## The Prince of the Winds and the Sea Snake



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## Dear Colleagues and Parents,

Throughout this story, children will come to discover that the movement of the waves caused mainly by the wind, is a source of renewable energy that the 'snakes of the sea' can capture and transform into electricity.

One of the characters of this story is called 'Mr. Fossil'. He paves the way for a debate on the different sources of energy through his activities and his attitude.

The educational note ends with the construction of a board game setting 'renewable energies' against fossilized, 'non-renewable energies'.

'Winds of Panic Blowing On Planet', was the main headline, in all the newspapers around the world this morning.

- All the winds have disappeared at the same time from the surface of the earth. Strange phenomenon ! ... Where are they? repeat all the radios in a loop.

Everyone, everywhere scanned the skies, the caves and every corner of the earth in the hope of finding a trace of the wind or at least a sign. The days went by and this disappearance became worrying.



Alluaq, the polar explorer, who was on the white continent, wondered if he should rejoice or worry, as he and the wind were, in turn, friend and enemy on his expeditions.

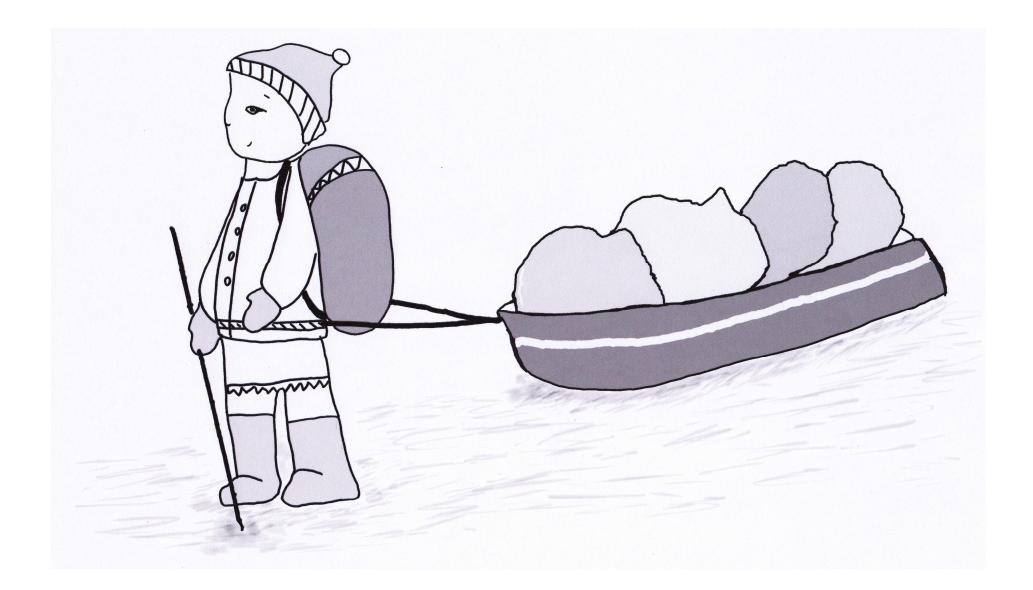
- "This is rather strange..." he thought.

However, he did not allow this media storm to overwhelm him and decided to make the most of this odd and exceptionally temperate period to venture away from his scientific base and to go alone to uncover polar lands of the Antarctica as yet undiscovered.

Meticulously, he checked that his tent, gas stove, sleeping bag, traction sails (in case the wind came back), argos beacon and avalanche stick were stored in their usual place on his sled.

He quickly added numerous rations of food, put on his ski shoes and checked the direction he wanted to take on his laser GPS tied to his belt. Then, he set off without a sound into the unknown, pulling his heavy load like an old solitary wolf.

... after he had made sure his indoor slippers were well in view in the buildling's entrance. This was a sign to other members of the team that he was out and that a radio contact should be organized in the evening, as always when he is out on an expedition. Radio contacts are basic safety measures in these uninhabited regions.



Meanwhile, on the other side of the earth, Duda too was preparing her sled, her rifle to keep away the bears, her ice stick, fishing line, hooks and feathers.

The absence of this wind which often nipped at her cheeks and which she hated, made her joyful and gave her culinary ideas.

She therefore, placed a snow shovel on the door of her house, a clear sign that she was leaving Aappilattoq, her village close to the North Pole. Then, pushing her sleigh, as Alluaq was pulling his, she set off alone on the sheet of ice covering the sea.

- "Don't forget Sedna, our foster mother!" Shouted some elderly neighbours seeing her pass by.

But Duda wasn't listening to these old women's tales. She was already imagining pleasant moments with her friends when she would savour small pieces of dried fish called 'delicacies'



In contrast, cosy and warm, with his toes spread out fan-shaped on the side of his private swimming pool on the island of his dreams; the millionaire Mr. Fossil sneered wickedly.

- "Ha! Ha! Ha! My sinister tupilek (= malicious) already terrorizes the winds and I haven't even set it in motion yet."

And with a wicked smile on his lips, he brought out from his pocket a piece of driftwood that he had carefully shaped into .... the hideous head of a monster with a long snake-like body!

"In a short while I'll launch this tupilek from my personal plane onto the ice bank and I'll chant the wicked spells bought from this evil wizard in the land of ice."
"My tupilek will then come alive and will become a vicious swallower of winds. Never will the winds come back to earth to spin the wind turbines. I want to remain the only master of energies" he said, talking to himself.



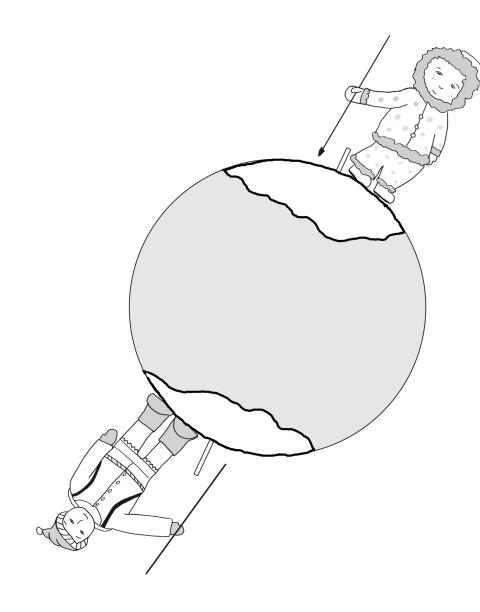
What joy for Alluaq and Duda alone on the ice with no wind!

