



THE YOUNG SCIENTIST



*Final product financially supported by the Erasmus+ programme
of the European Union.*

*The content of this publication does not reflect the official opinion of the
European Union. Responsibility for the information and views
expressed in the publication lies entirely with the authors.*





Co-funded by the
Erasmus+ Programme
of the European Union



Erasmus+ Strategic Partnership

“From Knowledge to Competences”

2017-1-RO01-KA219-037318

Project partners:

Școala Gimnazială Nr. 11 Botoșani – **ROMANIA**

Talatpaşa Ortaokulu Bayrakli, Izmir – **TURKEY**

Agrupamento de Escolas de Rio Tinto, Rio Tinto – **PORTUGAL**

Comprehensive school "Kozma Trichkov", Vratsa – **BULGARIA**

Põlva Kool, Põlva – **ESTONIA**

Istituto Comprensivo Statale "Benedetto Croce", Flumeri – **ITALY**

Szkola Podstawowa nr. 336 im. Janka Bytnara Rudego Warsaw – **POLAND**

CONTENTS

CHAPTER 1 – ROMANIA THE MYSTERIES OF CARBON	2
CHAPTER 2 – BULGARIA RAIN AND STORMS	8
CHAPTER 3 – TURKEY ADAM’S DREAM	14
CHAPTER 4 – POLAND DEFORESTATION	19
CHAPTER 5 – ESTONIA FRESH AIR	24
CHAPTER 6 – PORTUGAL THE SALTY WATER OF THE OCEAN	28
CHAPTER 7 – ITALY THE GREEN GOLD OF THE PLANET	35

CHAPTER 1

THE MYSTERIES OF CARBON

ROMANIA

It was late, but in Adam's room the lights were still on. The small freckled nine-year old boy was reading keenly the last pages of a torn-covered book; he looked like a turtle with his head sticking out of the blanket and huge glasses on the eyes. Because of his unstoppable curiosity, sometimes his friends used to call him "Little Why".

Suddenly, steps were heard on the stairs and a voice said:

"It's bed time. You have to get up early tomorrow, it's harvest day and Grandpa is taking you to the market. Don't make me tell you the second time".

It was Grandma so Adam knew that she meant it, but he couldn't let the book down, it was so exciting reading about the dinosaurs that roamed the earth thousands of years ago. Adam was intrigued that they mysteriously died out and no one knew how and why.

He was fascinated by the skeletons the scientists discovered which showed the fact that some were meat-eaters and some ate plants. "I have to find a skeleton, myself", thought Adam. "I wonder if dinosaurs ever lived on the land of our farm. Maybe I could find one on the hills, near the old coal mine".

He fell asleep with that thought in his mind and dreamed about the old coal mine with its long narrow tunnels full of the voices of the men who worked there, surrounded by darkness and dust.

"Hey, what are you doing in here?" a deep voice sounded from the pit. Adam jerked but answered in a thin voice: "I am looking for a dinosaur, sir. A skeleton... a dinosaur skeleton, I mean, sir..."

"Go home, boy! This is not a place for you", the voice replied. "But, sir I want to find a dinosaur, or some bones, at least."

"Kid, all you can find here is coal or some graphite if you are lucky." Adam was disappointed, he was not interested in coal, but he asked: "Graphite?"

"Yap..., graphite, actually, it is used for the core of your pencils."

Adam was amazed at the things the man said. He had never thought that the usual pencil was made of a graphite core embedded in wood.

"And did you find any?"

"No, not me. But there were some of the miners who dug and found graphite strands. But, there were rumours that some also found diamonds."

"Diamonds?" whispered Adam. "Real diamonds?"

"Of course, they were real. What do you think? That I am talking nonsense?"

"Oh, no... certainly not, sir. But, diamonds?" His mind twirled like a pinch.

As everybody else he had heard about diamonds, but he did not know why everyone was so serious when they talked about them, especially the girls. Maybe it was a secret that no one knew of it. He suddenly remembered a moment when his grandpa asked him to fetch the diamond glass cutter from the tool box. He didn't pay any attention to the word diamond then, but he saw how easily Pops had cut the glass.

"Booo-weep! Booo-weep! Booo-weep!" the alarm clock rang for the third time and Adam was still wandering through the mine galleries thinking of the diamonds and their mystery.

