

Avalak and the Electric Prince

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Objective

The objective of this story is to show children how the energy taken from certain natural sources such as wind, sun and water can be used to produce electricity.

After the story, an easy experiment will allow the children to realise how certain chemical elements found in nature produce energy which can, in turn, be transformed into electricity.

From there, children go to the library or look on the internet to research more renewable energy sources, such as tomatoes, lemons, potatoes, and so on.

Have fun! Remember that children learn the most by trying things themselves !

The weather in the land of King Avalak changes as often as the king's mood. From one moment to another he can go from being kind to being angry, from speaking in a gentle voice to shouting insults at people.

King Avalak is a very rich king. But despite his great wealth and the beautiful palace he lives in, the king is often bored.

In order to make him smile again, the king's subjects built him a tall tower where he can sit and look out over his kingdom.

King Avalak grew so attached to the tower that he decided to move out of his palace and instead live on the top floor of the tower.

He took great pleasure in watching his subjects through his spyglass while they work.

King Avalak was in a good mood one particular day.

"Hmm," said King Avalak to himself as he looked through the spyglass, "That old man is struggling to climb the big stairway leading to the marketplace. And that mother over there with her baby carriage, it's just as difficult for her!"

King Avalak immediately ordered an elevator to be built.

That same evening, the King was so happy and proud to have done a good deed that he decided he would do another good deed the following day.

He had streetlamps set up all over the streets of his kingdom so his subjects could walk around in the evenings after they had finished their work.

He also gave each family and each company the latest electric appliances.

The schools were not left out either.

The kingdom became richer and richer, and all the subjects in the kingdom were happy.

But same couldn't be said for King Avalak. He would still become grouchy every now and again, and when he did, it was best not to cross him.

The President and Managing Director Responsible for Energy in the kingdom found this out at his own expense.

"Sire," he said one day to the king, "since you have given out all these gifts, the raw material reserves we use for the three power plants in the kingdom are running out too quickly to replace. We're consuming too much energy! It..."

The King became angry and cut him off.

"Idiot! Fool! Get out of my sight! From now on, I'll take care of the energy from now on!" shouted the king.

The President and Managing Director wondered what on Earth he had done wrong, but he didn't dare contradict his king. Humbled, he decided to go home.

The king had the controls to the three power plants set up in his tower. But King Avalak was still furious with what the President and Managing Director had said!

"Hmph!" he cried. "He says he wants energy savings, I'll cut the electricity off then!"

The king turned all the power in the kingdom off. No one could use any electrical device in the entire kingdom.

Thankfully the power did not remain off for long. As soon as he had calmed down, the king turned the power back on and life in the kingdom returned to normal.

Unfortunately, King Avalak's tantrums became more and more frequent, which meant power cuts became more and more frequent as well.

It was a strange way to save energy, but no one dared to say anything to the king. Everyone waited patiently, hoping the king's mood would quickly change.

At last, an entire day went by without any power cuts. Then two. And finally three.

In the streets, people were whispering to each other: "Thank goodness! He's finally in a good mood again!"

However after two weeks had gone by without any power cuts, everyone began to worry about the king.

"Is he sick?" people asked one another. "Has he gone on holiday?" Everyone was worried that there would be no more gifts from the king.

All this time, King Avalak was perfectly fine. The king had actually fallen in love!

Through his spyglass, the king had laid his eyes upon a beautiful mermaid who had been sitting on the kingdom's tiny beach. Every evening she would sit in the same place and watch the sun set and the stars slowly appear in the sky.

King Avalak knew well that a mermaid couldn't last a long time on land. Just her presence pleased him so much that an idea suddenly came to him.

"All those street lights...they create light pollution. If I cut the power supply, she would be able to see the stars better. My subjects will light candles and it will create a more romantic mood."

No sooner said than done.

