

Ocean's Revolt

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***Dear Colleagues,
Dear Parents,***

Splic and Sploc are two endearing and inquiring drops of water. Through this story, they will inform the children and help them to understand, that an excess of CO₂ released into the atmosphere disturbs the ocean balance and its underwater life.

Confronted with the corals losing their colors, and shells having problems of calcification, children will learn that by fighting against global warming they are also protecting the ocean.

In addition, they will discover that the ocean is covered by a "great conveyor belt" (thermohaline circulation) and will become acquainted with the "sea angels", strange little creatures.

The story begins and ends in the polar regions, so children will also learn the difference between sea ice and ice cap.

What a winter that year was! . . . After roaming up hill and down dale to the rhythm of the water cycle for such a long time, Splic a small and lonely sad drop of water arrived up north against her will. In this cold water of the ocean lives the polar bears and they are kings.

- What an icy bath! She moaned.

- Welcome to the sea angels! They shouted out in chorus. A tiny bunch of translucent and colorful creatures so beautiful and cruel at the same time. They were swimming vertically and flapping their wings to move forward. They also spread their tentacles to catch passing prey.

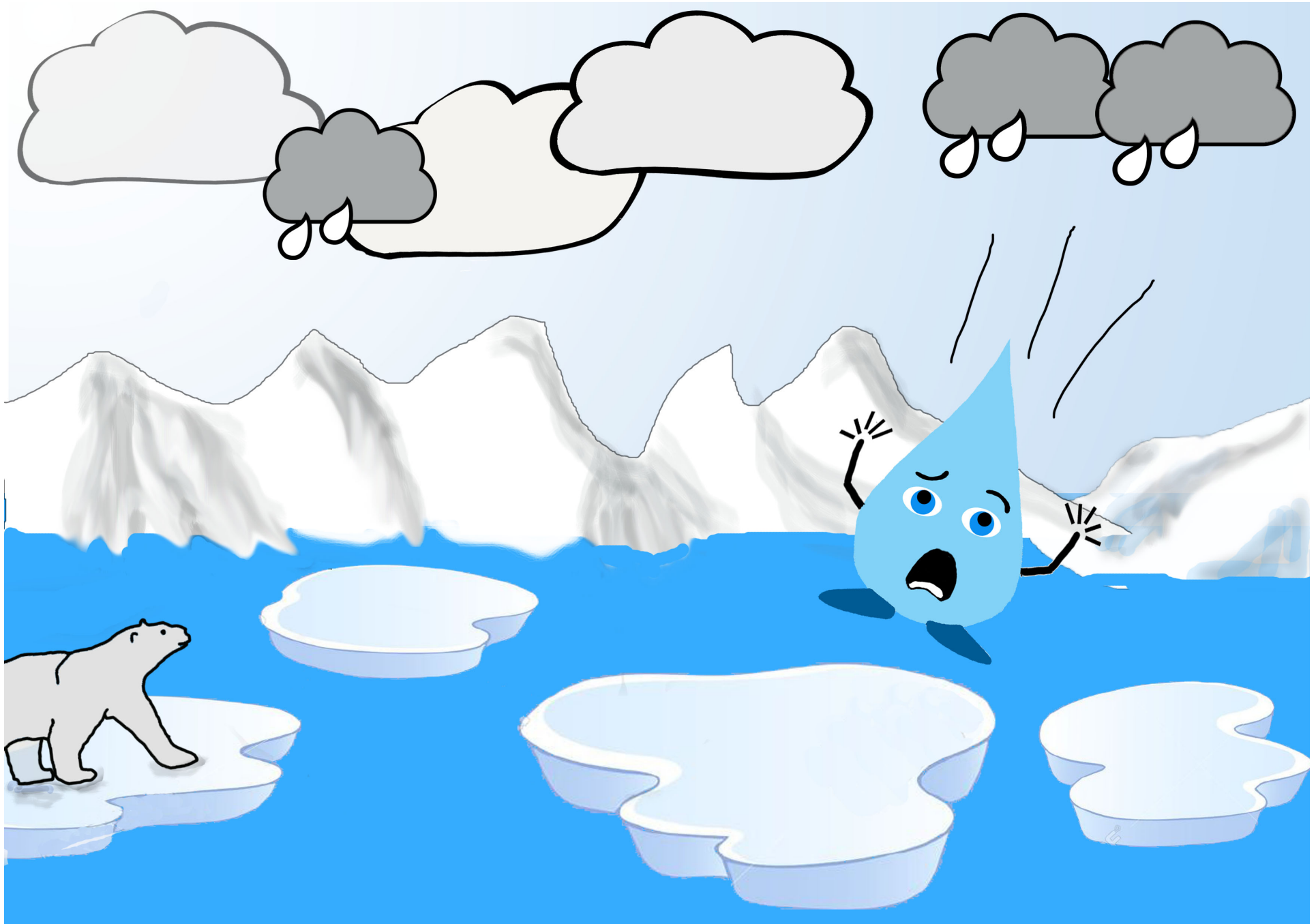
Splic filled with wonder by such a sight could not reply to this amazing welcome because the wind and cold froze her into sea ice . . .

Trapped in a beautiful icy coat covered with snow she instantly fell asleep for a long, long, long time ...

While in her deep sleep, Splic worked actively for the well-being of the ocean without knowing it.

Her beautiful white coat returned to the atmosphere as the rays of the sun beat on her, reducing the absorption of heat by the ocean and its warming...

She and the other frozen drops threw out sea salt into the water which activated the mechanism of a large conveyor belt called "marine current" or "thermohaline circulation" ("thermo" for temperature and haline "for salt) by people.



Then one day a few years later Splic awoke with a start . . .

The block of ice that was her house cracked strangely and a growl of a close angry bear panicked her. She felt so alone and scared when suddenly she heard:

- *The sea ice is breaking down. I think we are going to melt and finally be free! said her neighbor Sploc, as he was stretching himself vigorously. I would like to travel further north, it seems so beautiful!*

Splic timidly dared to speak, so not to engage in the conversation.

- *In addition, I am afraid of going south one day, during the long journey and I must cross the sewers! They say so many bad things about that!*
- *I would like to take the conveyor belt! It goes around the ocean and in a thousand years and then I could visit the whole world ...*
What about coming with me? Sploc asked his neighbor, who he thought was pretty as she was waking up.

Their ice blocks were smashed into so small pieces scattered by the wind. Without doing anything the droplets were floating free again among the sea angels.



- Sea angels are strange! They swim the wrong way, upside down! noticed Splic.