- Tap! Tap! Tap ! echoed Alluaq's avalanche stick on the ground especially when the layer of snow seemed less high.

Alluaq knows full well that the icy surface of the Antarctica is full of deadly snares, that large crevices hide under seemingly solid ice bridges covered with snow. These can swallow a man up in an instant!

-Tap! Tap! Tap! ... also echoed the sound of Duda's stick when she hit the ice determinedly to make a hole for fishing in the icy bank.

The earth was so rarely tickled at the same time in its' two frozen poles that it shuddered violently with the pleasure of it. The frightened fish under the ice bank, fled far from Duda and the ice bridge on which Alluaq was walking so carefully, suddenly cracked and pulled the explorer and his sleigh down to the bottom of a crevice.



- "Good God!" swore Alluaq in panic. The high walls in this crevice are impossible to climb, my radio is broken, my tent is ripped and the Argos beacon has disappeared. No one will ever find me! I will remain in this ice prison forever!

Shaking off his dark thoughts, he set off to explore this huge crevice...

Suddenly he discovered a well hidden cave, glowing in the soft colours of the glacier.

- "What a palace for an explorer in distress!" He exclaimed at the beauty of the sight.

Feeling chilled, he decided to settle there hoping it would warm him up a little.

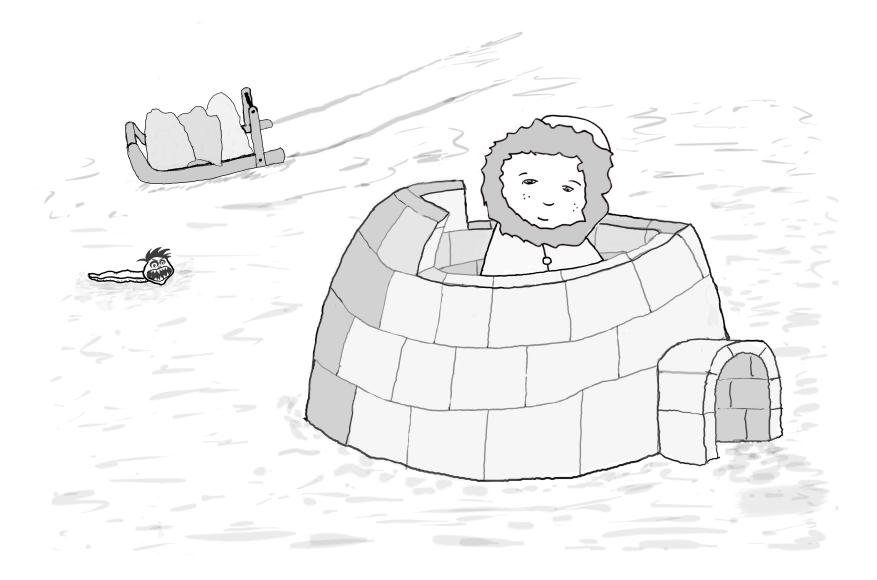


Duda too was cold! She would never dare return to the village empty handed! They would make fun of her!

- "You didn't look after Sedna our foster mother!" would mock her those in the village who still believed that the mermaid Sedna gave people food in return for brushing her beautiful long hair.

In spite of her numb hands, all the while imploring the sea to respond to her plea, she started cutting up huge blocks of ice to construct an igloo for the night.

A tear fell then froze, preventing her from seeing a tupilek falling from the sky and landing near her on the ice.



Ashamed of the disaster she had caused, the earth shuddered again... this time breaking up the ice bank and Duda found herself drifting alone on a block of ice in the middle of the ocean. On the same block of ice, not far from her, lay the tupilek.

- "Oh no!" the petrified earth barely managed to utter when it saw the tupilek slide slowly down into the water and begin its transformation into a horrible wind swallowing marine monster with the body of a serpent.



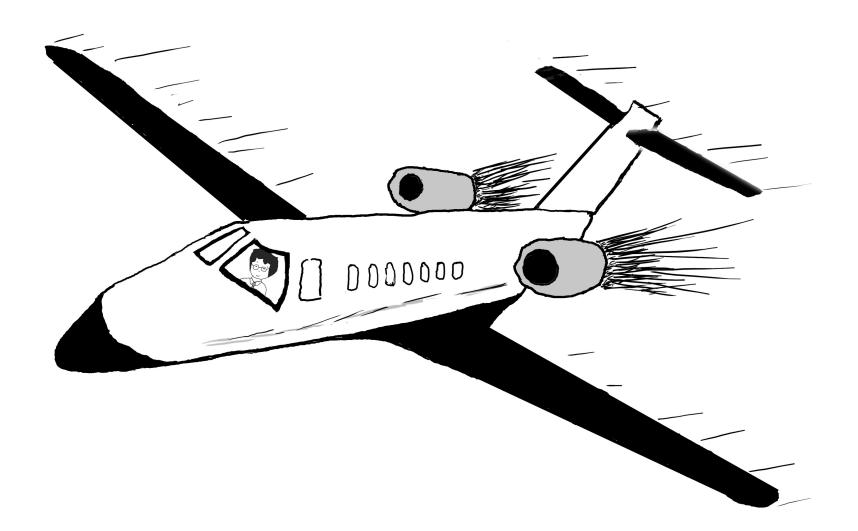
The earth then started looking for a solution to make up for her blunders... but she was taking her time about it!

Meanwhile rescue teams flew over the crevice several times without seeing Alluaq. So they wouldn't be coming back here again... Alluaq was really going to become a prisoner of the ice!

Duda too was a prisoner of her ice raft.

