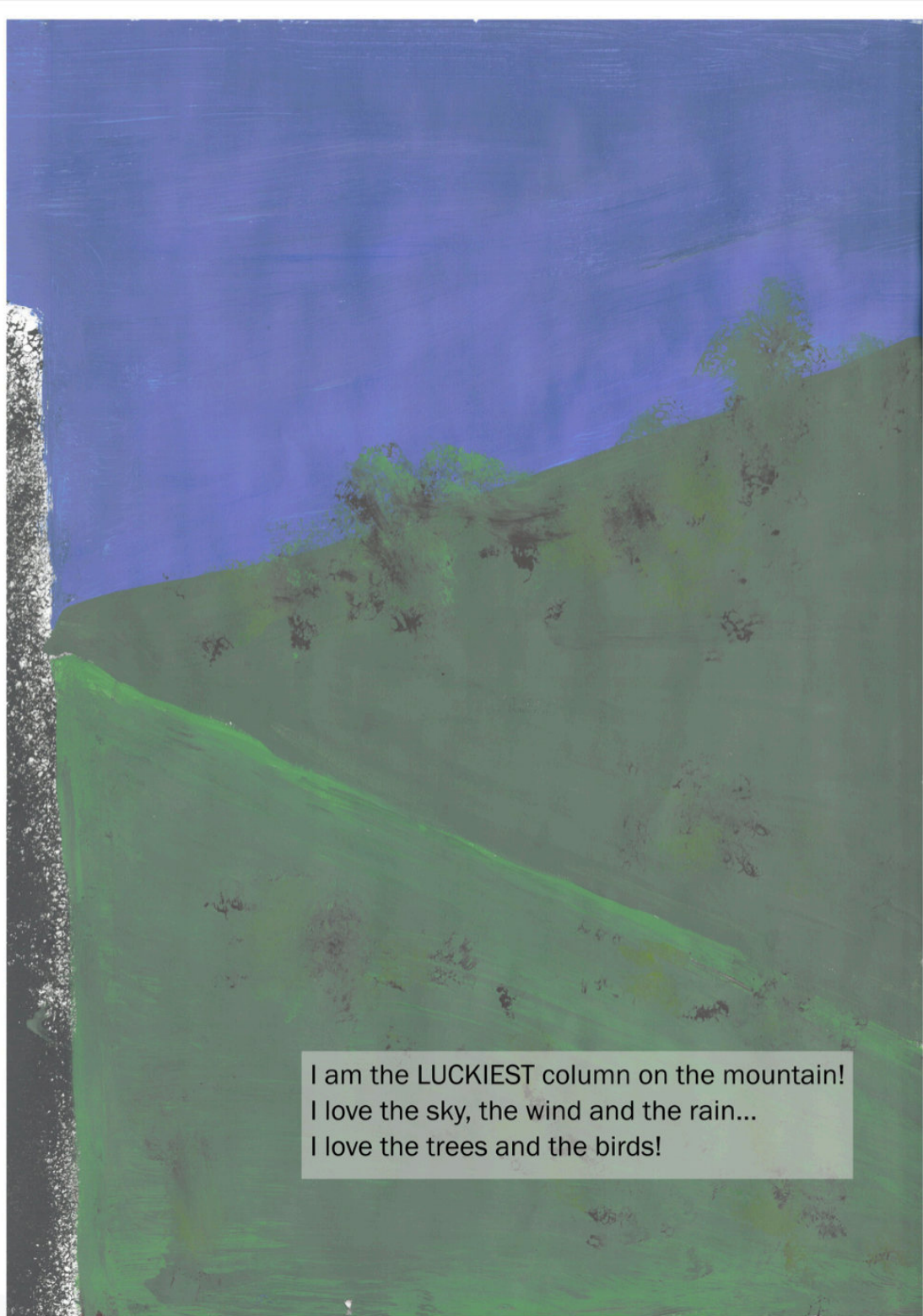
It's scary and
dark down
here...

BUT, I am the
BRAVEST rock
in the earth
and I know
one day I'll
see the sky!