Every evening from that day forward, a happy King Avalak would cut the power supply and watch the beautiful mermaid gaze up at the stars. In the early morning, when the mermaid would return to sea, the king would sleep late and often forget to start the power plants up again.

In King Avalak's kingdom, nothing worked anymore. Life had become impossible for his subjects, and they were furious.

One of the king's subjects went by the strange name of Electricman.

A really long time ago, one of his ancestors, who had been a gifted genius, invented electricity.

The king's subjects, who didn't dare complain to King Avalak, chose instead to take their anger out on Electricman.

The mean treatment he was subject to really hurt Electricman's feelings.

"Tonight," he thought to himself, "I'll go out and scare the mermaid off. She'll leave the kingdom forever and everything will go back to normal."

Electricman put a ghost costume inside his bag and headed for the beach. However as he neared the beach, he became scared when he realised that the king would be able to see him through his spyglass.

He turned around, but didn't dare go back home. He was afraid of being teased again.

Completely discouraged, he strolled the streets without anywhere to go, guided only by the moon and the stars.

"What's the point of having such a ridiculous name if I can't even make electricity!" he thought out loud.

"Ah! But I can help you!" whispered a soft voice that seemed to come from nowhere.

"Who said that?" Electricman stuttered, suddenly terrified. He couldn't see anyone in the dark.

"You can't see me." whispered the voice into his ear. You don't know where I'm from or where I'm going. I can be strong and powerful whenever I want to. Guess who I am!"

At that moment, Electricman's hair became tangled. It was a clue to the mysterious stranger's identity. Electricman figured out who it was!

"Good evening Mister Wind," said Electricman, who was reassured now. "How could you help me?"

I'm sick of knocking hats off of people's heads, and it's a tough job pushing sailboats around in the sea. If you like, I could huff and puff for you. You just need to figure out how to store my energy. I'll return in a few days."

And the wind took off, leaving Electricman alone with his thoughts.

It sounded too easy to Electricman. Using a stick, he drew a small windmill in the dirt with helixes on which the wind would be able to blow. By the moonlight, he imagined a system that would send the energy collected to one of the kingdom's power plants.

Electricman didn't know it then, but he, too, just like his ancestor before him, was a gifted genius.

A few days later, when the wind came back, Electricman's windmill was ready. The wind huffed and puffed onto the windmill and soon everyone in the kingdom of Avalak was cheering, "Hip, hip, hooray!" Electricman could finally go home again without fear of being insulted by his fellow citizens.

However, so as to not upset King Avalak, beautiful candles were lit by the house windows each evening.

"In the past, people used to call me 'Windy,'" said the wind, proud of being so useful. "Why don't you call the windmill 'windy' in remembrance of my former name?"

Electricman didn't answer. He knew he would need many windmills and was thinking of where in the kingdom he could place them.

"Say, Electricman!" said the wind, offended. "If you want me to carry on helping you, give your windmills my name."

"Yes, yes, ok," said Electricman. "But would you still be happy if I called them 'wind turbines?'"

"Sure. Why not?" answered the wind, blowing even harder. "It's got gravitas."

But the wind was a free spirit and after some time he decided he needed a holiday.

"Goodness me! You're as capricious as our King," said Electricman, a bit angered. "What will we do if you don't blow anymore?"

But the wind hadn't heard anything Electricman had said. He was already long gone. But a faint voice replied in his place:

"Do what I do, use the sun's energy!"

"Who said that?" asked Electricman, who was very curious to know. "How can you use the sun's energy?"

"Down here," said a tiny little daisy. "As soon as the sun comes out, I open up my petals and fill up on the sun's energy. When the sun turns, I turn with it, and when it leaves, I close up for the night."

It was such a simple idea that Electricman rushed off forgetting to thank the little daisy for such a brilliant idea.

For a gifted genius like Electricman, it wasn't very difficult to set things up and, soon,

strange little square panels could be found all over the kingdom. The panels could catch the sun's energy and send it over to power plant number two.