In contrast, Mr Fossil was rubbing his hands in glee. He was sitting in his private jet watching his tupilek with his binoculars. It was not far from Duda and it was growing bigger every day.

- "Without the winds to turn the wind turbines, the world needs my coal and my gas," he said with delight. "This is wonderful ! I am rich ! Although, I will still have to find a solution to stop the sun from shining on the solar panels too !"



Finally, on a very cold night, the earth had a brilliant idea...

The sound of loud blowing coming from the corner where he was sleeping woke Alluaq up.

- Whew! Whew! He heard it several times.

He knew there were no animals on the ice cap of the Antarctica ! In horror, he wondered :

- Is the crevice starting to close up? Is it going to crush me in the process? ...

Suddenly he was lifted up by a tornado and thrown out of the crevice! Stunned, he raised his head and saw an orange aurora australis (= of the Sound pole) spreading it's drapes in splendour, and a thousand shooting stars writing in gold letters in the sky : "Welcome to earth Prince of the Winds".



The earth had a magical, fairytale appearance... Alluaq even had the impression he could hear Venus, the glowing planet called "evening star" say :

- Through Venus, your godmother; power, strength and wisdom you will have, Through Venus, your godmother; great prince you will be, Through Venus, your godmother; the earth you will protect.

Alluaq took a few steps to make sure he wasn't dreaming, but the strange wind which had lifted him up had disappeared.

- I am saved! He then yelled in delight

However, he was freezing and so, realizing in panic that he could not survive in this white dessert without food or equipment, he sadly slipped back into the crevice to find his ice cave and die.



On his first day on earth, the Prince of The Winds had fun sliding down the slopes, picking up speed and tripping up the penguins causing them to slide down on their tummies.

He came back laughing to the cave...

- Whew! Whew! he merrily blew in Alluaq's ear by way of greeting.

His hope renewed, the prisoner of the ice, grabbed hold of the belt of his sled firmly in his hand and waited for morning... but the biting cold of the night air numbed him and he sank into a deep sleep.

His wake up call was brutal.

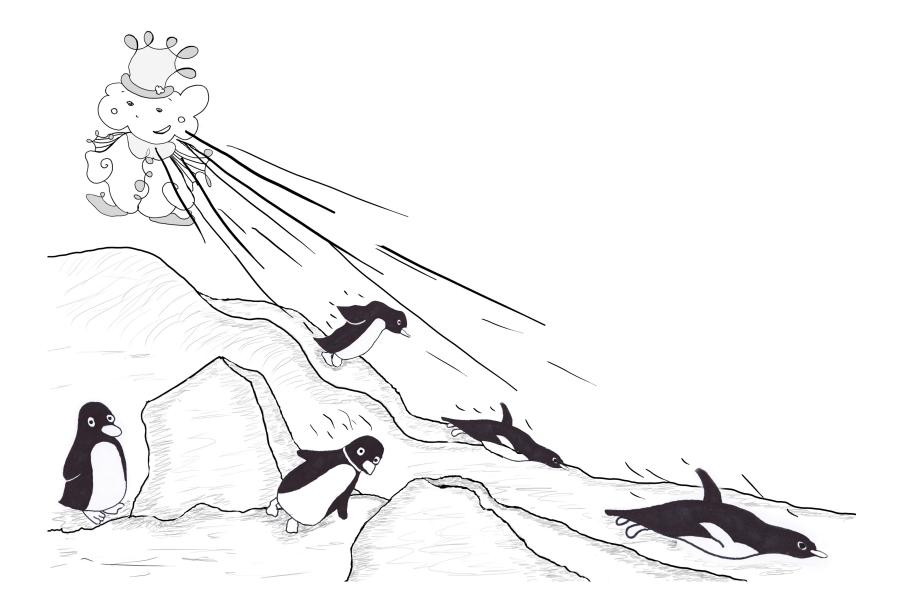
- Whew! Whew! Whew !...

In seconds he was again propelled out of the crevice and landed on his bottom on the hard ice.

- My sled! My sled! he groaned in despair.

But the fiery prince was already far away and didn't hear him.

Alluaq gave up all hope and sadly slipped back into the crevice.



The Prince of the Wind didn't come back that day or the next or for several days. Alluaq was worried. His food reserve was dwindling.

- I will reduce my food intake to a minimum and save my energy, he decided.

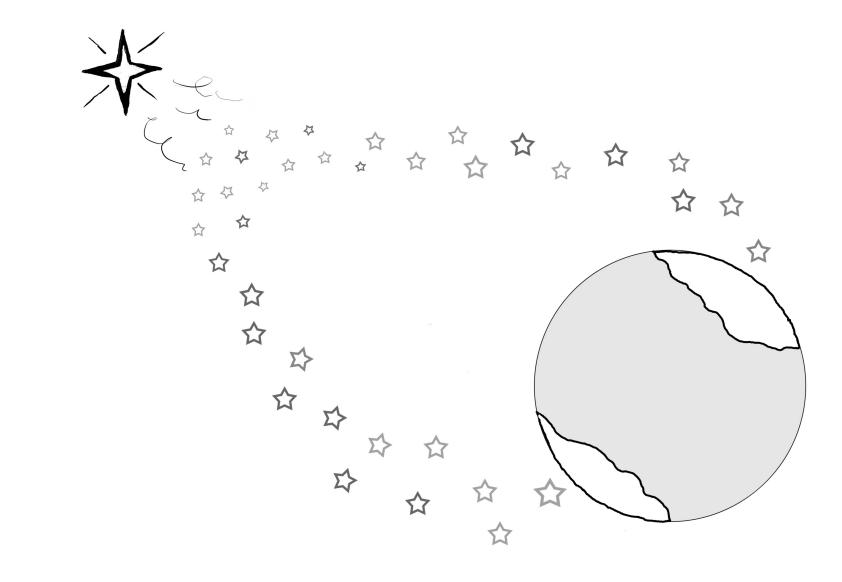
Gradually, he lost all sense of time.

Venus came by the crevasse every evening.