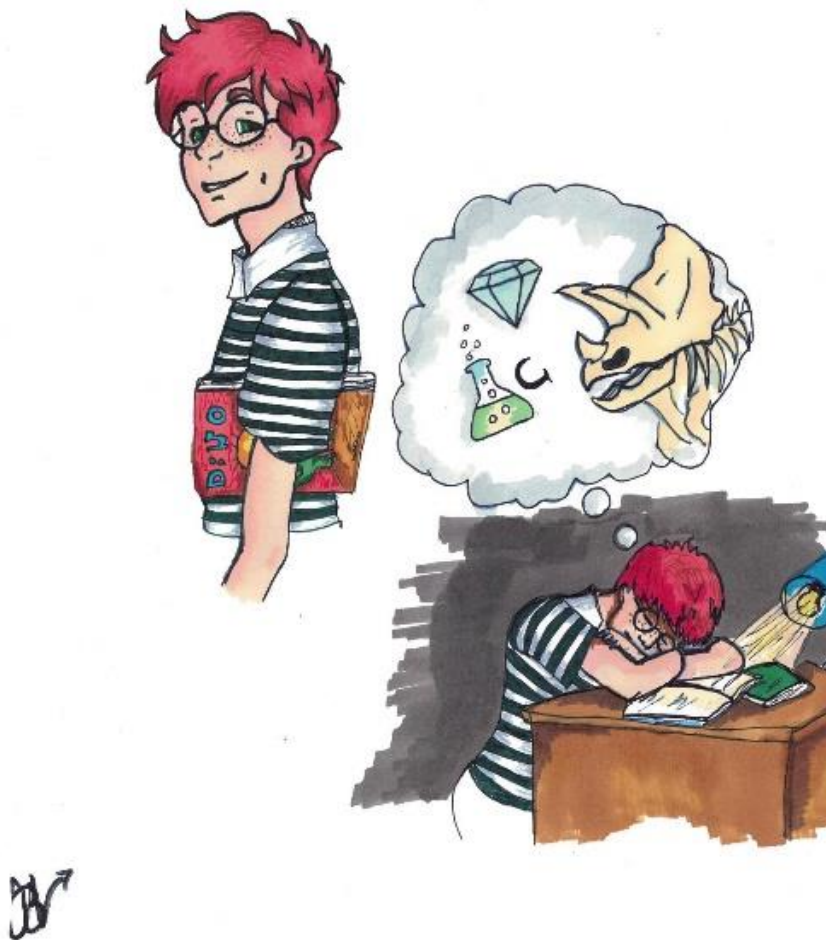
"Adam, wake up, it is late!" "Come on, wake up!" his grandmother's voice echoed in his ears.

"What's the matter with you?" You stayed late last night again, didn't you?"

Adam finally opened his eyes, but closed them as quickly as he could. Then he opened them again. It was true; he was in his room, lying in his bed. There were no mines, no galleries or voices telling him about diamonds or whatever miners may find in the depths of the Earth.

"Good morning, Adam!" Grandma said. "I had to come up to stop the clock alarm and wake you up. Come on, it is time to have breakfast and join Pops. He is about to head for town."

"Ok, grannie! I'll be ready in a minute."



The boy leaned out of bed and, with slow movement, began to dress. He was silent, deep in thoughts about last night's dream and headed for the pen drawer. He opened it and saw a bunch of nice lined up pencils. "Yes", he said to himself, "they all have got graphite inside".

But how could graphite and diamonds be found in the same place? Are they related somehow? Then he remembered what the old miner told him: "Both graphite and diamonds are made of the same basic element, carbon, and they were formed under the Earth's crust, but in different conditions of temperature and pressure."

"So", thought Adam "even if they contain the same basic element, they are very different in structures and properties: diamonds are bright, sparkling and transparent but graphite is dull and opaque."

"The lead of the pencil is soft, breaks easily and leaves black marks on hands and paper. On the contrary, diamonds are hard, can cut tough materials such as glass." Adam was about to find out that diamonds are the purest crystal and they can have different colours: yellow, pink, green, blue, red or orange.

It was the beginning of Adam's journey to knowledge.

Did you know ...?

Carbon is found in the Sun and most of the stars, in comets and in meteorites, in the Earth's atmosphere, in the soil, in the ocean waters, but also in living organisms or in the human body.

Because of his night dream, Adam was excited throughout the day. Nature sparked his curiosity and imagination so he decided to explore it.