It seemed like the sunrays enjoyed touching these strange panels which, in turn, took on a bit of their energy and laughed out loud.

The wind could hear them from afar. Jealous and offended by the fact that he had lost his place as sole energy provider, he came back and huffed and puffed on the kingdom's wind turbines.

Electricman was happy. The more the sun and wind would argue, the more energy there was in the Kingdom of Avalak.

"I want to play too!" heard Electricman from high up in the sky.

Looking up to the sky, Electricman saw a huge dark cloud floating above his head.

"My tears could help you make electricity," he said while letting a few drops of rain fall on Electricman.

"No, don't cry! Not here, I'll get soaked!" said Electricman who had just had an idea come to him. "Come on over to the river!"

Electricman knew that the tears of the cloud weren't strong enough to make a mill turn.

He had imagined bringing all the tears together into a dam and, when there would be enough, he would open a hatch in the dam to let the water flow out all at once. This would make a water turbine turn and generate electricity, which Electricman would then connect to power plant number three.

The cloud was so happy that he lost all desire to cry. The sun and wind had to tell him sad things to get him to cry again.

In the end, thanks to the wind, sun and water, days went by in the kingdom without anymore power cuts.

Then one night, the beautiful mermaid was sitting on her favourite beach when she saw the most brilliant shooting star cross the sky above her. Hoping to make a wish upon the star, she dove into the sea and followed it while she swam.

“Quickly! Quickly! Some light! Some light! My beautiful mermaid needs light!” shouted Avalak as he turned on all the lights he could find in his tower.

But the mermaid was already far by then, leaving King Avalak by himself. Furious about not being able hold onto the one he loved, the king automatically went to cut the power supply, only to be surprised.

“But...but...I’ve cut everything off! How can the lights still be on?”

King Avalak brought his hand to his forehead.

“No, I don’t have a temperature” he thought to himself. “I’m not delirious. Something strange is going on around here!”

Despite his grief over his lost love, the king thought it best to solve the mystery immediately.

He called for the former President and General Manager in charge of energy.

No, Sire, I promise. Since you have taken over the controls of the power plants, I haven't touched a thing," he answered the king, cowering. "I wouldn't have dared to do anything against your will, sire."

"Who has been disobeying me then?" inquired the king, furious.

The king slowly calmed down as he learned that all the electrical devices in the kingdom could work without his raw material resources being depleted. But how it was possible remained a mystery to the king.

Finally, one of the king's subjects decided that the time had come to tell him what was going on.

Immediately, King Avalak left to go and meet the person who had learned to use the weather to produce electricity.

The news of Electricman's genius had spread quickly and soon enough, a large crowd had gathered in front of Electricman's house.

The king had Electricman explain everything to him in detail. He found Electricman to be the boldest of his subjects, and thought he deserved a very nice reward for his good work.

In front of the crowd of people, he asked for silence and for Electricman to get down on one knee.

Delicately laying his sword upon Electricman's shoulder, the King solemnly declared:

"Electricman, loyal subject of my kingdom, I hereby anoint you Prince Elektrik of the Kingdom of Avalak."

Moved by the ceremony, the wind congratulated the new prince by tousling his hair. The cloud shed a little tear upon his shoulder and the sun made the king's sword shine.

"Prince Elektrik," continued the king majestically, "please also accept the keys to my Kingdom and keep an eye out on my subjects during my absence."

Everyone thought this to be another one of the king's whims.

But, actually, all King Avalak wanted was to see his beautiful mermaid again.

What he did not know was that by following the shooting star, the mermaid had made a wish to find the king she loved so dearly. The star led her to King Avalak.

Soon they were married, and every evening afterwards in the Kingdom of Avalak, candles were lit in honour of the new queen.

As for Prince Elektrik, he is now finally proud of his family name!

Experiment :

Make your own electricity !