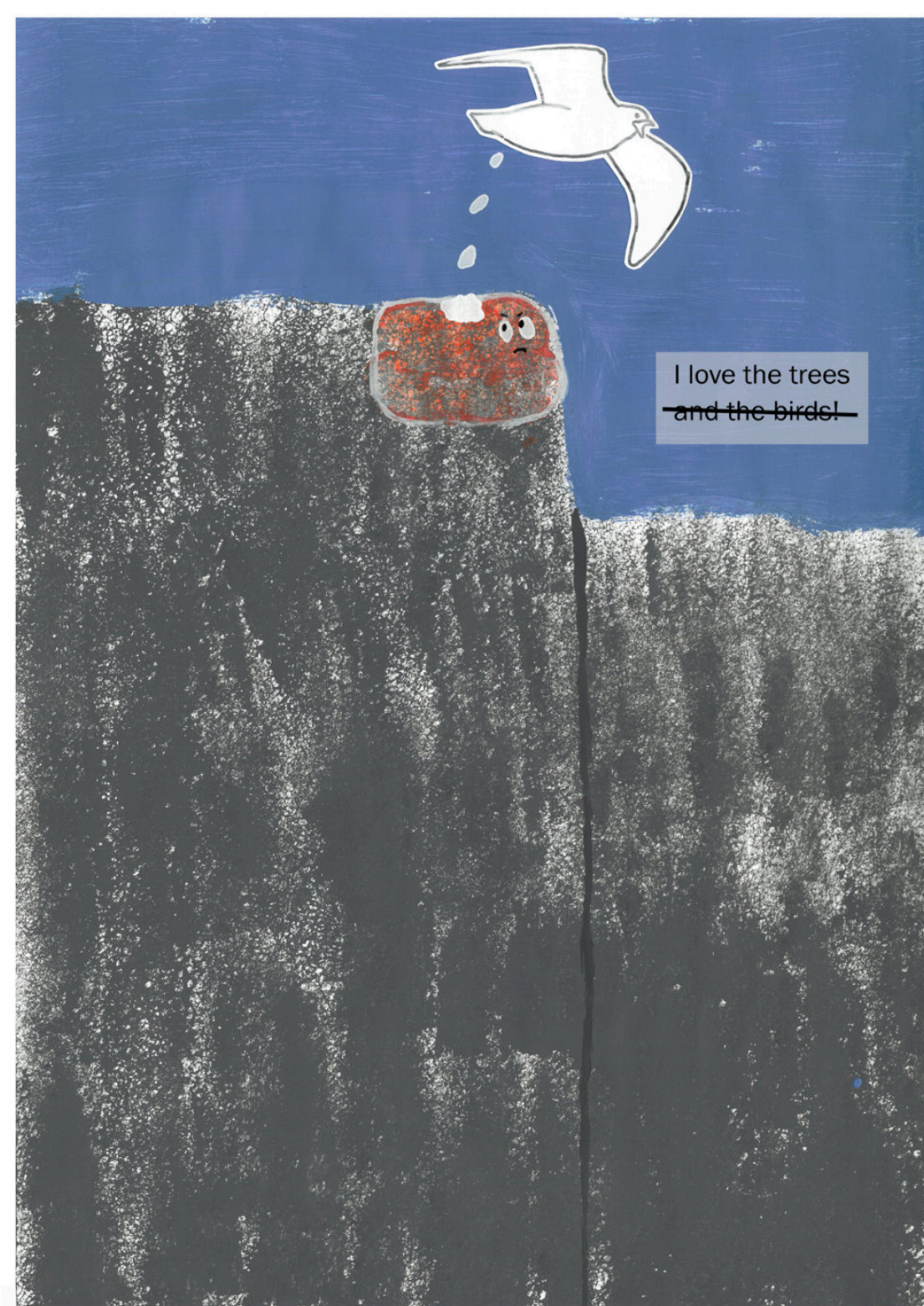




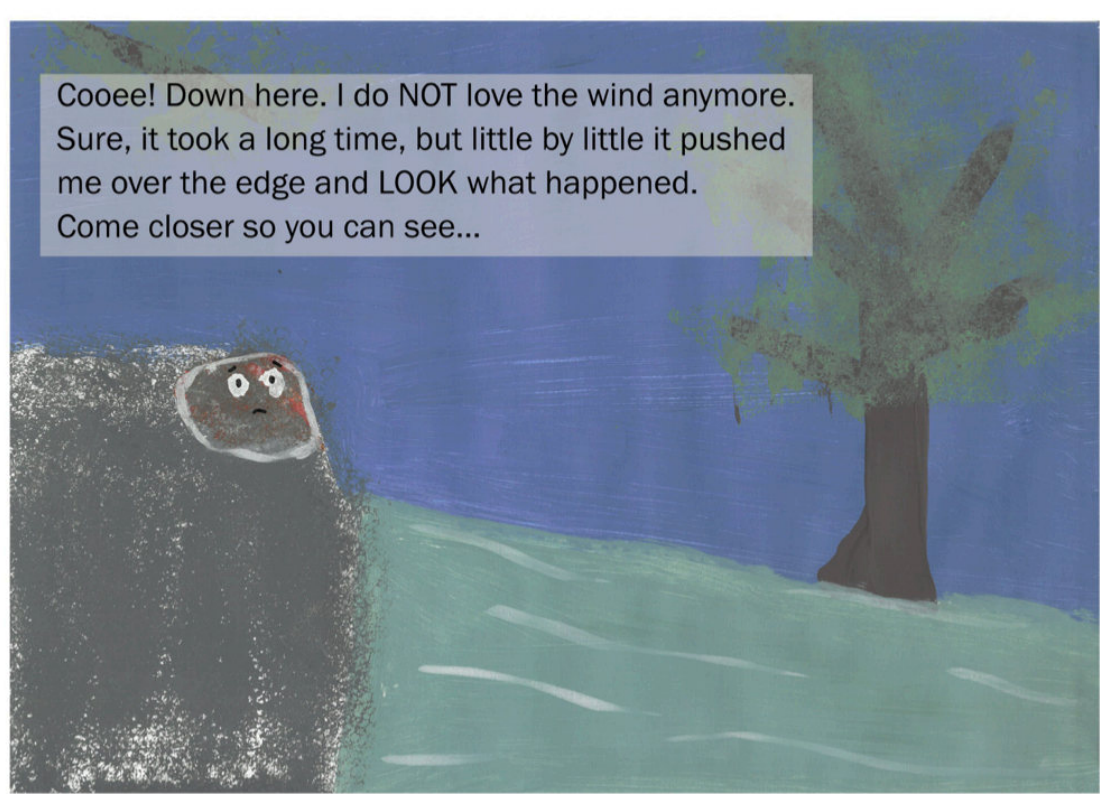
Hello it's me! What did I tell you?
I was patient and just 100 million
years later here I am, out in the
open!



I am the LUCKIEST column on the mountain!
I love the sky, the wind and the rain...
I love the trees and the birds!



I love the trees
~~and the birds!~~



Cooee! Down here. I do NOT love the wind anymore.
Sure, it took a long time, but little by little it pushed
me over the edge and LOOK what happened.
Come closer so you can see...



Not THAT close!