One night when Alluaq was fast asleep she sent this explorer, prisoner of the ice, a special ultra bright ray and repeated three times :

- Through Venus; courage and power you will receive Through Venus; the earth you will protect Through Venus; darkness you will vanquish.

A ray of light accidentally deviated off course and went to the other side of the earth dazzling Duda alone on her bloc of ice. She inadvertently received the same powers as Alluaq.



Finally, after a long moment, the Prince of The Winds came back and burst into the crevice so violently that Alluaq was catapulted to the other end of his cave.

- The explorer, furious at being pushed around, was about to growl. 'Good God' when the angry whistle of this strange wind silenced him.

- Whewwww! Whewwww! Seabirds keep talking of a strange marine monster which terrorizes the winds and my people forcing them to hide. "Wait till I get to him!" The prince whistled menacingly.

And, a few seconds later, he set off so powerfully and forcefully that he blew everything up in his path, Alluaq included.

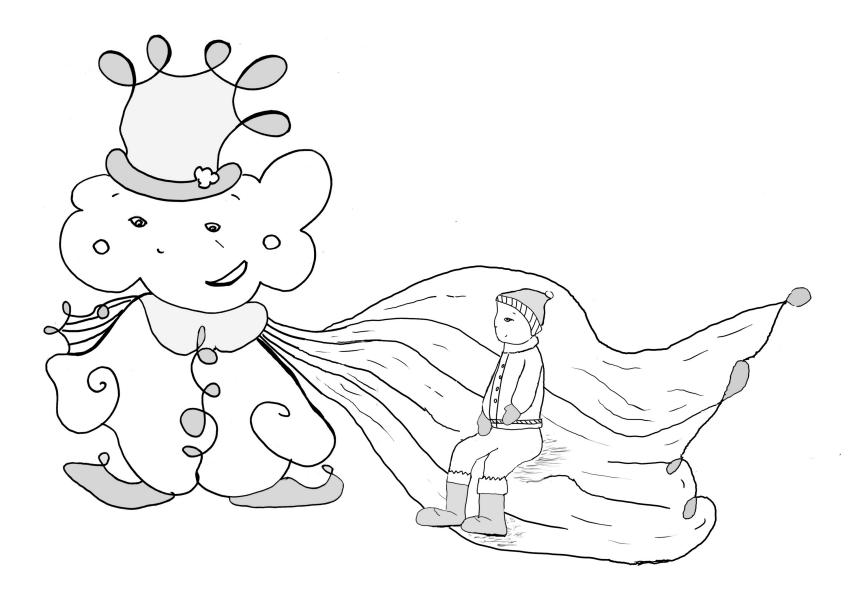
- "Whew! Whew! That's rather different from sliding up and down the crevice" sneered the Prince as he watched Alluaq being buffeted about in the air.

Alluaq didn't answer. He was flying around so fast he could hardly breathe.

Feeling remorseful, the Prince of The Winds slowed down his pace a little and settled his passenger up on a flying carpet. He wrapped him up in a large air bubble and, rising high up in the air so as not to be noticed, he started crisscrossing the planet methodically in search of the monster.

Impressed by such solicitude, Alluaq took his binoculars out of his pocket and helped his new friend.

- "What an amazing trip" he thought.



For a long time, Duda too scanned the sea... nothing, not even a boat in the distance to help her.

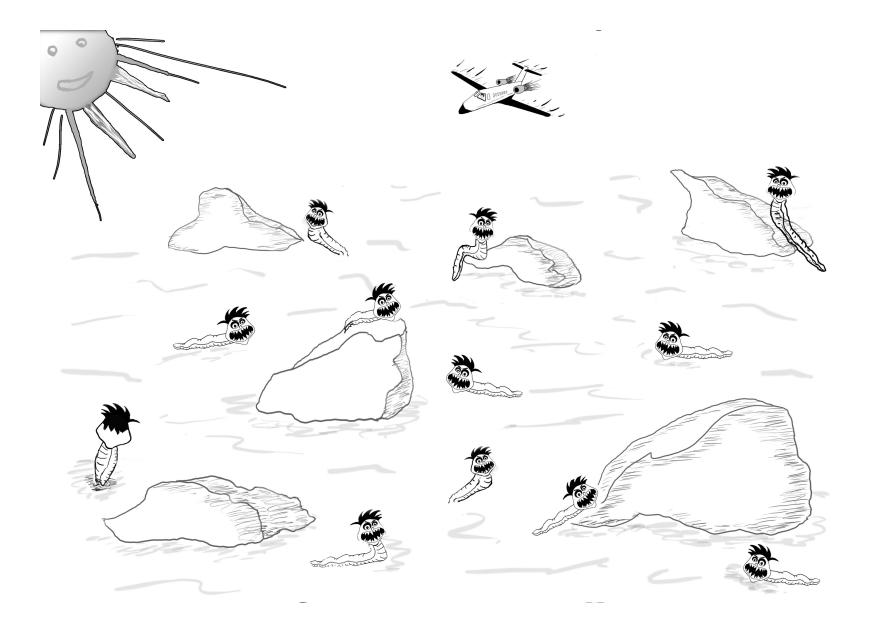
Alone, but too high up to be seen, an airplane was circling around her. On board, Mr. Fossil was determined to get rid of the sun, source of a rival energy. He was reciting a new magic spell he had paid a fortune for to the evil wizard of the ice.

- "Curse you, deceitful wizard!" He shrieked up at the sky, realizing that in spite of his grim incantation, the sun was still shining.

*Finally, fuming, he looked down and saw to his surprise that his spell was multiplying the tupilecks. 1..2..3..10 monstrous serpents were growing near Duda !* 

Enraged, he repeated the spell several times... 10..30.....100 tupileks swallowers of the wind now inhabited the arctic ocean.

As if taunting him, the sun continued to shine brightly. Fortunately the kerosene tank on the plane would soon be empty and Mr. Fossil would have to go home...