01

Here is what you will need :

- paper towel
- aluminium foil
- a small glass of water
- a saucer
- a teaspoon of salt
- two insulated electric wires of +/- 20 cm each
- six coins (0,02 or 0,05 euros)
- a pair of scissors
- tape
- a pencil or marker
- earphones (MP3 player, walkman or discman)



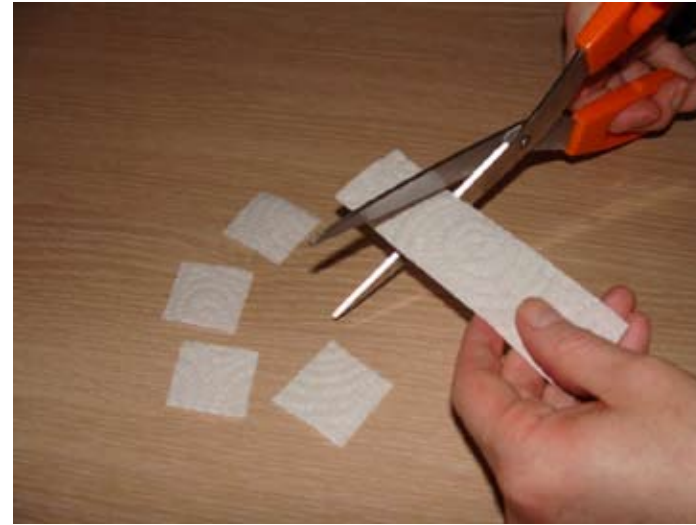
02

Trace one of the coins five times on a piece of aluminium paper.



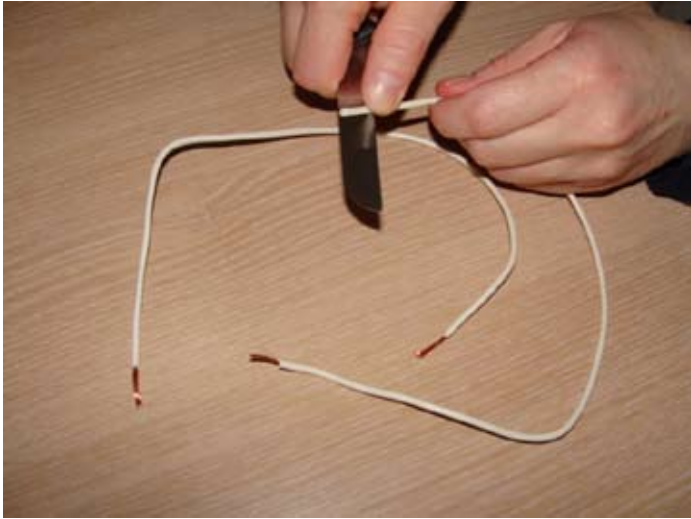
03

Cut out the aluminium circles.



04

Cut out five +/- 3cm squares from the paper towel.



05

Using the edge of the scissors (or a small knife if it's easier), remove the protective covering from the ends of the electric wires (adults can do this beforehand for young children).

About 1 cm of plastic needs to be stripped from both ends of each wire to expose the copper filaments inside.

Proceed slowly so as not to cut yourself



06

Place a coin on the table. Tape the part of the wire stripped of plastic coating to the coin.

Attention! The tape shouldn't be folded over the edges of the coin. Cut off what sticks out from the coin's surface.



07

Repeat with another coin and the second wire.



08

Place a teaspoon of salt into the small glass of water.



09

Stir well



10

Place the electric wire and coin in the middle of the saucer. The side of the coin with the wire taped to it should be facing down. Place one of the aluminium circles on top of the coin. In order for the experiment to work, the coin and the aluminium circle must match up exactly.