Later, while having dinner with his grandparents, he told them he would have a walk in the nearby mountains the next day.

CHAPTER 2

RAIN AND STORMS

BULGARIA

After a long walk, Adam finally reached the mountains. The sun was shining brightly on the high peaks and the colourful meadows full of flowers. He was tired and sat down to rest. The soft, cool wind touched his face and made him feel at home.



Suddenly it got dark, and the sky was covered in gloomy clouds. It started to rain. The child looked for a place to shelter. He saw the entrance to a cave. There, it was a white-bearded old man, holding a long stick, with a flock of sheep.

Adam asked:

"What is this cave? Can I hide inside?"

"Of course, and hurry up because it will rain heavily."

The two of them went in and the boy was amazed.

"What are those pillars hanging from the ceiling or rising from the floor?" asked Adam eagerly.

"They are stalactites and stalagmites, my boy, and those like columns are called stalactones. They have been formed for thousands of years."

The two of them walked around for a while, but they couldn't go out because it was pouring down. The boy asked: "Where does rain come from?"

The man explained: "Look, my boy, life in the mountains taught me a lot about nature. Clouds are a natural cover for the earth, protecting it from overcooling in winter, overheating in summer or and against harmful solar radiations.

Clouds usually reflect a certain weather condition and their forms have always caught people's attention. My grandfather used to predict the weather by the shape and colour of the clouds."

"And how did he do that? I've always wondered what would be if someone could predict everything?"

"We cannot predict everything but my grandfather said that the shape of the clouds could show weather changes. For example, red

clouds are a sign for bad weather, white fluffy clouds indicate that the weather is getting better."

"And how are the clouds formed?"

"They are a source of vital moisture and a major component of the planet's water circle. They are formed when moist warm air rises in the atmosphere and cools down. The types of the clouds depend on how high the warm air rises."

"Well, how high can a cloud get?" the boy asked.

"High clouds can reach the height of 6,000 to 13,000 meters. They are composed of ice crystal and they do not produce rain."

Just then a lightning lit up the sky, illuminating the exit of the cave, and then a deafening thunder was heard.

Adam got scared and ran inside. The man laughed, went after him and patted his shoulder:

"Do not be afraid, boy, you should know that nature can be full of surprises. If we accept this we will understand it better." Then he added:

"There will be a storm. It is a good thing that we are in the cave."

"What can you tell me about storms?" Adam asked the man.

"Storms are connected with the movement of the air fronts. When they collide they cause rainstorms. The intensity of the

storms depends on the type of the clouds which formed due to the movement of the air fronts. Medium-height clouds, located at an altitude of 2000 to 6000 metres, do not cause rain. Rain is given by the low-height clouds, which are closer to the Earth's surface, at about 50 to 100 meters."

"Ah, then our rain has come from the low clouds," said Adam.

"Good for you, that's right, clever boy! You get it fast!" laughed the old man.

"You are a good teacher, so everything is now clear to me," said the boy and smiled.

"And when does the rain turn into hail?"

"Oh, that's a very unpleasant thing, because the hail can destroy all the beauty you see around. It is formed by a special type of clouds, called cumulus-rain clouds, which are dark and are responsible for producing lightning because they do not let light go through. They cause hailstorms in the summer, and heavy snow in winter."

At the same time, a dog barked nearby. Adam and his new friend left the cave. It wasn't raining anymore.

A dog was coming towards them. It saw the shepherd and waved its tail. It came near the boy, sniffed him and lay down.

"It's Rain," said the old man, "I named him so because I found him hanging around my sheep on a stormy day. Since then he has been my faithful companion."

Adam realized it was pretty late and his grandparents were waiting for him. He was eager to tell them about his experience.

"I have to go now. Thank you for everything you told me. I've learned so much about nature from you. I am looking forward to telling my grandparents all the things I've learnt about clouds, rain and storms."

"Good-bye!"

"Good-bye, my boy, I wish you all the best!"

Did you know...?

The existence of rains has been observed or assumed on other planets, except on Earth, where rain may be of substances other than water, such as methane, neon, sulfuric acid or even iron.

What does a drop of rain look like? It begins its life in a cloud in a spherical shape but as it starts falling down, it takes the shape of the upper half of the hamburger.

According to the height the clouds are formed, they are classified as high, medium and low clouds, and according to their form, they are called: cumuliform, stratiform and cirruform.