*- Maybe it's a dance to welcome us? Sploc suggested.
Listen! It seems like they are singing!*

Splic and Sploc perked up their ears and like a prayer they heard:

*- Cool down water, we are too warm!
Cool down water, we are too warm!*

One of the bold sea angels bumped into Splic and Sploc.

*- I am Clione! said the sea angel pretending to apologize for its clumsiness.
When the ocean gets warmer we must swim upside down.
For a few days it's fun from time to time, but swimming upside down all the year is unbearable!
And nobody cares about our discomfort.
Can you ...*

*But the two drops of water didn't hear the rest of the story. The wind dragged them further north, sucked in by the powerful stream of the conveyor belt.
And like riding on a big slide all frightened, they dived into the icy dark bottom of the ocean. . .*



Excited by the magnificent trip around the world which was going to start and the presence of Splic at his side, Sploc didn't even notice the enormous baleen whale until the very last moment. It had an empty stomach and with its mouth open scooped them in...

Thanks to Splic's agility, Sploc fortunately was not swallowed with the krill (kind of shrimp) and didn't have to fight the big raspy tongue. Unfortunately, the two drops were trapped in the vent, a small hole in the whale's head.

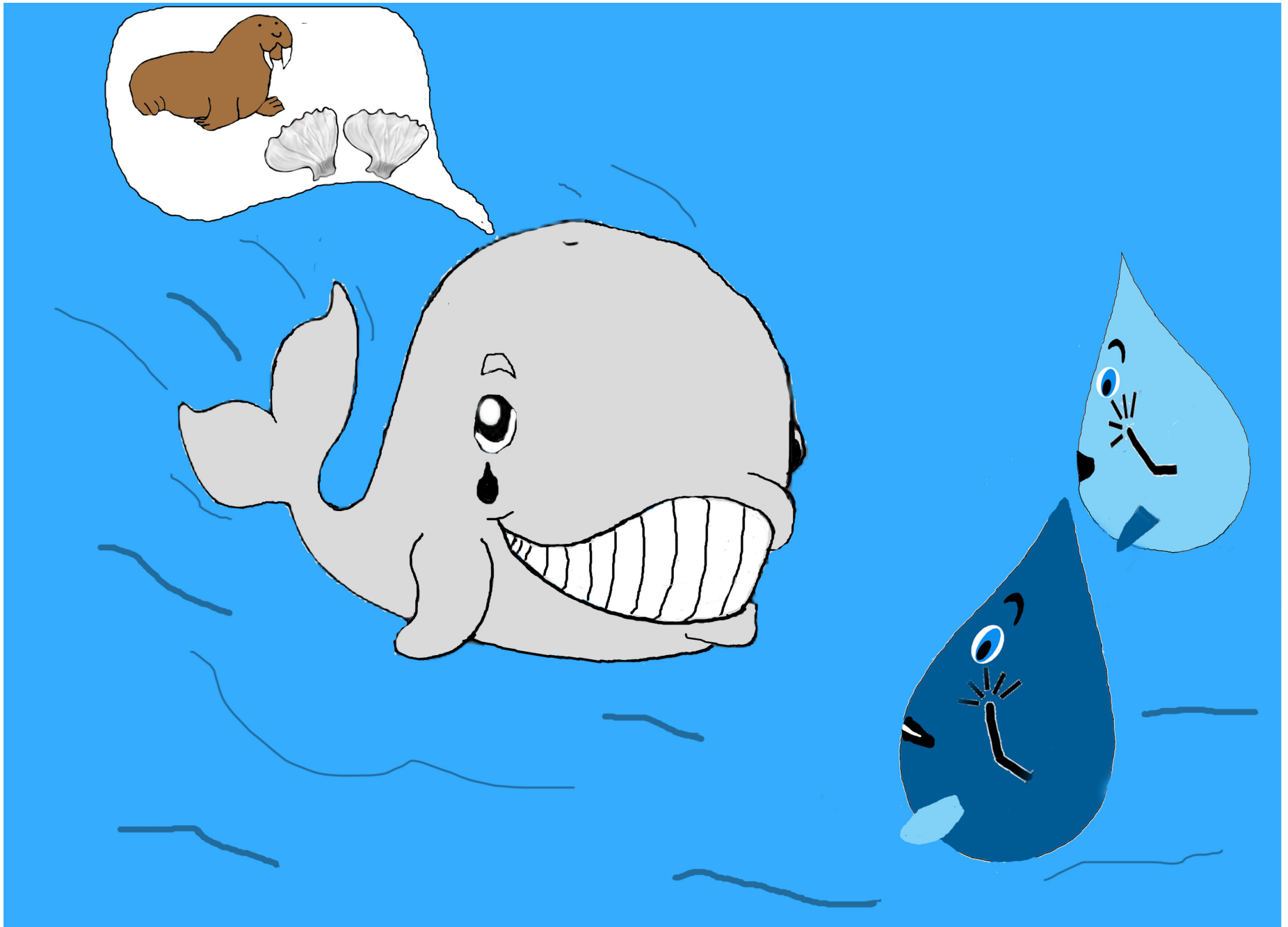
*- Give me your hand! said Sploc amused by this unexpected adventure.
Let's wait for the minute before going up to the surface.
The whale will send us high in the sky, when exhaling a powerful jet of water!*

*- But what happens? suddenly said Splic.
She was feeling shaken up, just out of the blue. It looks like that the whale is crying!*

Indeed. Splic and Sploc perked up their ears and heard:

*- I do not like the ocean! Everything is changing! The whale sang in a melancholy voice.
Many creatures are complaining, even the walruses!
They noted that shellfish shells are now fragile and it looks as though someone had been nibbling on them!*

*Depressed, the whale did not rise to the surface. It changed its direction and ran madly into a storm.
Splic and Sploc were prisoners going to an unknown destination.*



As the whale rose to the surface, it finally expelled a cloud of steam.

Splic was scared and tightly holding onto the Sploc's hand. They clung to the vent preventing their exit.

- I'm afraid of its breath! She moaned. It's too powerful!

After several missed attempts, Sploc got angry and Splic finally dared to let go.

Sent into the air more than seven meters high, they were thrown near the coast because the wind was blowing so hard.

- Ouch! Ow! The two frightened drops cried, as they landed on a branch of prickly coral.

- Strange! It's strange here! Splic said, once she calmed down.