I tumbled down the mountain getting



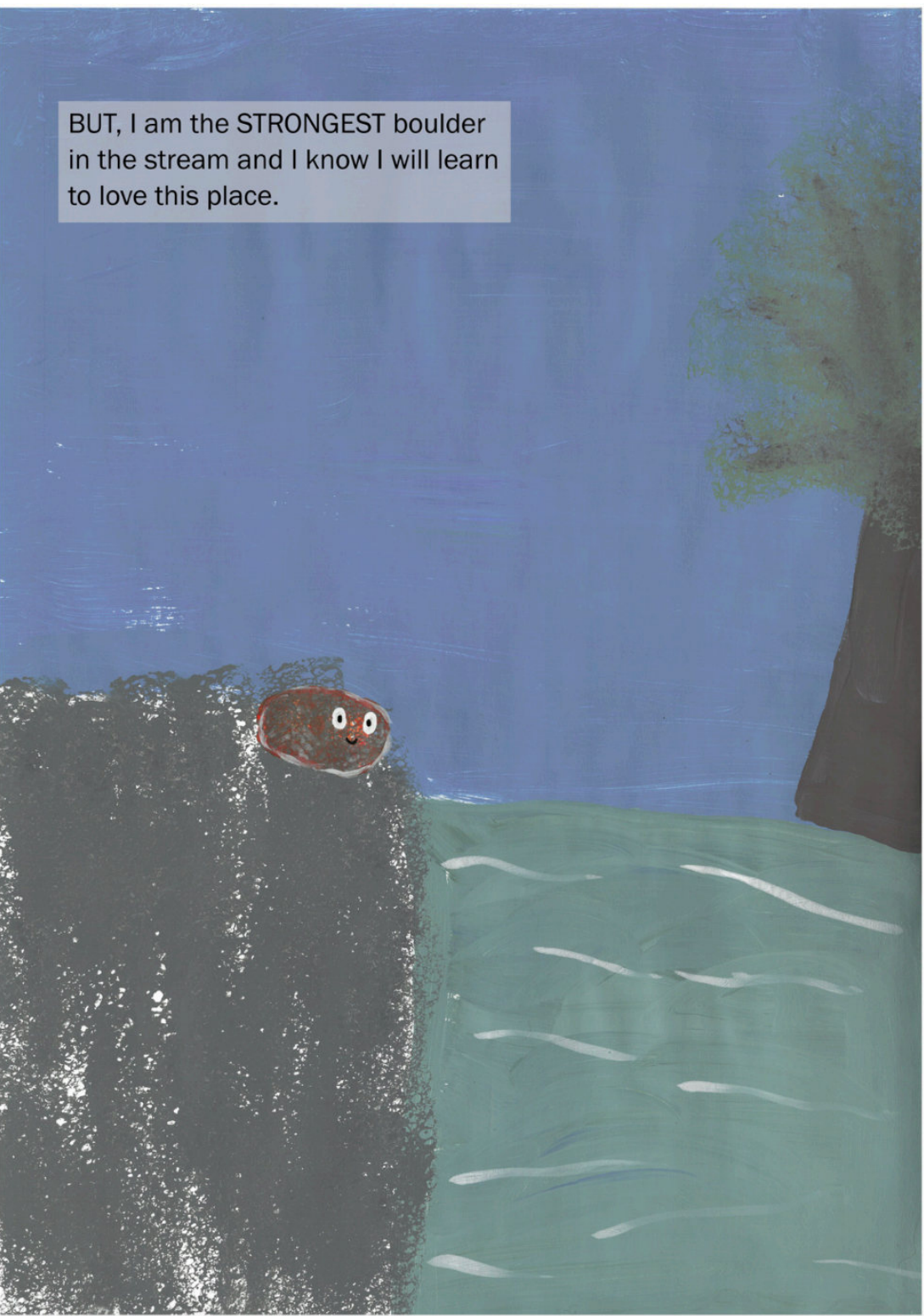
smaller

and smaller