Adam got home excited after the meeting with the old man in the mountains. He was eager to share his experience with his grandparents and boast about the new things he learnt.



CHAPTER 3

ADAM'S DREAM

TURKEY

One summer morning, Adam Bright woke up early. He stretched out but didn't get up as he felt a little sick. He thought his grandparents were still sleeping because there were no voices or footsteps coming out of the hall. A moment later, Adam pulled the shutters and the sunlight streamed into the room. The yellow Sun shining brightly in the sky immediately caught his eye.

"Mmm, it is the Sun that gives us all the heat. How strange! It looks so tiny and yet it can warm and light up the giant Earth. How can it be possible?!" he thought.

From that day on, Adam started watching the Sun. He felt a burning curiosity inside. The Sun was so vividly present in his thoughts that he started reading all sorts of books about it.

The books made him realize how little he knew about the Sun. The more he read, the more curious he became about the subject.

One day, while reading, Adam fell asleep. Suddenly, Adam opened his eyes. He spotted a telescope right in front of the window. He panicked. "Where did it come from? Who brought it there?"



Confused, the boy rubbed his eyes. He could make out the shape of a person running towards him. Adam panicked again. But the person approaching him seemed to be a peaceful and kind young man.

"Who are you?" Adam asked. "Why are you in my room?"

"Adam, don't be scared!" the young man replied. "You can call me Magus."

"Are you a magician?" the boy asked curiously. "Or maybe my friend, Jeff, wanted to play a trick on me and sent you here."

"Adam, I have a message for you. Come to the Big Telescope with me. Look! Something strange is happening to the Sun."

Now Adam was really scared. He ran to the telescope and had a look at the sky.

"Oh, my God! What's that? What's going on?" Adam cried out.

The Sun was much closer to the Earth. It could be noticed with the naked eye. It was a dangerous situation. The Sun was getting closer to our planet making the Earth hotter and hotter. "What shall I do?" Adam wondered.

After a while the boy realized that the young man was no longer there. Maybe he got lost somewhere in the cloud of dust which covered the whole room. "I must find and warn my grandparents", Adam thought. He could already picture the

disaster in his mind: people running in terror, cars and houses in flames...

This vision was as if taken from one of his books. He tried to understand what could have affected the Sun. He was aware that the Sun could harm the Earth in no time. He needed a miracle.

All of a sudden, Adam opened his eyes. He was covered in sweat and shaking in fear. "What a strange dream!" Adam thought. He looked around and took a deep breath. Then he looked up at the sky. The Sun was shining beautifully, so far away. The Earth was safe!

Did you know...?

Our Sun has been alive for about 4.5 billion years, and it is estimated to live another 5-6 billion years, before it "dies". In about 6 billion years from now, the hydrogen at the Sun's core will run out. When this happens, the inert helium at the core will cause the Sun to collapse on itself, transforming it into a red giant. You can guess the effect this would have on Earth - our atmosphere and our oceans would begin to dry up, and it would be the end of life on our planet.

For the second time the boy had a strange dream. He was happy to see that the dreadful nightmare was only in his imagination. He smiled thinking of beautiful rays of the sun in the mountains and felt relieved that the world was not threatened by disaster.



CHAPTER 4

DEFORESTATION

POLAND

Adam liked travelling and exploring the world. One day he went to school and found out that next day his class was going to have a trip to the forest. Adam was very excited about the journey. He hoped he would see hedgehogs, rabbits or even a stag.

On the day of the trip, Adam was at school and met his classmates. It seemed that they were not as interested as Adam about the trip. Later, when the class moved towards the bus, Adam decided to ask his teacher about a travel plan.

The teacher said that first they were going to have some workshops and then they had to take part in a special competition. Adam was very disappointed with the plan because he wanted to go to the forest, but he could not change anything. The boy got on the bus and took his seat.

After a while, the bus stopped and the children got off. There it was a wooden house where the workshops were to take place. When they entered, they found out that the workshop would not take place because a teacher had got ill.

His teacher told them: "Kids, I am very sorry that there will be no workshops today. Luckily, the weather is nice and you can explore the forest by yourselves."

"We shouldn't be afraid" the teacher continued, "there are several forest rangers around here, and there is a small ranger's house at about 200 meters away. If you have a problem, report it to them. I'll see you all in an hour."