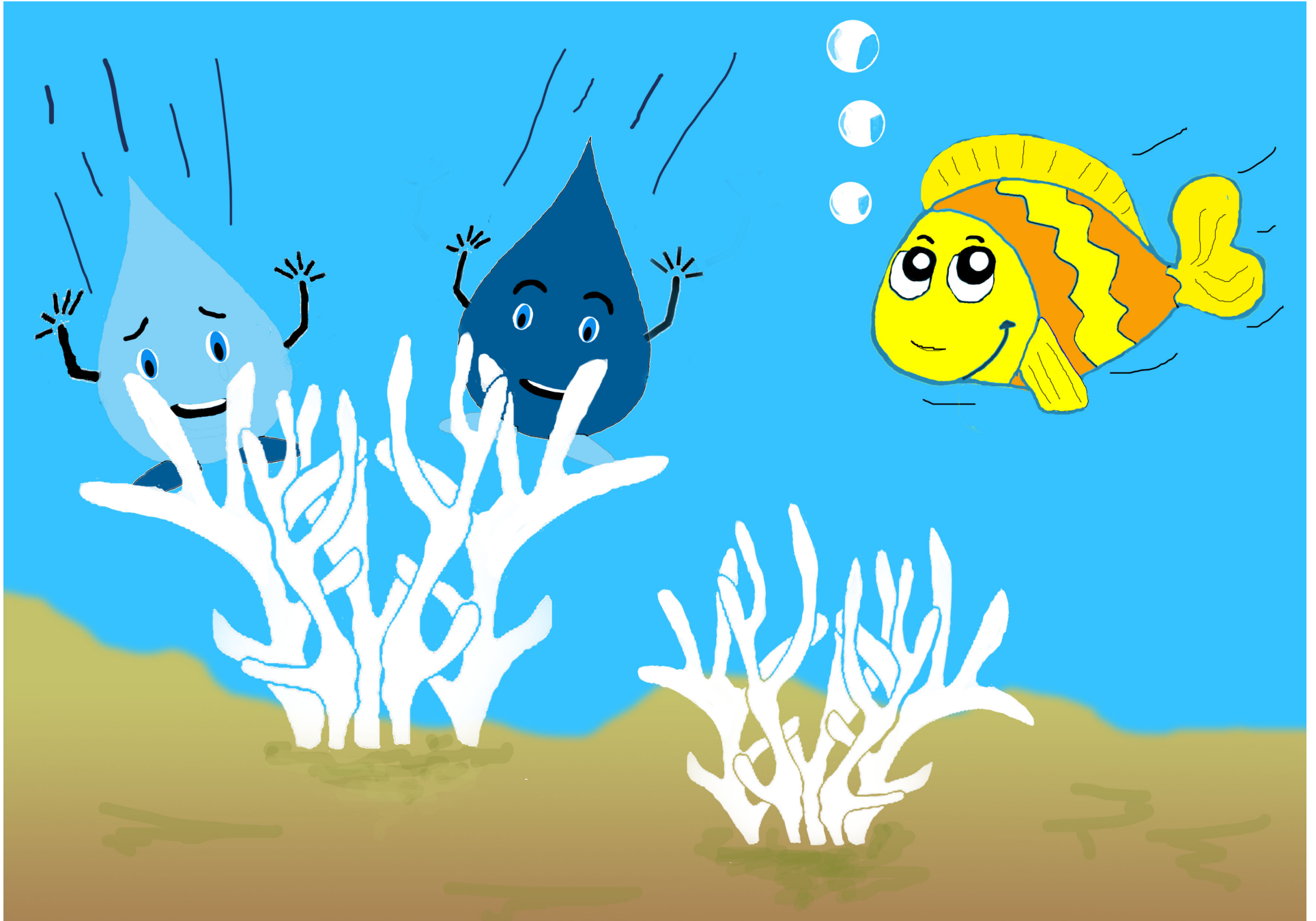
Look Sploc! Most of the colored coral is now all white and ugly.

- Welcome to our cemetery, little drops! Said a pretty fish swimming by.

Corals have lost the algae which gives them their color and now they look like they're dead.

The ocean's water is too hot and it's very sad!

- What a horrible nightmare! Sploc said. From the time we woke up, sea angels swim upside down, shells are fragile, and corals are in the cemetery. What is happening to the ocean?



In order to think about this disturbing question, Splic and Sploc swam quickly up to the surface of the ocean and rippled on the waves.

But at this moment the two droplets had a strange feeling.

. Don't you think we should consult the Master of Drops? Splic asked his new friend.

He alone would be able to reassure us!

Immediately after the drops of water said his name, the Master of Drops appeared. He was dressed in a gold suit of droplets that shined beautiful golden reflections on the surface of the water. Without even greeting them, as if he had heard everything they said, the Gold Master said:

- I'm also upset!