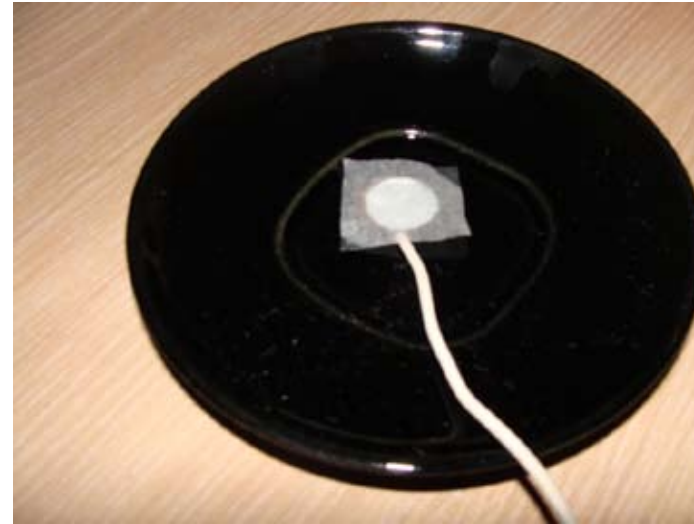
11

Dip one of the paper towel squares in the salty water until it is completely soaked.



12

Place the wet paper towel on top of the aluminium circle covering the coin.



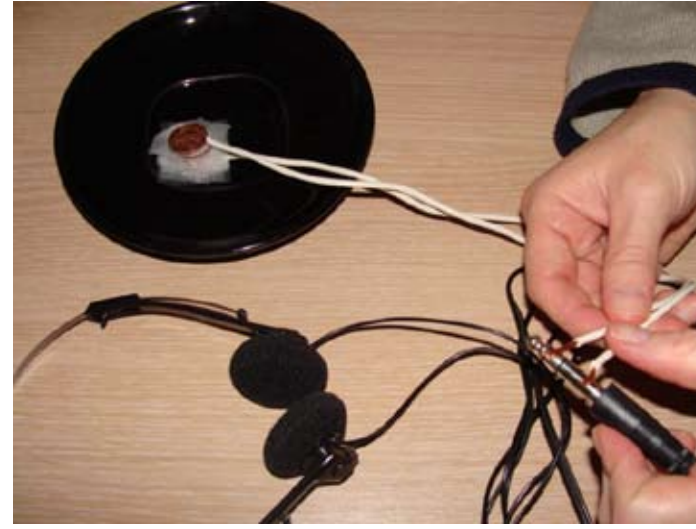
13

Continue to stack the remaining equipment on top of the two coins, keeping to the same order (coin, aluminium circle, soaked paper towel) until all of the equipment has been used up.



14

Finish off by placing the other coin with electric wire taped to it on top of the stacked materials. Attention! The copper filaments on the last coin should be facing up!. Hold the two electric wires together to make things easier.



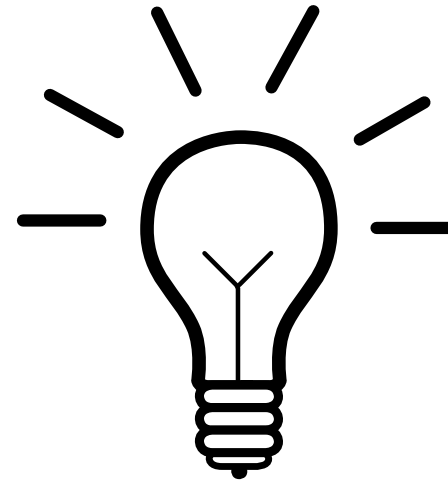
15

Place the other ends of the two electric wires against the jack of the earphones. Using three substances (aluminium, salt water and the copper coated steel in the coins), you have created a 0.5 Volt electric battery. If you bring the earphones to your ears, you will hear a crackling sound. It's the electricity of the battery being transformed into sound energy!



16

Pay attention to how you place the wires against the plug of the earphones.



17

If you do some research, you will see that there are many other items you can find at the supermarket that you can also use to produce electricity.

Have fun finding them !

D/2008/M.Dielemans, éditeur.



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