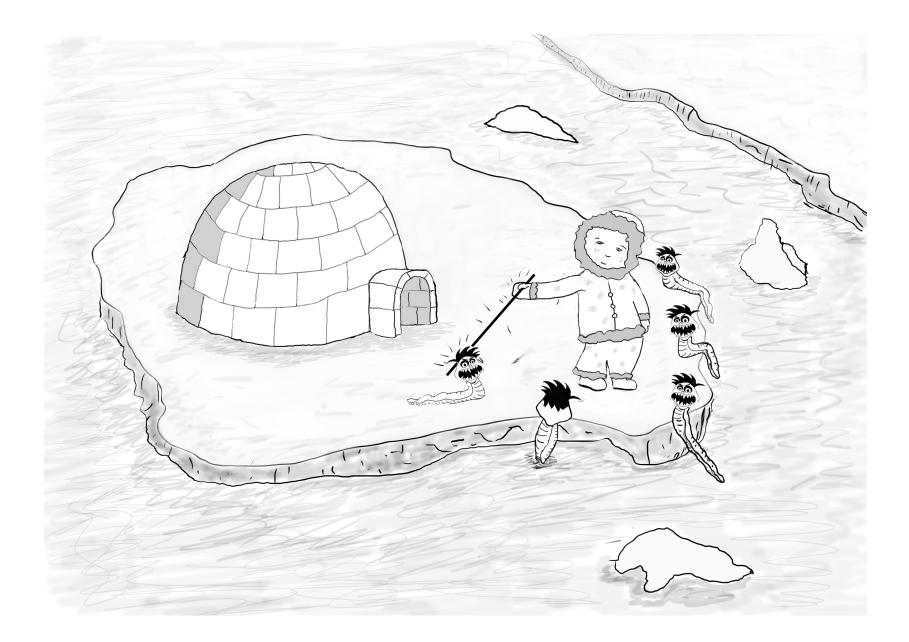
Suddenly the tupileks, who were beginning to feel hungry, climbed onto the bloc of ice where Duda was.

- "WHAAH !" she screamed in terror.

Grabbing her ice stick, she swung it with all her might and smashed the head of a frightening serpent, and then another and another...

On all sides, these monstrous beasts were rising from the depth of the ocean. The ice block was moving. Duda was afraid of slipping into the icy water and freezing to death almost instantly.

The fight was unequal. She was weakening. She would soon be overcome by the serpents.

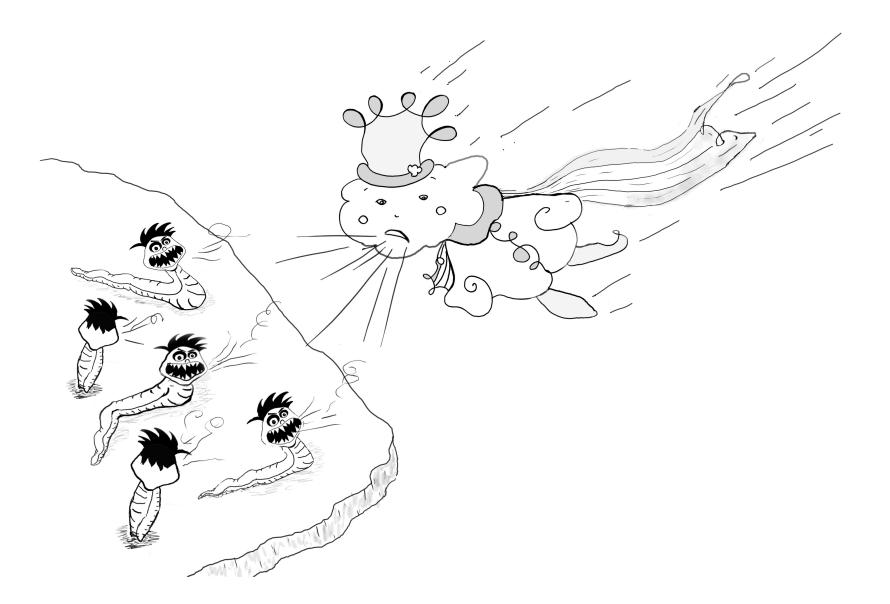


Alluaq, sitting on his flying carpet over the ocean, saw the fight.

Immediately, the Prince of The Winds dived down to Duda's rescue, but his breath attracted all the monsters swallowers of wind. They then left Duda and turned towards their favourite meal.

Feeling pulled at from all sides the Prince stormed and thundered through casting away all the monsters and then finally going back up into the sky.

Alluaq too was knocked about and flung down... he landed on the ice near Duda. The fight against the monsters was about to start again !



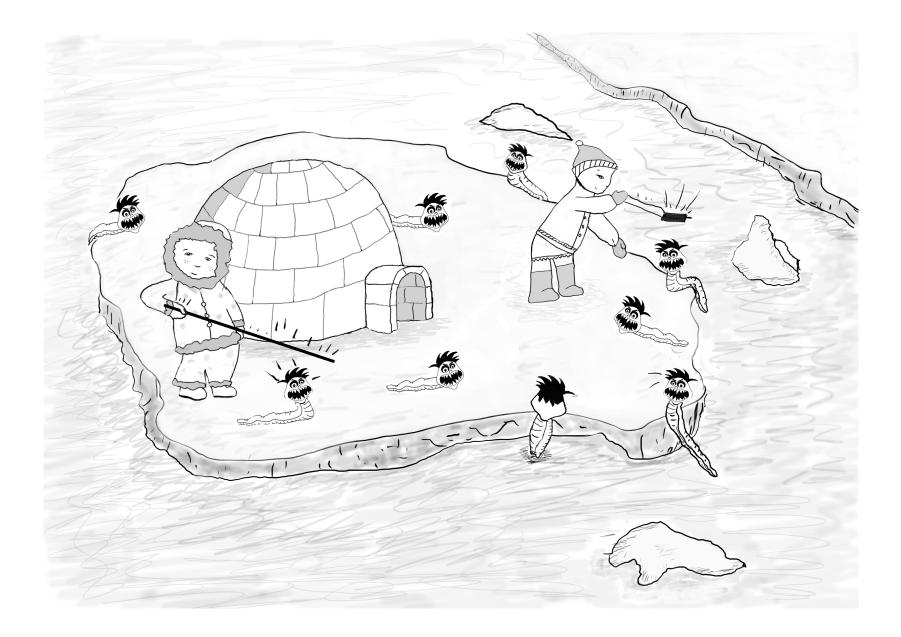
Taking his GPS from his belt, Alluaq used it like a truncheon and knocked down 1,2,3...10 tupileks while Duda, armed with her ice stick, finished them off. The fight seemed endless...