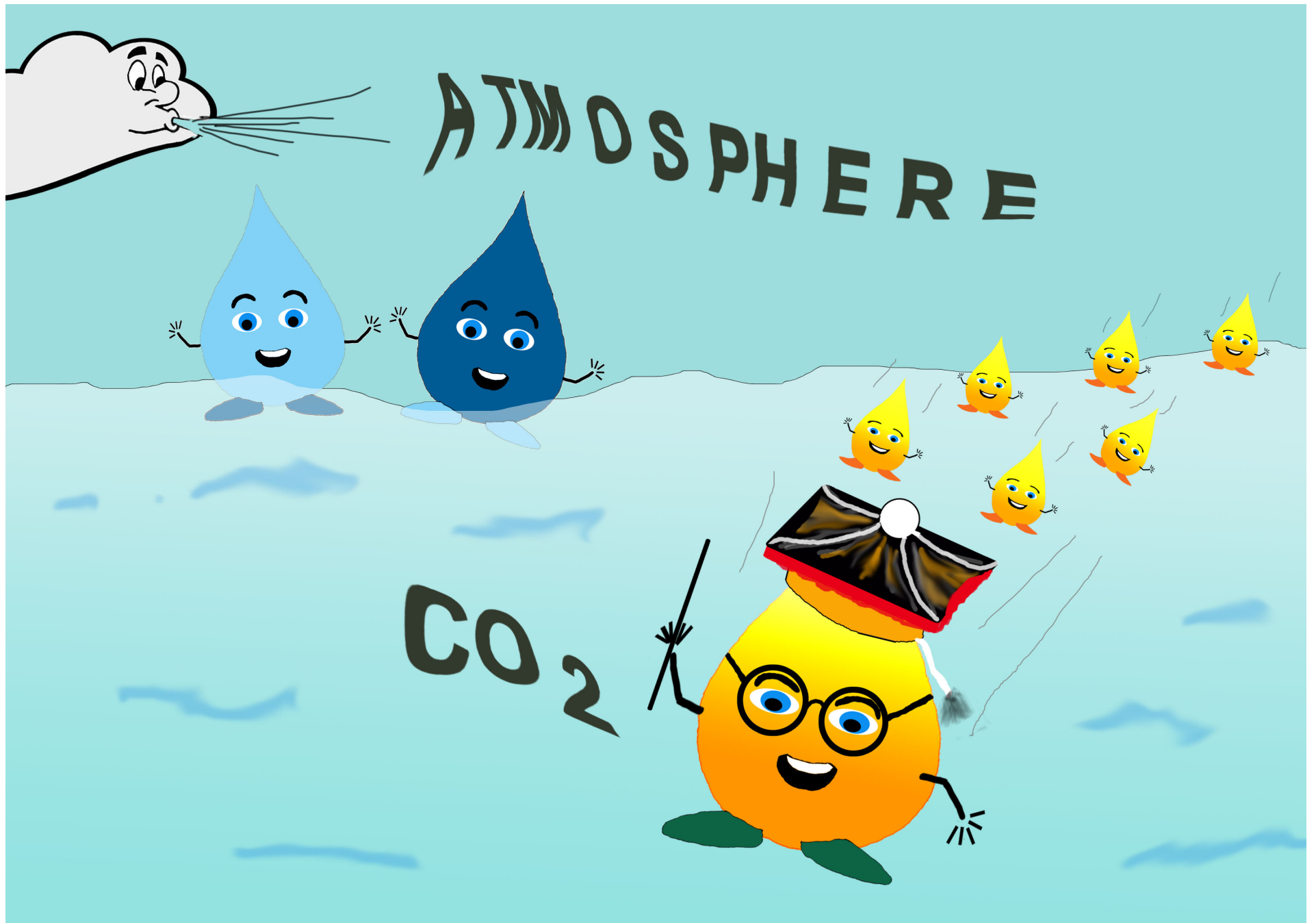
Thinking, he started a complicated speech ... which Splic and Sploc tried to understand. But the wind did not like the Gold Master's long monologues. He began to sigh so much with boredom that many of the Master's words flew away.

Splic and Sploc with difficulty and concentrating on the words, thought they understood that the ocean played an essential role in the earth's climate.

They thought they heard that the planet's ocean is a carbon sink that absorbs CO₂, (a greenhouse gas) which there is excess of in the atmosphere. This CO₂ would dissolve in cold waters.

Then the wind sighed and sighed so much and so hard that Splic and Sploc only understood a few words of the Gold Master.

. . . Too much CO₂. . . Atmosphere. . . Intruders. . . I am upset. . .



The last words of the Gold Master spread from drop to drop like the speed of a giant wave. Throughout the whole ocean a general panic and furious revolt rumbled.

- An intruder? Let's stop them before it's too late! Many drops of the ocean chanted.

- But how? Sploc thought.

- Let's revolt! Let's change our conditions! The world will be warned that somethings don't go into the ocean!

Splic suggested.

The wind, a little embarrassed to have heckled the Gold Master's important speech decided to help them.

The sun, who loves to see itself from time to time in the blue ocean also gave a helping hand.

This is how from the north of the earth all the drops came together to dive into the depths of the ocean in order to slow down the great conveyor belt.

In the coral cemetery under the warm rays of the sun, the drops swelled and expanded. They took up so much space that they invaded the coasts and submerged a few islands.

Splic, Sploc, and countless of drops from the surface, evaporated and formed big troubling clouds. The wind pushed these clouds toward land where they flooded entire cities.

But in vain ... Nothing changed!

- Hold onto the cloud, Sploc! Said Splic. Appreciating so much that Sploc was at her side. We must stay in the air and not rain to see better! It is really important that we stay here a long time in order to find this intruder.

Sploc would have preferred a different way to travel with Splic, but in this emergency he said nothing. It was not comfortable in the air that was driven by the wind. But that is how Splic and Sploc traveled around the world.



While up there like two detectives being curious, Splic and Sploc scrutinized the earth looking for clues that would make it possible to discover the intruder.

When suddenly . . .

- I have trouble breathing and my head is spinning. What's going on? Splic said panicking!

- Try not to breathe! Sploc replied to his friend trying to keep her calm.

We are flying over a polluted area. Down below there are factories, houses, and car exhaust in the atmosphere.

Lots of pollution filled with CO₂, he managed to explain while coughing himself.

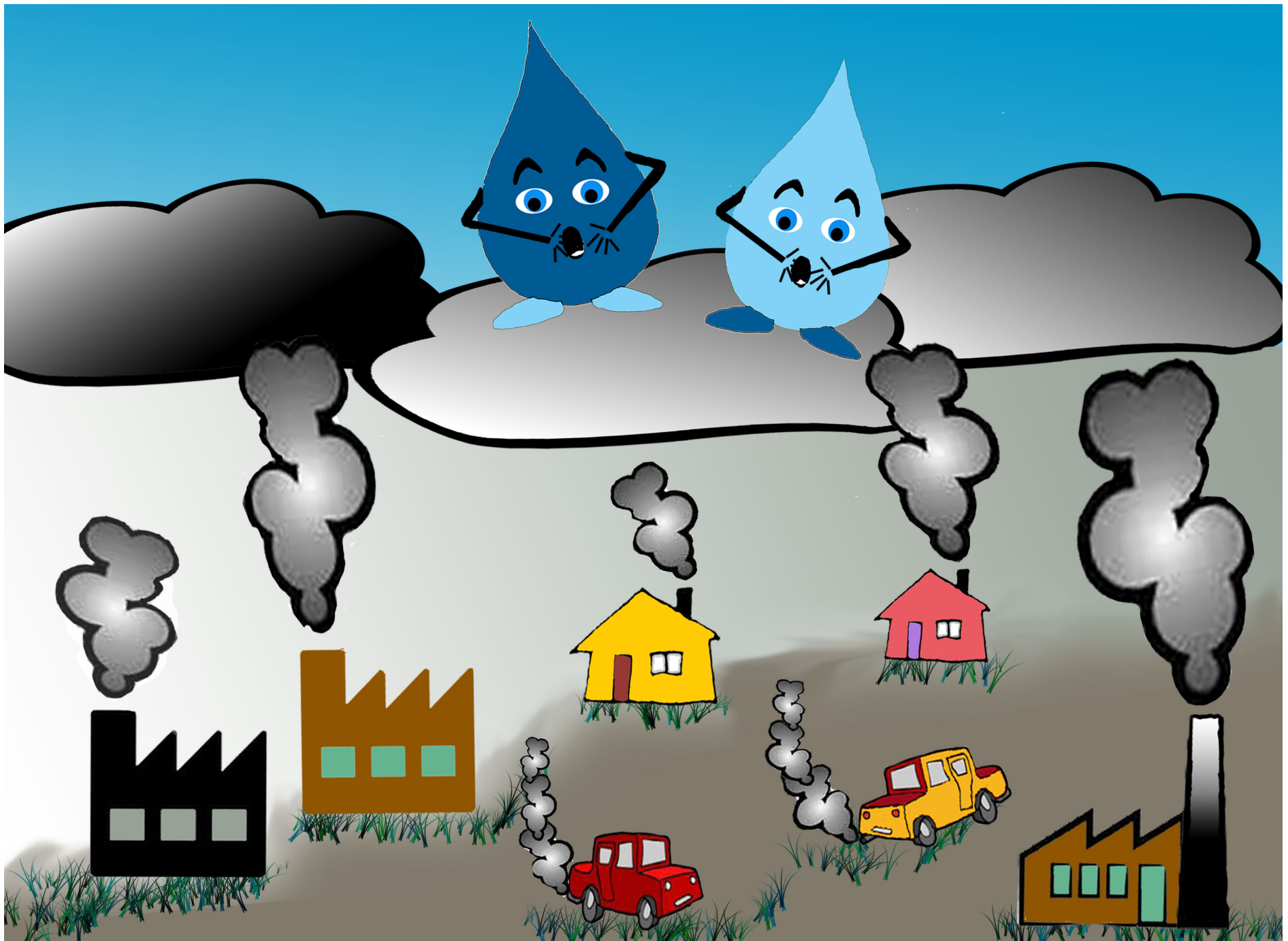
We found it, Splic! We found it, Splic! repeated Sploc with excitement.