and smaller...

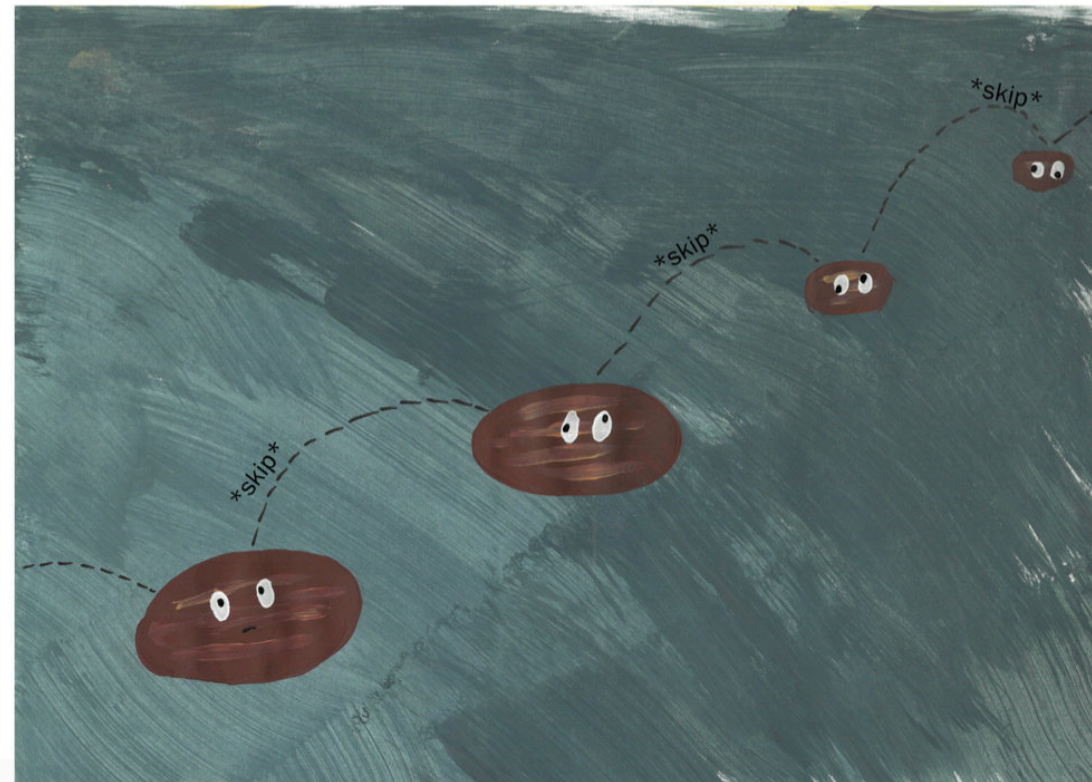
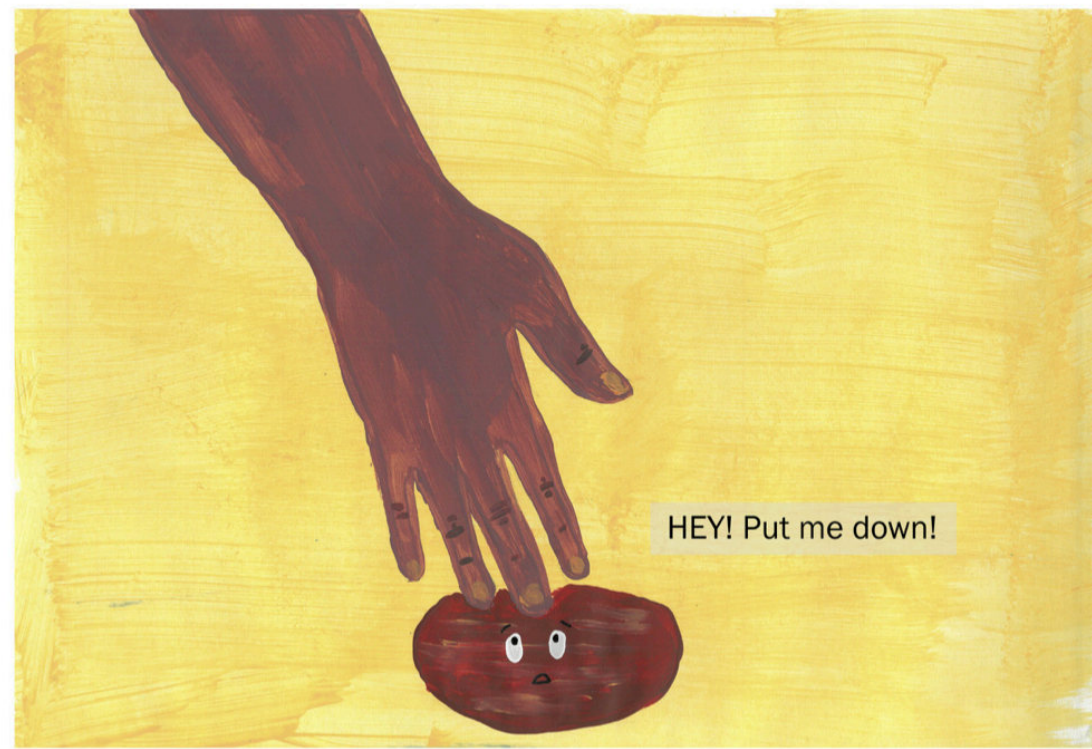