The children were happy to spend some time alone in the forest. Nobody asked any questions and everybody ran in different directions. Adam decided to go to find a forest ranger. He hoped to learn many interesting things about the woods from him. He went towards the ranger's house and he met a tall man in uniform.

"Child, what are you doing here?" the man asked Adam.

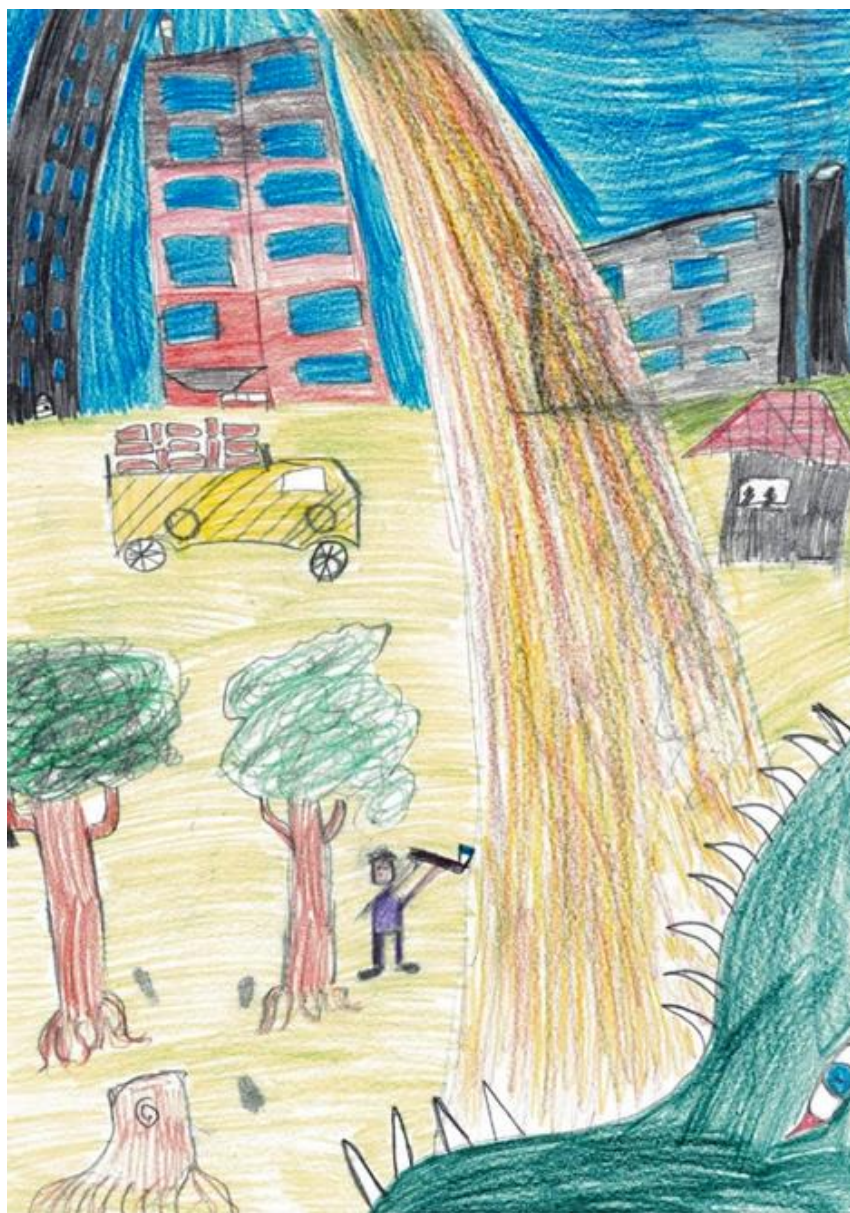
"I am here with my class," said Adam, "we were supposed to have a workshop, but a teacher got sick, and we were allowed to go through the forest by ourselves."

"If you want, I can go with you," the ranger offered, "and I will make sure you won't get lost in the forest."

"Sure!" Adam replied.

"Do you know that billions of trees are cut down every year?" asked the man.

"Really? I did not know about that. What about the animals that live in the trees? What happens to them?" asked Adam.



"This is a huge problem," said the forest ranger, "the animals have to look for other trees where they can live, otherwise they will not survive."

"Why?"