It's all the people and not a single intruder who release so much CO₂ in the atmosphere!

- This worries me. Do you think they do it on purpose? Splic asked panicking.

- I don't know, replied Sploc. I thought people were "friends of the ocean". Maybe they just don't know!

From cloud to cloud and drop to drop, the sad news spread to the depths of the sea. . .



From pollution to pollution, Splic and Sploc's around the world trip was far from funny.

Big planes even sailed through their cloud, also releasing its share of CO₂ into the atmosphere.

- Hey, don't cry now Splic! Sploc said to his friend.

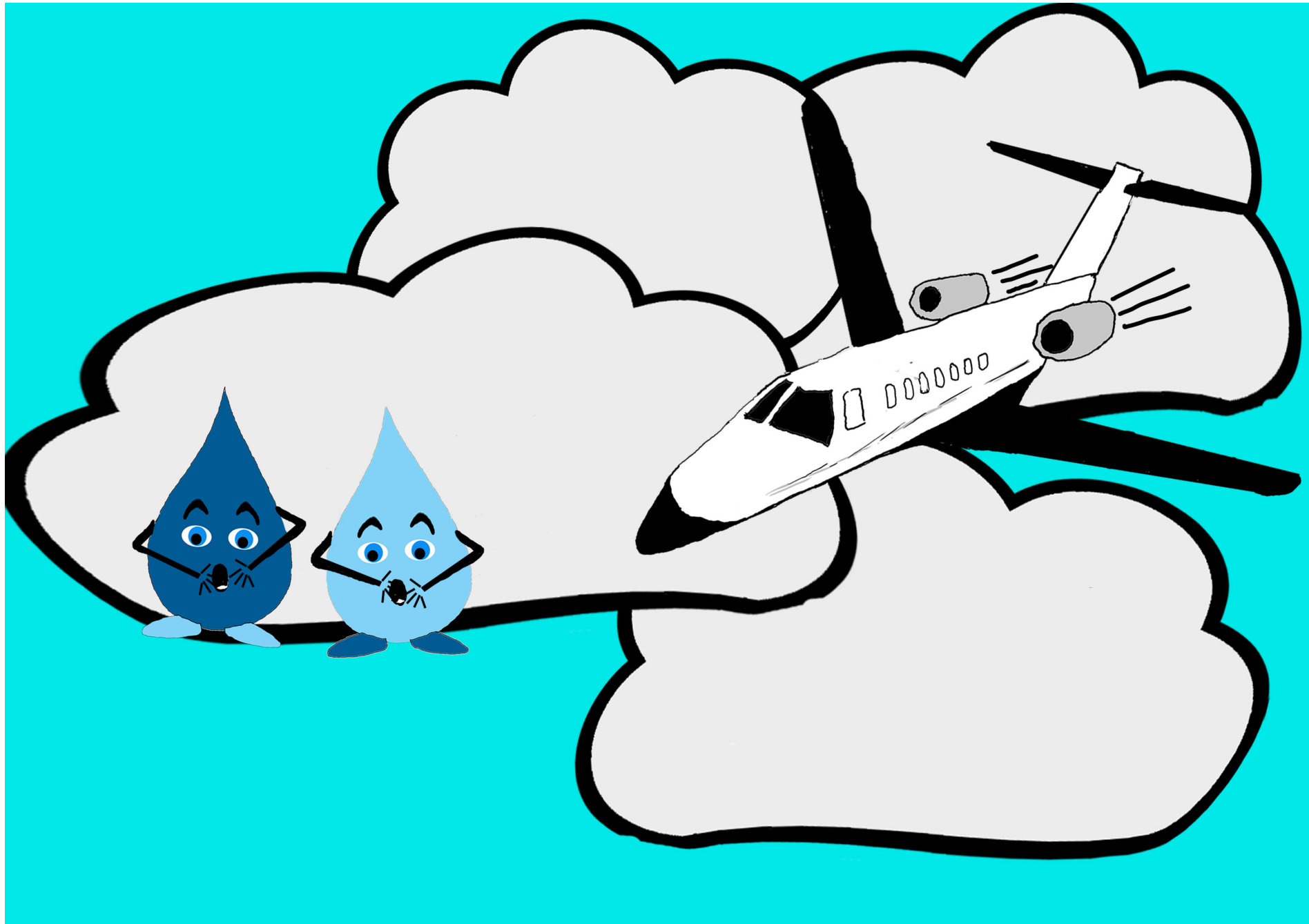
*Hold your tears and we try to go down into the ocean, the place where we met the sea angels and be with them.
There we shall be better!*

- You must also pay attention! Hiccapped Splic to her friend.