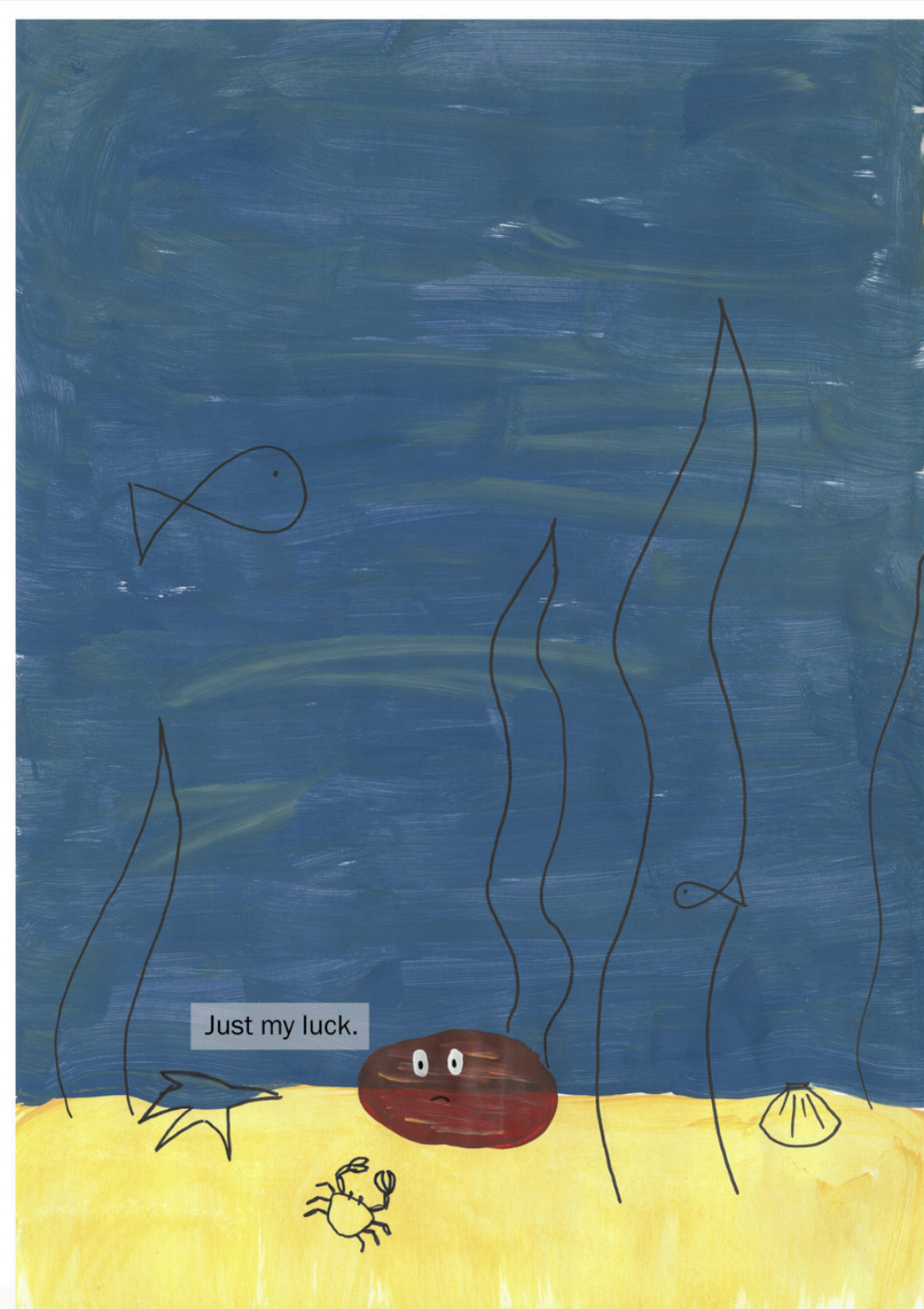
BUT, I am the STRONGEST boulder
in the stream and I know I will learn
to love this place.