"I'll explain," he smiled, "people need wood, the areas of rainforests get smaller and smaller every year. Therefore, animals like jaguars, tigers, sloths, orangutans, spider monkeys, frogs or green anacondas need a new home. If they don't find it, they will die."

"I see," said Adam, "it's tragic. I know that rainforests are home for so many species of butterflies, beetles, spiders, worms, and birds like parrots and toucans."

"You are right", said the ranger. "And we have to do something to stop destroying their habitat".

An hour later, the boy came out of the forest and went to the meeting place. The teacher asked the children where they were and what they did. She found out that everyone just walked, played and took photos. When it was Adam's turn to talk, he said:

"I have found out that man is responsible for destroying the wild animals` habitat and do not stop cutting down trees for immediate profit. The Earth doesn't deserve to be treated this way; it should be the home for the generations to come."

Everyone was listening silently to Adam and felt the truth behind his words.

Did you know...?

Forests still cover about 30 percent of the world's land area, but they are disappearing at an alarming rate.

80% of Earth's land animals and plants live in forests.

Trees absorb not only the carbon dioxide that we exhale, but also the heat-trapping greenhouse gases that human activities emit.

Adam was worried about what the forest ranger told him. He promised himself that someday, in the future, he would find a way to solve this problem.

He was anxious to meet his best friend, Jeff. They had so much to talk about.



CHAPTER 5

FRESH AIR

ESTONIA

Adam finished his chores on the farm and could hardly wait to meet his friend, Jeff, who lived in town, pretty far from Adam's place.

Jeff was a bit older than Adam. He was a very good student, won many international school contests and travelled a lot. Adam was anxious to listen to his stories and find out more about the world.

Jeff arrived at lunchtime and both boys were over the moon to see each other again. Before beginning to speak about his adventures, Jeff took a deep breath - several times.

"The air is so good here! It's so easy to breathe!" Jeff said.

"It is just air," Adam said.

"No," Jeff said, "the air is different here, on the farm!"

"What do you mean?" asked Adam intrigued.

"That means that the air is not polluted," answered Jeff.

"Polluted? Can you explain to me?" Adam asked.

"Well, the most common gas in the air is nitrogen. Under normal circumstances, it does not react with other substances and therefore it has a share of 78, 09% of the air. The oxygen we need

to breathe has a share of 20,95% or 1/5 of the air composition and the rest of 0.9% is precious gas, most of which is argon. The air also contains carbon dioxide and its amount has increased over the last century."



"Is it a different kind of air where you live?" Adam wanted to know.

"Yes and no. In my town, there are the same gases in the air, but there are also substances which diminish the purity of the air. For example, carbon monoxide and sulphur dioxide in the exhausts gases from cars are toxic and pollute the air. Sometimes it is hard to breathe near the highways!" said Jeff.

"But when we make a barbecue, don't we pollute the air we breathe?" Adam curiously asked.

"Burning produces carbon dioxide when we breathe out, but it's not always toxic - if we don't put plastic in the campfire and burn only the branches of fallen trees or charcoal, no pollutants will emerge. Anyway carbon dioxide is used by plants for photosynthesis."

"Why is there no clean air in the town?" Adam asked.

"There are lots of houses, factories and cars in town and they use different fuels and these produce the pollutants which get into the air. The bigger the towns are the more polluted the air in these cities gets", Jeff said. "People also get ill because of this."

"Then something should be done to reduce pollutants in the air," said Adam.

"I've heard on the news that politicians and scientists from all over the world are trying to find ways for reducing air pollution", Jeff said.

"This is very important. I wish all the people could breathe the same fresh and clean air everywhere", Adam concluded.

"That's a good thought, Adam! Sometimes small things can make a difference. So, let's skip the barbecue and have some fruits instead. I've noticed some juicy plums in the trees behind the farm."

"What a lovely idea!" Adam said.

Did you know ...?

The increase of carbon dioxide in the atmosphere enhances the green house effect which is one of the causes of climate warming? This leads to global climate changes which are gradually followed by glaciers shrinking, accelerated sea level rising, plant and animal ranges shifting and air temperature rising.

Adam was happy to spend some time with Jeff and share thoughts and ideas. He told his friend about his plan to go to see the ocean and discover a new world, completely unfamiliar to him.

He was determined to have "a whale of a time!"