*We absolutely must not go to the snow on the ice cap. This is the place all covered with ice and we would be prisoners of the ice river. Many snowflakes would try to overpower us by crushing us and turning us into ice.
We must slowly slide to the edge of the ocean and to wait until the ice river to make an iceberg.
This will then take us near the sea angels. I don't want wait, the journey would be too long!*

- We've already been sea ice. But it would be a great experience to be an iceberg, Sploc said.

- No, no and no! Replied Splic ... perhaps another time, not now!



*Splic and Sploc held onto their cloud, waiting to arrive at their destination!
And on a very cold winter day diving into the ocean, the two drops heard:*

- Welcome to the sea angels!

This time Splic and Sploc didn't freeze, even if sea angels no longer swam upside down.

Very soon Clione recognized Splic and Sploc.

- What a catastrophe! He moaned before even saying hello. So many fishes from warm water invade our home and want to eat us.

What a tragedy! These people dismiss too much CO₂ into the atmosphere and it changes our ocean so much!

- What a tragedy these people! Repeated a seal passing by.

- What a tragedy these people! Two wales sang.

- What a tragedy these people! Repeated the narwhal, the beluga, the walrus, the orca, and the crabs... alternately.

Even the napping bears the water mumbled:

- What a tragedy these people! They are melting my kingdom!

Discouraged, Splic then said:

- In fact, our revolt was useless. People did not understand our message.

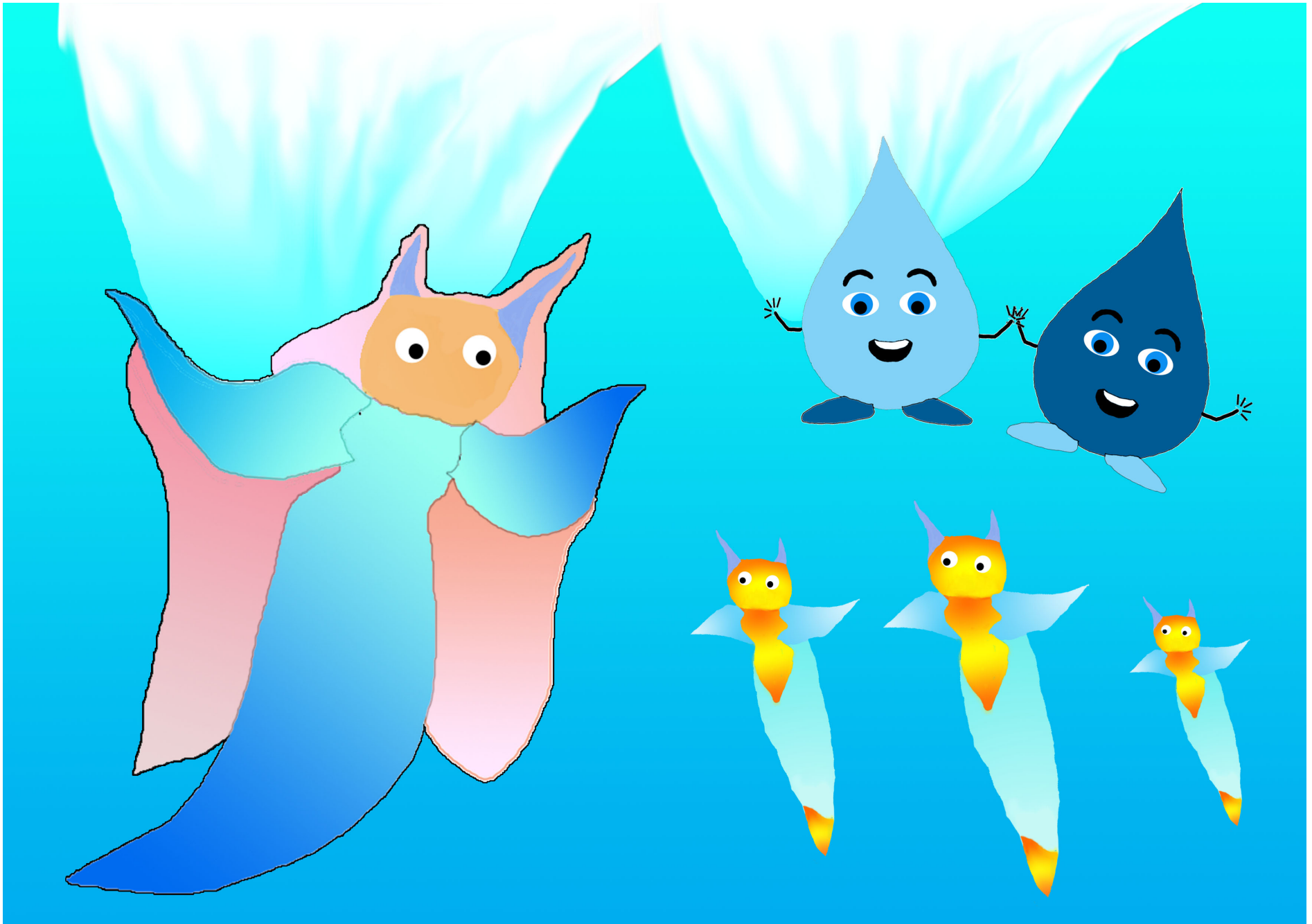


The queen of the sea angels who came out of nowhere and had heard everyone's thoughts, majestically said to all:

- A legend says that at the other end of the world under the ice, lives an old tiny sea angel who has magical powers.

If you find him, he may be able to help you.

And flapping her wings, the queen disappeared as mysteriously as she appeared.



Supplicated by all the inhabitants of the ocean including the bear, Splic and Sploc accepted the mission of seeking help on the other side of the world. In fact, the new detectives were so intrigued by the legend that they even were excited about this adventure.

- The big conveyor belt can take us there, said Sploc, but it's slow.

- I can take you there in my beak, said an Arctic Tern in the sky.

Each year my friends and I make a round trip flight from one end of the earth to the other.

But it will not be very comfortable.