That's when the Prince of the Winds hiding high up in the sky heard some strange words.

Discretly he redirected his breath so the words could be projected towards the fighting.

- "These are evil spells from the ice wizard! yelled Duda terrified. She recognized frightening words. A wicked creature is multiplying the serpents!!!!"
- "He's the one we should capture!" directed Alluaq.

And, activating the GPS lazer beam, he pointed it towards the sky.



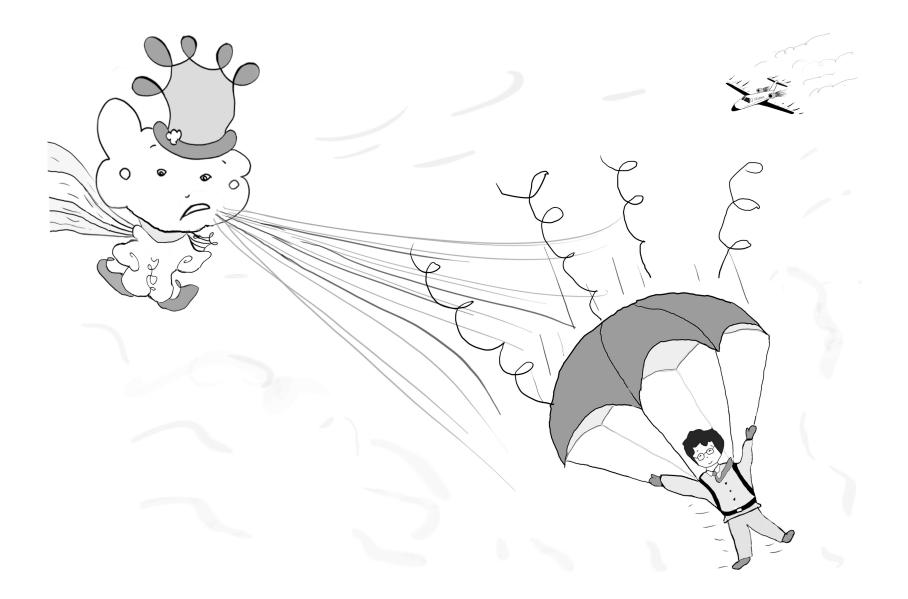
However, Mr Fossil driving his jet plane like a pro, avoided each laser beam as it came. Alluaq was hindered by the attacking serpents, and couldn't aim precisely enough.

Although the temperature was well under 0° C, Alluaq and Duda was sweating profusely.

- "A little help wouldn't be unwelcome" thought the Prince of Winds.

And, despite his fear of being sucked in again, he blew powerfully towards the plane, projecting it directly in the path of Alluaq's laser beam.

The plane plummeted down. Mr. Fossil managed to jump from it only to be caught by the furious Prince of the Winds who shook him about and finally projected him down onto the block of ice at Alluaq and Duda's feet. They tied him up using fishing lines and gagged him with Duda's scarf so he wouldn't chant any more spells. Then they locked him up in the igloo and fought the last of the serpent monsters who were still alive.



Dazed, limbs aching after the fight, Alluaq and Duda collapsed on the ice in total exhaustion. Around them all was silent ...

The numerous tupilecks now lay hard and lifeless, floating on the surface of the ocean like sleeping serpents.

- "Let's take the prisoner to the nearest village to face trial" said Alluaq, coming to first.

Duda didn't answer. Who was this prisoner with such rich garments and such bad intentions?

The power she had received from Venus made her realize that this powerful man would quickly be released thanks to his money. She couldn't allow that. She had a plan !

- "Let's go!" repeated Alluaq gently when Duda didn't move.

Duda was too tired to argue with the man who had saved her life, so, with lightning speed, she struck him with a karate move that knocked him out.

- "Sleep tight!" she said with a smile when he fainted in the snow.

She dragged him into the igloo made him comfortable and warm.



Without paying any attention to either Alluaq or the prisoner, Duda prepared herself a nice cup of sweet flavoured tea. First she melted some snow then boiled it and poured it onto a syrop of wild berries.

She drank a cup and, to boost up her courage, she muttered in her native language :

- "Ani qujanaq. Toqqorparma immap pulateriaarsuinit. Umiatsiat nunarsuarput illersortariaqarparput. Upperinnga !"

The aroma of the tea woke Alluaq up but when he understood what she had said, he did not stir.

Mr. Fossil however started shaking uncontrollably.

- "What spell is this witch preparing for me? This wicked witch who knocks out her companions!" he wondered.

Suddenly he found himself hating this icy, hostile region and regretting the palm trees and hot sands of his wonderful island.



Duda untied Mrs Fossil, just like in the detective stories she sometimes watched on TV, and started his interrogation. She wanted to find out who this wicked and wealthy prisoner was.

Mr Fossil, wanting to show that he was a man of influence, lay all his cards down before Duda.

Disgusted, she screamed :

- You are the president of all the dirty energies! You should be thrown into the freezer not taken to a court of law! You are destroying the planet! The fossil fuel you are extracting and selling is causing global warming. Because of you my country is melting away and our whole life is being disrupted!

*Mr.* Fossil knew all that, but he preferred not think about it because the exploitation of fossil fuels gave him a lot of money.

When he saw a teardrop fall down Duda's cheek, he suddenly felt really ashamed.