CHAPTER 6

THE SALTY WATER OF THE OCEAN

PORTUGAL

Adam was excited, because he would go to the beach for the first time in his life. As he lived on a farm, he had never seen the ocean or the sea before; he only knew about them from books and TV or from his friends. Seeing the ocean would certainly be an unforgettable experience and he would find out lots of interesting things.

The long-awaited day arrived and Adam together with his grandparents sat off their journey. It took several hours, but it was worth it. Everything was different! The wind was blowing lightly, and there was a strange smell he couldn't identify, so he asked his grandmother:

"Grandma, what is this smell?"

"What smell?" she asked.

"This itchy smell." Adam replied.

"Ah! That?! It's the smell of the water. You'll get used to it. It gets more intense at tides." his grandmother explained.

"But it smells like salt!" Adam exclaimed.

"Of course, it smells like salt, the ocean water is salty!" she replied.

"But why is the ocean water salty, grandma?" he continued.

"God almighty! The questions you ask! I do not know why the ocean water is salty! I don't know everything about oceans! You'll have to ask someone who knows. Let's check in and have a rest. We'll try to find out later."



They went to their room and started to unpack. But Adam was so excited. He just wanted to go to the beach and see the waves.

While his grandparents were busy with unpacking, he sneaked out of the room and made for the beach.

Everything was new and caught Adam's attention. He felt ecstatic! At last, his feet could touch the sand and feel the foaming water of the ocean. He felt a shiver of fear and joy.

Suddenly, a small wave crashed against his feet. It was cold! Taken by surprise, he lost his balance and fell into "the brine". He swallowed a mouthful of sea water. He choked and tried to spit it out.

"How horrible! The water is so salty! Looks like someone dumped a salt mine in here! How is it possible?"

"Ha-ha-ha!" a laughter was heard near him. "This is the price you pay for sneaking out of the room", Grandpa said in a gentle voice.

"Sorry, grandpa! I wanted to have a closer look at the ocean! Please, can you tell me why the water is salty?"

"Dear Adam, I do not know the answer, but if you want to know, tomorrow we can go to the Sea Museum to find the right answer."

The next day, Adam got up ready to go to the Sea Museum. Once they got there, the guided tour began. After a while Adam popped out the big question:

"Madam, you have already explained a great deal about life in the ocean, but can you tell me the reason why its water is salty?"

"I was just about to talk about this. It is not an easy answer, since there are several causes to explain this phenomenon. First of all, I can tell you that the amount of salt in the oceans is huge. In fact, it is estimated that there is enough salt in the world's oceans to cover the entire planet's land surface with a layer of approximately 40 storeys.



However, the ocean water has not always been so salty. When the Earth's oceans formed, about 3.8 billion years ago, when the planet's surface cooled enough to allow water vapour to liquefy, the oceans were mostly freshwater.

You know, contrary to what you may think, salt does not rise in the sea, it comes from the rock, laden with elemental salts,

including sodium, chlorine, and potassium. With the help of erosion these salts are released from their rocky prison. But ... did you know that the rivers are most responsible for the salinity of seawater?"

"But the rivers have fresh, not salty water!" replied Adam.

"It is true, although the water of the rivers is not salty, it is the one that carries the rocks the most and removes all their minerals from them, depositing everything in the oceans. For, as you know, most of the rivers on our planet flow into the sea.

Then there is the acid rain which contains carbonic acid (H_2CO_3), a weak but corrosive acid. This acid, in the form of rain, falls on a rock rich in salt, and slowly breaks up releasing the salt. The rainwater slowly carries the salt to the lakes and the nearby rivers, which in turn transport it to the seas. Although the amount deposited is small, the salinity of the oceans has gradually increased for over millions of years. The process continues even today.

Besides acid rains, volcanism still has an important role to play. The water is superheated from the magma below and, as it rises, dissolves the minerals locked in the crust, forming a vapour rich in minerals. Submarine volcanoes are also involved in this process. Magma erupting through underwater cracks boils the surrounding water, which then dissolves salts in the cooling rock to escape. Many of the world's islands were formed by this

process, releasing thousands of tons of salt in the process. Did you know that the amount of salt in the sea and in the oceans is not always the same?"

"Really?" asked Adam, "but why?"

"I'll try to explain. Sea water and oceans contain on average about 35 grams of salt per litre, however, the nearer the poles water is, the less salty the water becomes, as the fresh water released from the ice dilutes the concentration of salt."