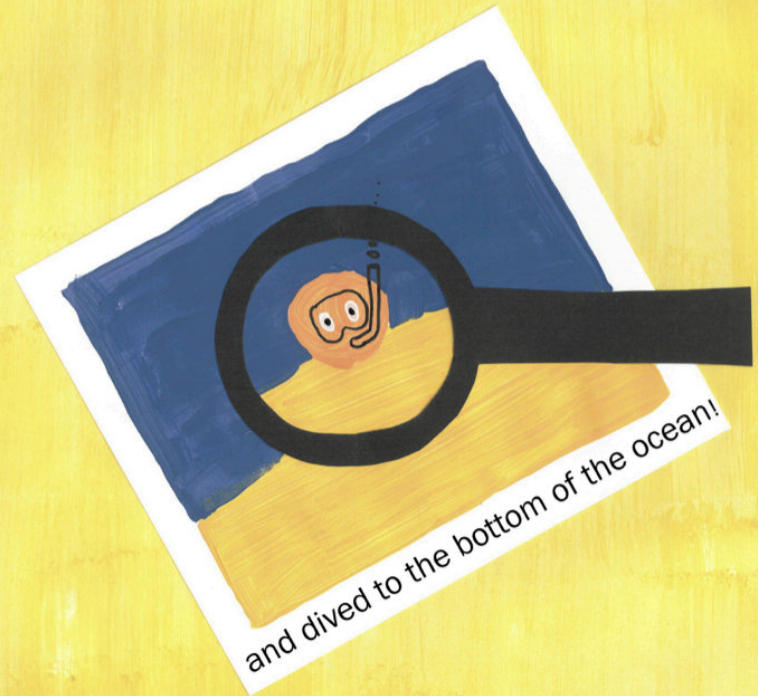
You again. Well that didn't last long.
The stream flooded again and again and
little by little it took pieces away from me
until I was so small, the water picked me
up and carried me here.

I miss my stream and the trees...
BUT, I am the SHINIEST stone on this
beach and I will be happy sitting here in
the sun.