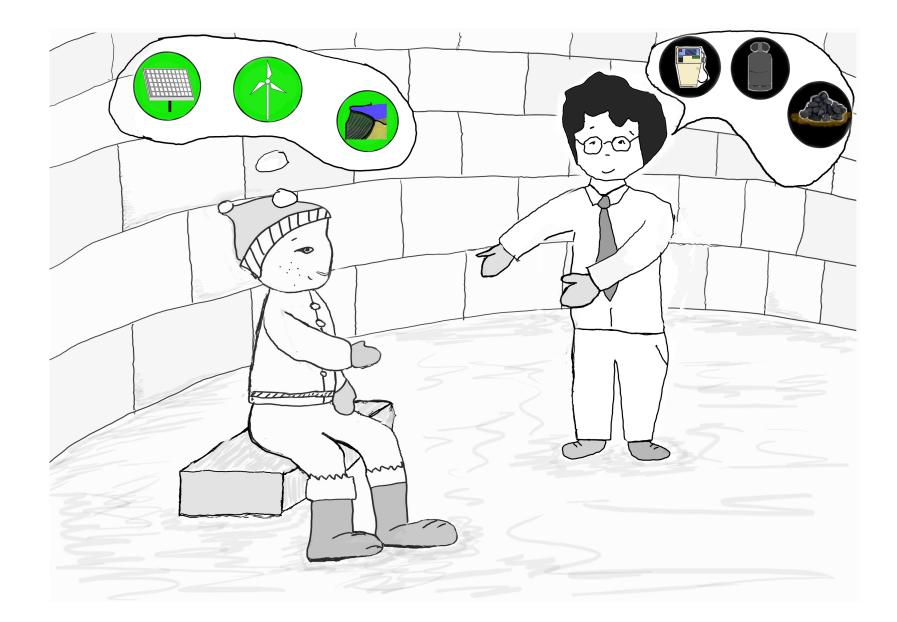
At that moment Alluaq got up and took Duda in his arms.

- "Little sister the two of us will really protect the earth, I promise you" he whispered in his ear. He was replying to the words she had said in her own language earlier. These had not been a curse at all as Mr. Fossil had thought.

Alluaq then started some serious negotiations with Mr. Fossil who, totally panicking, promised to invest all his money in renewable energies so that wind, sun and water gradually replaced fossil energies.

- "No, no, no, no!" said Duda in anger. "These are just empty promises because you're afraid we're going to throw you into the icy water. Find something else to convince us!"

Alluaq thought Duda was exaggerating, but, not wanting to make matters worse, he went out of the igloo and left Mr. Fossil to think it over.



Outside, like in a surrealist painting, the stiff serpents were dancing on the surface of the water swaying with the waves. Looking at them, Alluaq shivered. He had just had an idea for a new source of renewable energy.

He grabbed Duda's ice stick and drew four serpents one behind the other on the ice. To link them he traced a sophisticated mechanism, something like muscle articulations.

The energy of the waves would be captured by the articulations of the serpents moving joyously in the swell of the waves and then converted to electricity.

Alluaq then imagined drawing long legs under each articulation to collect all this energy at the bottom of the sea.

Once that was done, it wouldn't be very difficult to drag it back to land...

Alluaq spent some time thinking about it, improving his drawing and perfecting the mechanism. Then, proud of his achievement, he called Duda and Mr. Fossil.

*Mr.* Fossil who hadn't been able to satisfy Duda's demands, thought he was going to be thrown into the water!



- "Wow!" exclaimed Mr. Fossil, fascinated by the drawing on the ice.

He asked Alluaq so many relevant questions that, forgetting that he was a prisoner, he said :

- "I can see myself as the president of the Serpents of the Sea. I would willingly invest my whole fortune in this project for clean energy for the earth"

The Prince of The Winds who had been blowing for hours creating waves that made the serpents dance in the water, whistled loudly in joy. It was as though he already approved of the future president of the serpents who would provide work for all the winds, his subjects.

Duda smiled, but Alluaq, not trusting him entirely, added :

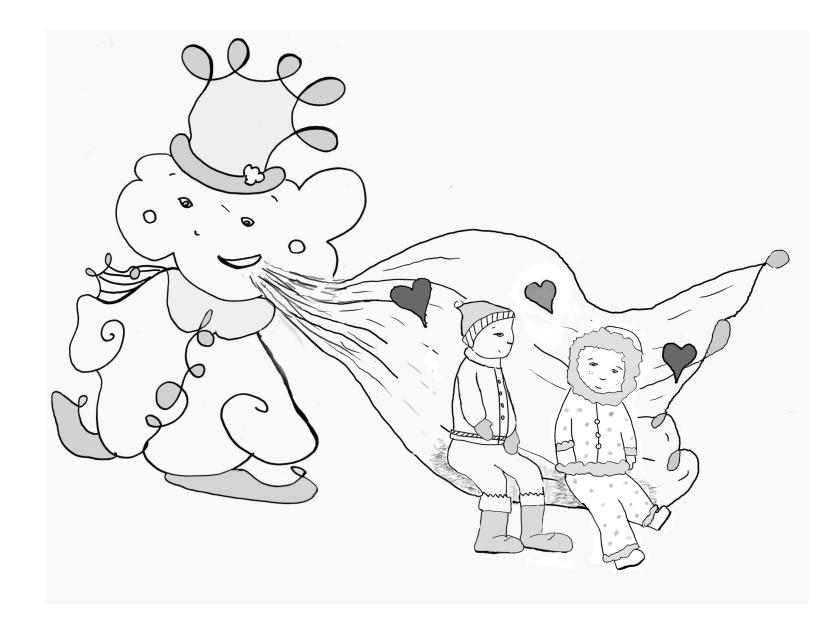
- "If, however, you promise to decrease and then stop the production of dirty energy!"



*Mr* Fossil kept his promise. Many sea serpents soon danced their way across the seas and oceans and all the winds came back to work.

High up in the sky, Venus noticed a flying carpet and rejoiced. Alluaq and Duda were travelling to every corner of the planet; encouraging everybody to use only energies that didn't harm the earth and to abandon fossil energies which caused global warming...