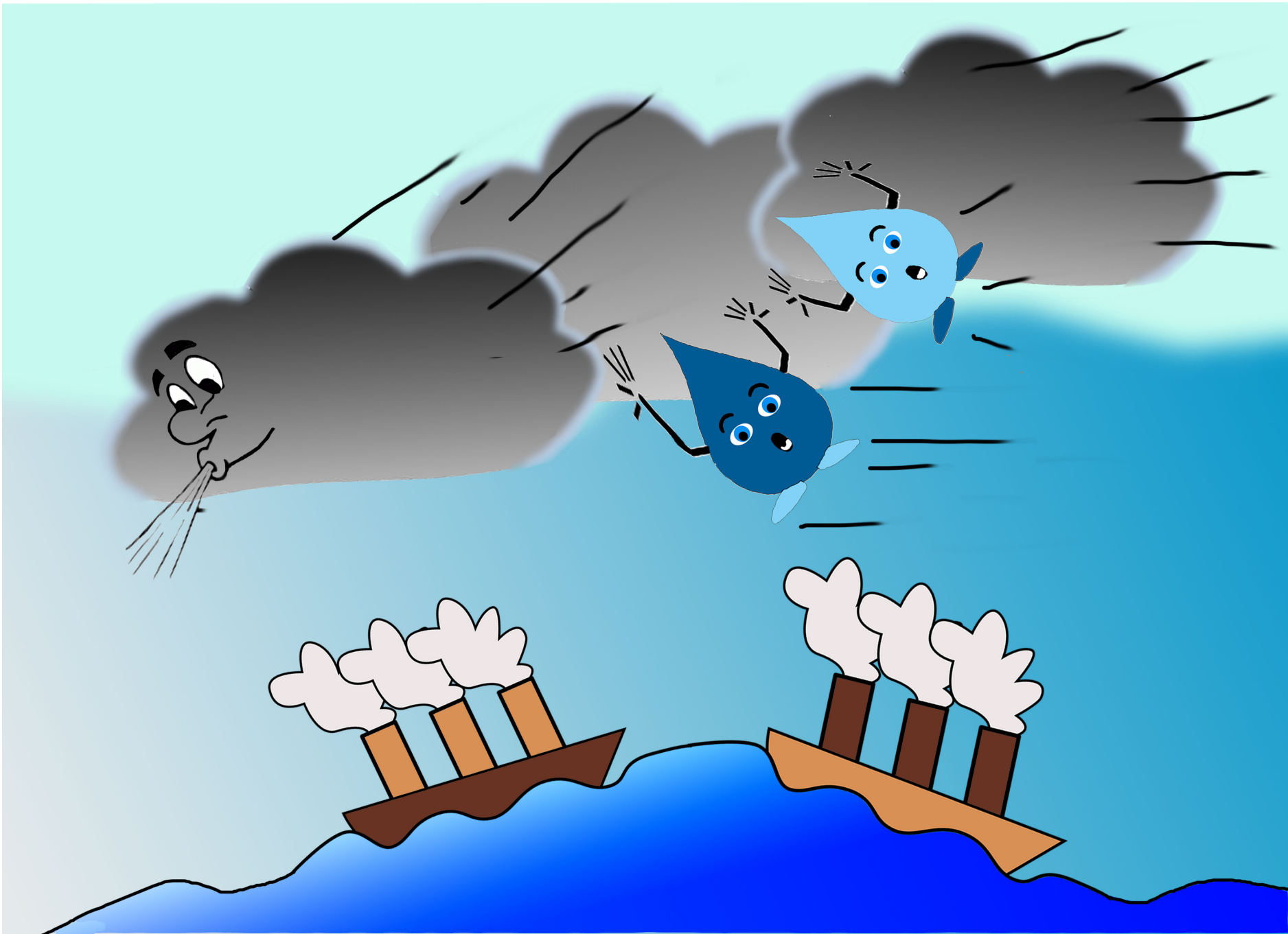
- Hang on little drops! Then said the wind. I'm the one who takes you there.

I'll be spinning at full speed to the other end of the world.

The news spread quickly in the ocean. Everybody moved away from the tornado. Holding their hands firmly Splic and Sploc, let themselves be carried away, laughing because they loved the strong sensations.

The wind took so much speed that he shook a few passing boats.

- Ah! Ah ! Ah ! He laughed, blowing harder.



Carried away by its strength, the wind stopped a little too late. . .

He shook so much with his many swirls that it frightened the penguins and they immediately showed him which ice block the old sea angel with his magical powers, lived under.

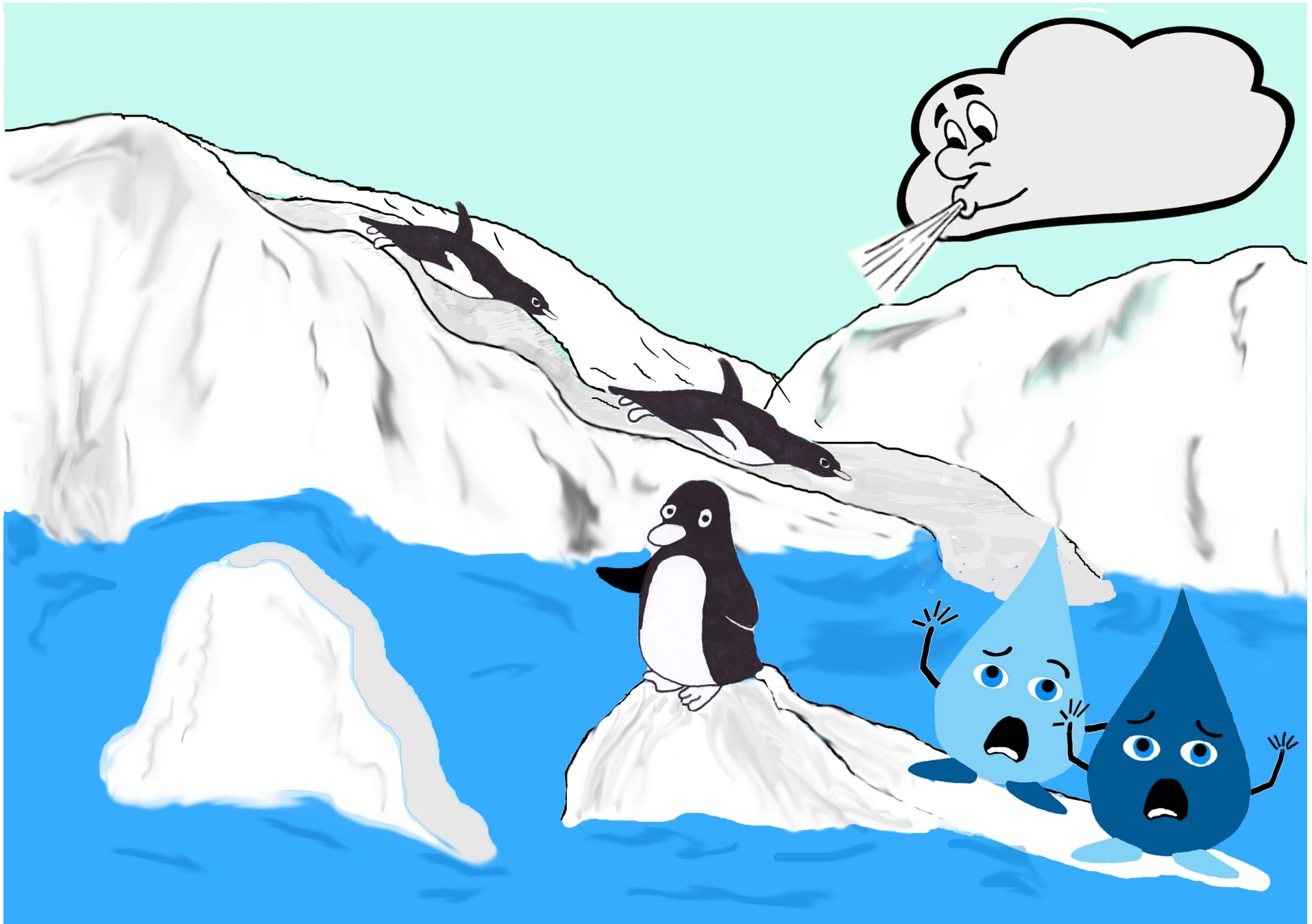
- It's beautiful here. I would like to slide on the icebergs with the penguins! said Splic.