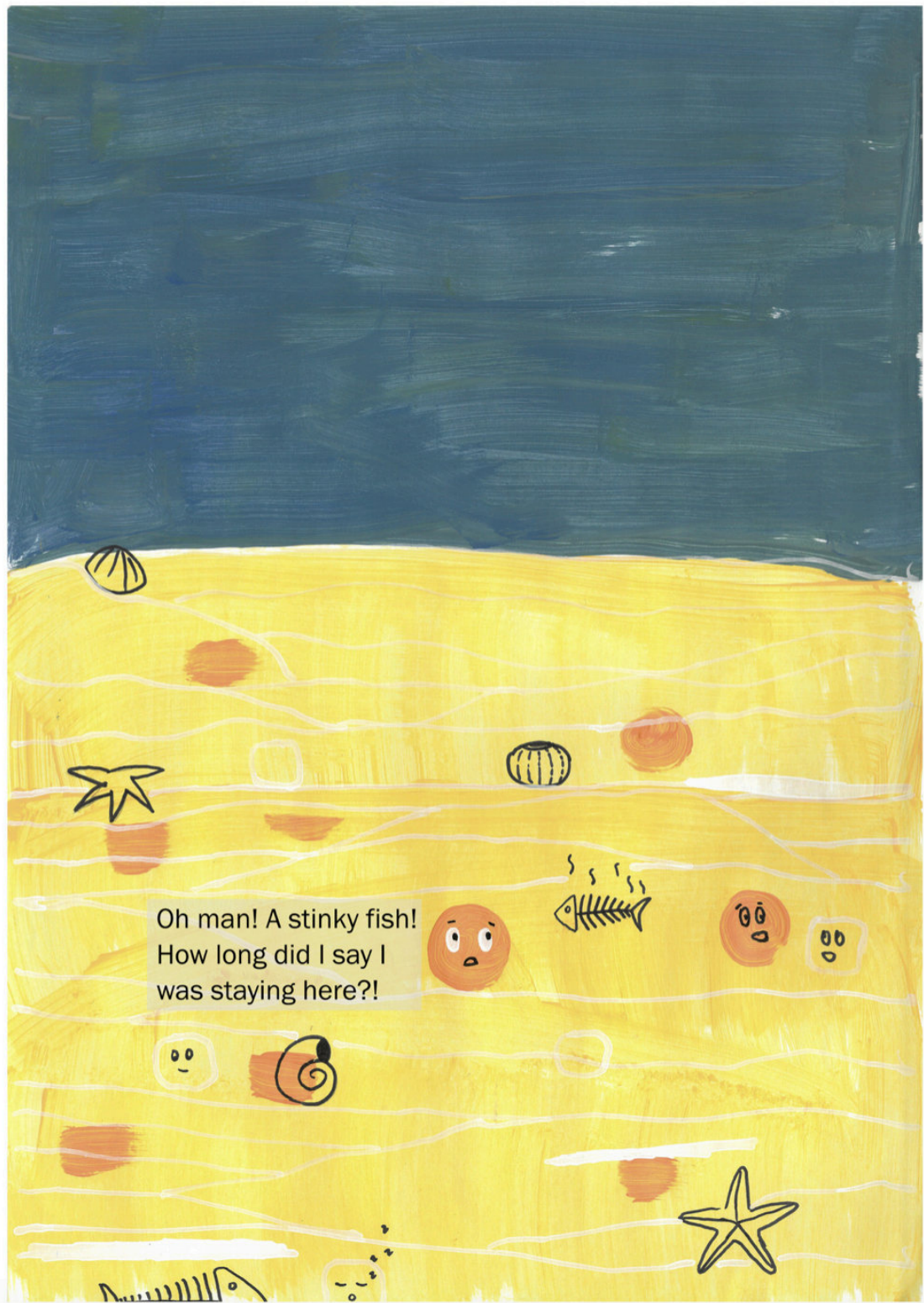
Hi hello, well that was fun!
I thought I was a peaceful pebble, but it
turns out I like action.
The waves split me into tiny bits, and
carried me in every direction.



AND, I am the BEST TRAVELLED sand grain in the ocean.

I'm actually feeling pretty tired. Maybe I will rest here for a year or a thousand.

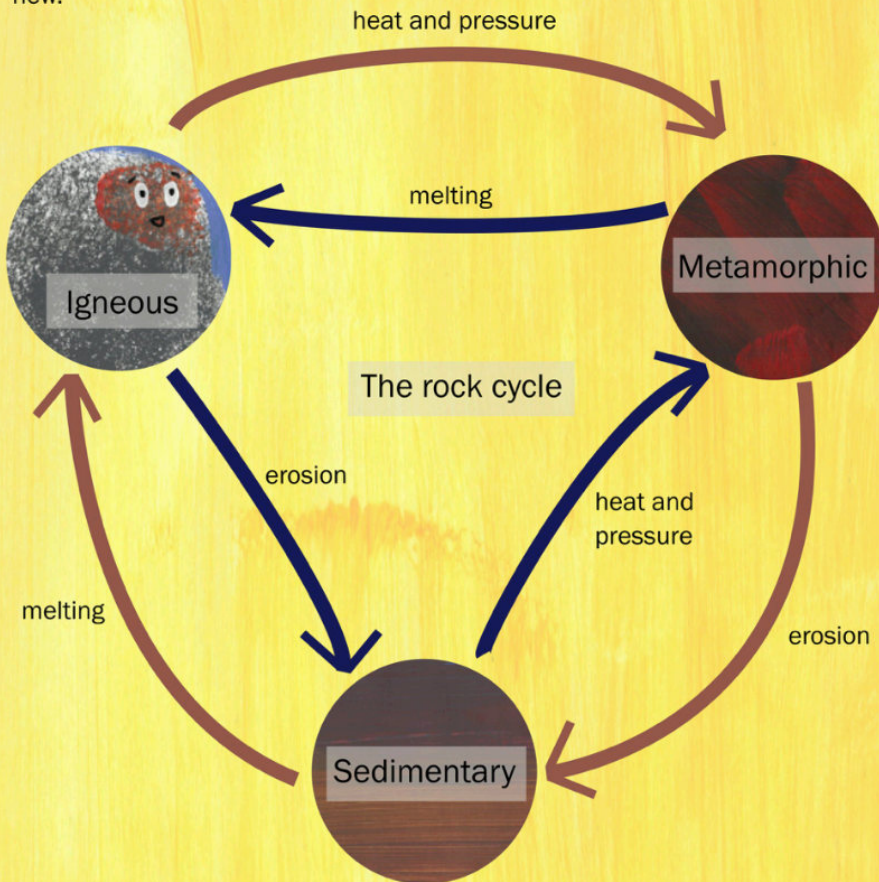
It would be nice stay in one spot and really get to know my neighbours...