Meanwhile, every now and again, the Prince of The Winds, would laughingly and mischievously push some people on the ground and make them slide down on their tummies just like the penguins of his home land !



### **Educational note**

#### **Introduction**

- Show the children a picture of a fossil and ask them what it represents. Allow the children to speak, the word "fossil" and its explanation will come out spontaneously. Write the word "FOSSIL" on the board.

- Take the dictionary to check the exact meaning of the word and stress the fact that it takes millions of years for fossils to form.

### Follow-up activity

*A.* - In the story one of the characters is called Mr. Fossil. What is his job? Allow children to talk about the tupilek that Mr. Fossil built. If necessary, read again § p12 of the PDF to get the exact answer : he extracts and trades in oil, gas and coal.

- Divide the class up into three groups to do research. Pull out several texts from the internet that would enable them to answer the questions and hand them out.

- Ask the 1st group "Where does oil come from?" the 2nd "Where does gas come from?" and the 3rd "Where does coal come from?"

- Sharing answers. Find out and memorise:

"Oil, natural gas and coal develop from the slow transformation of the residue of dead organisms (plants and plankton) over millions of years". PS: The oil and gas come from the transformation of marine organisms only (plankton i.e. microscopic animals and plants that live in water). Coal comes from the transformation of plant organisms only.

- Why do we use oil, gas and coal? Allow the children to speak.

- In the story a name is given to these 3 energies. Which one? Answer: fossil fuels.

If children do not remember, give 3 clues:

1) millions of years ago 2) show the photo of a fossil 3) the name of a character in the story.

- Draw on the board a column with the title "Fossil fuels". Ask a child of each group to come and write the name of a fossil fuel.

- Will there always be fossil fuels if we continue to use them a lot? No

- Why? Because their reserves are limited and it takes millions of years to produce them. They cannot be renewed quickly.

- Help the children find the word "non-renewable" to describe these energies and write it on the board to complete the title.

- Explain to the children that, during millions of years, organic residues were charged with carbon (a chemical substance) in order to turn into energy fossil. This carbon is released into the air as CO2 when we burn these fuels. But CO2 is one of the greenhouse gases responsible for global warming and therefore bad for the planet.

- Get a child to write in red under the column of fossil fuels "Bad for global warming" and point out that Mr. Fossil extracts only fossil fuels.

**B.** - Show a drawing of a tupilek (see story) and ask:

"Why did Mr Fossil build this tupilek?" Allow the children to speak, but lead them to say that Mr. Fossil wanted to make the wind disappear because it is a source of energy that he doesn't use and that is in competition with him

- Ask the children the following questions: Is the wind a fossil fuel? Why? If it is not a fossil fuel is it loaded with carbon? Is it good or bad for the planet? Why?

Answer: because it is a clean source, it doesn't pollute the atmosphere. It represents a way of reducing emissions of greenhouse gases. Is its resource limited? ... Therefore, it is a renewable energy (get the children to find the word) What is the name of windmills that convert wind energy into electrical energy? wind turbines

- Write on the board, in the other column, next to the word "oil" the words "wind" and "wind turbine" - What other energy would Mr. Fossil like to destroy? Allow the children to speak. If necessary, read again pdf pg17 to obtain the answer: "the sun"

- Same questionnaire for the sun as for the wind. - Write on the board the words "sun" and "solar panels" in the correct column. - Get the children to find a good title for the column...

"Renewable energies" "Good for global warming"

*C.* - Why is Duda furious when she discovers what Mr. Fossil's job is? Answer: Because Mr Fossil exploits energies that promote global warming and melt down her country of ice.

- And you, do you know what changes are caused by global warming? Allow the children to talk about the animals, plants, melting glaciers... When they mention extreme natural disasters, tell them that these phenomena have always existed and that global warming only makes them more frequent and more violent.

- What does Duda hope to achieve by keeping Mr. Fossil prisoner? Answer: That Mr Fossil will give up fossil fuels which are bad for the planet, and that he will invent a new way to exploit renewable energy.

- To make it clear that fossil fuels are bad for global warming, ask the children to cross out in red the names of the 3 fossil fuels written on the board.

**D.** - What does Alluaq then invent? Allow the children to speak and show them a picture of a "sea snake" Get them to describe the picture and add details if necessary: 4 iron cylinders connected by oilpumps which are a little like articulations.

- *Explain: The waves produced by the wind activate the 4 iron cylinders. Their movement drives the oil pump which converts this movement into electricity with a special mechanism. The electricity is then transferred to earth by the sea bottom.* 

- In the column for "renewable energy" get the children to write the words "waves" and "sea snakes "

- Do you know of any other renewable energies? Allow the children to speak. If they don't find any, give them a clue by writing the word "water" under the word "waves" ... to get them to come up with the word 'dams' (write the word on the board), hydraulic power plants and water mills.

- Do the same with the word "earth" as a clue ... then explain that the heat of the earth is also a renewable energy used thanks to heat pumps (write the word on the board)

### **Conclusion**

- To memorise all this knowledge on the different energies the children have discovered, build a game: view the link <u>http://www.contespedagogiques.be</u> (click on "Board games")

- Clear the board and hand out the photocopies of the 10 pawns to cut out.

Comment on each drawing ... Take this opportunity to remind the children of the importance of saving energy

- Then go on to the "craft" and play stage.

# "The greatness of human actions

# is measured by the inspiration that created them "

Louis Pasteur

**Dedicated** to

- Duda my friend from Upernavik (Greenland), in gratitude for her kindness ...

in the hope that we all will all protect the ice in her country.

## ... A HUGE thank you

# for their precious help and support to

- Gauthier Chapelle, a doctor in biology, secretary general of Biomimicry Europa aisbl;
- Alain Hubert, explorer and President of the International Polar Foundation;
- Thierry Touchais, Executive Director of Good Planet Foundation, Paris, France.
- Nathalie Vanisacker, agronomist, chief scientist of the International Polar Foundation.
- Alexandra Hamilton, American student in Geography and Education