*The wind was exhausted by the journey and did not think the same thing.
He hurled Splic and Sploc against the old sea angel.*

- Sorry! Sploc apologized.

But the old angel was not handy. He spread his threatening tentacles with magical powers and despite his small size, frightened the two drops of water which began to stutter.

The old sea angel only calmed down when the wind roughly battered him, forcing him to listen to the fearful Splic and Sploc.



- My magical powers are infinite, finally said the old sea angel with pride.

But unfortunately, they do not act on people. I cannot do anything for you. You should not have disturbed me.

Disappointed, the two detectives did not even want to play with the penguins. They just wanted to fall asleep for a long time in this ice country, but here too it was warmer than usual ...



Fortunately for the ocean some time later on a hot night, the old cantankerous sea angel with magical powers had a terrible nightmare: he swam upside down without ever being able to reverse himself again!

Awakened by this, he thought:

- How awful! I have to stop this!

He thought a lot, and a lot, and finally had an idea.

*- If I cannot directly act on the people, I can at least give magical powers to the drops of water.
Just by touching the people, they could make them aware that releasing too much CO₂ into the atmosphere is causing big changes to the ocean!*

*Pleased with himself, he concentrated very hard, stretched its tentacles and recited a formula only known only to him.
A magic wave then pierced the drops of water which were around him and spread throughout the ocean.*

Splic and Sploc shuddered. Like every drop of water, they received the magic power to touch the people and make them aware of the problem in the ocean.

From that moment strongly or gently depending all the water drops constantly worked to splash the people. With the rain, the tap water, in a bath, shower or swimming pool, even in a puddle, or just in a glass of water ...

If after all of that, the people did not understand and change they ways, the drops wouldn't know what to do ...



Then one day with great astonishment and no warning, the Master of Drops appeared in the cold waters around Antarctica.

A very strange boat, kind of platform looking inhabited by people.

Like a floating scientific observatory, it drifted along with currents and storms, and perched high in a cabin they were busy collecting all sorts of measurements. . .

- Finally, they care about us! Finally, they care about us! Rejoiced the drops in the ocean.

- We did it! We did it! We heard from the depths of the ocean.

However, in his heart the Master of Gold wondered:

- Did the people really understand and will they really change?

Keeping hope in the change of his "friends of the ocean", the Master said nothing. He let the drops rejoice in their success and the sun beam its beautiful golden rays to reflect on the ocean's surface.

As for Splic and Sploc, happy with their new success and forgetting about any revolt, they let themselves be carried away by the great conveyor belt on a journey for more than a thousand years...



Educational note

Using these several story themes can help according to the age of the children.

Splic and Sploc's travel will be the starting point for discovering the water cycle with the youngest, while the oldest will be confronted with the impacts of climate change on the ocean and the different types of ice

To help you, here are some very instructive links :

- towards an animation about the water cycle

http://www.educapoles.org/multimedia/animation_detail/the_global_water_cycle

- towards a multimedia animation about the oceans

http://www.educapoles.org/multimedia/animation_detail/impacts_of_climate_change_on_the_oceans

- towards animations on different types of ice

http://www.educapoles.org/multimedia/animation_detail/description_of_ice_types

http://www.educapoles.org/multimedia/animation_detail/ice_caps_or_inlandsis

http://www.educapoles.org/multimedia/animation_detail/icebergs

http://www.educapoles.org/multimedia/animation_detail/ice_floes

- towards the Polar Pod, drifting platform

<http://www.jeanlouisetienne.com/EN/>

Above all let's help Splic and Sploc to revolt by turning this time into ice crystals. Thanks to the activity of "Sea Ice Ambassador", the children will be able to draw Splic and Sploc in revolt next to their signature. Explanations on this link <http://www.contespedagogiques.be> (click on Ambassador)

***“We know only too well that what we are doing is nothing more than a drop in the ocean.
But if the drop were not there, the ocean would be missing something.”***

Mother Teresa

Dedicated to

Claude Lorius, glaciologist, CNRS Gold Medal, pioneer in Antarctic research, discoverer of the link between climate history and the composition of our atmosphere thanks to air bubbles in the ice. He is always ready to raise children's awareness of the climate problems.

May he pass on his passion for ice to them.

Alain Hubert, polar explorer and my polar big brother.

May he continue his educational mission for the climate.

Jean-Louis Etienne, doctor and polar explorer.

May his project "Polar Pod" come true ...

*For their verification of the scientific fact,
But mainly for always being there,*

from the bottom of my heart

MANY THANKS

- *to **Claude Lorius**, glaciologist, CNRS Gold Medal, Member of the Academy of Sciences ;*
- *to **Nathalie Vanisacker**, agronomist, ex Scientific Officer of the International Polar Foundation.*
- *to **Gauthier Chapelle**, a doctor of biology, co-founder of Biomimicry Europa AISBL;*
- *to **Dominique Christiaens**, engineer physicist,
animator-former in the ASBL "Les Petits Débrouillards";*
- *to **Alain Hubert**, explorer and President of the International Polar Foundation.*
- *to **Pam Gast**, my best American friend.*