Oh man! A stinky fish!
How long did I say I was staying here?!

Every rock tells a story

Jasper's journey in this story follows only one possible path through the rock cycle. The rock cycle is a process where all of the rocks on earth change over time, sometimes into a new type of rock. Changes can happen quickly – like when Jasper is worn down by waves into small sand grains – or very very slowly – like when Jasper is drifting around inside the earth for a billion years. The incredible thing about the rock cycle is that every rock follows a different path. Some come to the surface when a volcano erupts, others form when many layers of sand and sediment, shells and rock fragments join together. From sand dunes at the beach, to cliffs, and mountain ranges – every rock and sand grain started somewhere and is headed somewhere new.



Types of rocks

Igneous [ig-nee-uhs]

Igneous rocks come from inside the earth. They start off as molten magma (liquid rock) inside the mantle where it is very hot and there is a lot of pressure. When this pressure builds up too much, the magma pushes up and out to the surface of the earth. This can result in volcanic eruptions, where magma explodes and then cools down very fast. Or in some cases, magma is blocked by some other rock and it cools down more slowly just below the surface (like Jasper!). Basalt, granite and dolerite are common types of igneous rocks you may have heard of.

Sedimentary [seh-duh-men-tuh-ree]

Sedimentary rocks are made up of lots of fragments of other rocks and materials. Over time, small bits of sand and sediment build up and then solidify creating a new rock. Fossils (very old plants and animals) are often preserved in these rocks as they form. Limestone and sandstone are two common types of sedimentary rock.

Metamorphic [meh-tuh-maw-fik]

Metamorphic rocks are created when rock is put under so much pressure and heat that it transforms into another type of rock completely. It's like when you bake a cake in the oven – batter goes in and cake comes out. Marble is a common type of metamorphic rock. Humans love to use marble for everything from art to kitchen bench tops!

Try these experiments!

Learn more about the processes in the rock cycle by doing these at home experiments. Remember to get help from an adult first!

- See how magma moves inside the earth's mantle: <https://australian.museum/learn/teachers/learning/pocket-volcano/>
- Test out different types of erosion: <https://www.australiangeographic.com.au/education-resources/2017/12/ags-erosion/>
- Make your own sedimentary, igneous and metamorphic rocks: <https://www.sciencefun.org/kidszone/experiments/understanding-the-rock-cycle-geology-science-experiment/>

Shaping our world

All of our landscapes look the way they do today in part because of a process called erosion. Erosion [uh-row-zhn] is a process where rocks change shape and break down over time. Water and wind drive a lot of erosion. Ice can scrape the surface of rocks, or make them crack, and rivers and the ocean can tumble rocks around, chipping more and more of them away until they are smooth, or turn into tiny pebbles or sand. Extreme events like storms, floods and earthquakes speed up erosion. Plants and other barriers that stabilise rocks and soil slow erosion down.

How many years?!

Jasper's story takes place over many millions of years, from well before there were humans all the way to present day. Scientists call this the geological time scale – measuring from the present, into the past. Many of the processes in the rock cycle can take millions of years to a few days, depending on the conditions.



Who is Jasper anyway?

Jasper could be any rock, but in my mind he is a piece of quartz crystal in a dolerite column I saw on holiday in Tasmania. His story is an imagined version of how a small piece of a big mountain could make its way through the world over millions - even billions - of years.

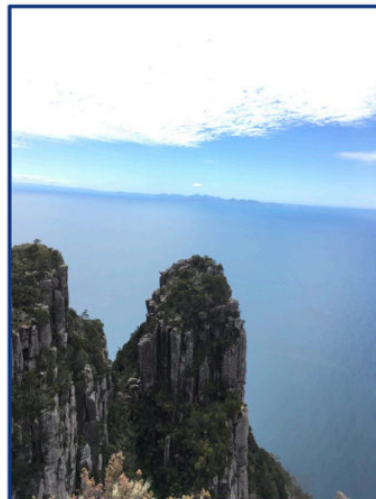


Photo courtesy of Ida Diget, 2019

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Jasper always has an idea of how things SHOULD be, but the world has other plans. Follow Jasper on his journey over many millennia as he takes a spin through the rock cycle.