Adam was intrigued by so much new knowledge, but his curiosity was not fully satisfied, so he raised one more issue:

"If most of the salt in the sea is carried by the rivers, why is it that they are not salty as well?"

"The simple explanation is that they contain salt, but the concentration is much smaller and the salt flows instead of accumulating. It is estimated that each year, four billion tons of dissolved salts are taken to the sea by the rivers," explained the guide.

Adam was happy, he finally understood the reason why the ocean and sea were salty and the rivers were not.

Now all he could do was to enjoy the rest of his visit to the museum and his time spent on the beach.

Did you know...?

The ocean contains about 50 trillion tons of salt. And we're not just talking about sodium chloride - the popular cooking salt! (NaCl) + (CaCO₃) + (MgCl₂) + (KCl) + ... In addition to sodium chloride (NaCl), ocean water also contains:

- *Magnesium chloride;*
- *Calcium bicarbonate;*
- *Magnesium sulphate;*
- *Calcium sulphate;*
- *Potassium chloride;*
- *And many more!*

On his way back home Adam kept on thinking about the new things he learnt during the visit to the Sea Museum.

But his inborn curiosity was stirred once more by the rapid changing of the landscapes seen through the train windows.

CHAPTER SEVEN

THE GREEN GOLD OF THE PLANET

ITALY

In his wanderings, Adam discovered how beautiful and magnificent nature is and how nature connects us all.

He saw how the pastures became green in May and the clouds changed their shapes every single hour. He also noticed how daytime was gradually followed by night in a cyclic movement. Adam understood that the wide green fields could become dry because of the cold weather or wet due to the rain.

Adam spent many hours in nature and noticed its continuous adaptation to climate changes; to dramatic ways people modify the environment to meet their selfish needs.

The boy realized that the human beings should be grateful to nature for all it offers, yet, somehow, they feel they are masters of it. Around him there were immense green and fragrant areas where plants grew naturally, plants which people use as food, medicines or raw materials to improve their life.

Spending his time over the hills and valleys near his native village, he could learn that the colours and scents of plants are influenced by the type of soil where they grow.



One day his grandma told him:

"Adam, do you know why the cheese we make here on the farm has a strong smell of sulphur?"

"No, grandma. I thought that cheese always smells like that."

"That's not true. I'll tell you why. Our sheep and goats graze on these fields and eat the grass which absorbs the sulphur. From their milk, we make cheese. That's the reason why our cheese has a strong smell of sulphur."

Adam became thoughtful. But his grandma continued:

"There are many cases when people do all kind of things in order to improve their crops and to make high profit. You see, those green fields you admire often hide a dark secret. People use chemical fertilizers, instead of natural ones, just to get immediate results in a short period of time. In this area there is a strong tradition of growing vegetables: tomatoes, carrots, potatoes and mainly peppers."

Adam remembered the long strings of peppers hanging from the ceiling on the farm. At the beginning he didn't know what they were, but then, he understood that the process of preparing the peppers included making them dry and ready to be cooked in various ways.

He also remembered the plants with different colors and scents that grew by the sea. There, the habitat was completely

different and yet there were plants that could survive despite the high salinity of the air and the soil. "How amazing nature is!" Adam thought. "So fragile, yet so powerful, so diverse!"

The boy learnt that nature is perfect despite its flaws and that its beauty comes from its diversity. People think they can improve nature, but, in fact, they damage it.

Nature is life and so it has its own natural cycle and rhythm.

People should appreciate and respect nature - they should try to have a friendly, healthy relationship with the natural world.

Adam was convinced that humans are children of nature and its mysteries are worth discovering and cherishing.

Did you know...?

Terrestrial plants appeared on Earth more than 310 million years ago.

It takes just one tree to make more than one hundred and sixty thousand pencils.

More than 25% of the medicines we use originate in rainforest plants.

Deserts take up approximately one-third of the Earth's land surface.

AUTHORS

Romania

Alexandru Constantin Grigoriu
Alexandru Cornel Maxim
George Alexandru Sandu
Teodora-Ecatherina Apostoaie

Edited by Simona Acsente

Bulgaria

Tomislav Mindilikov
Svetoslav Svetlov
Konstantin Petrov
Raya Stanislavova
Radostina Tihomirova
Vladislava Georgieva

Turkey

Irem Savur
Arda Aymak

Poland

Kira Sukhoboichenko

Estonia

Aleksandra Jermohhin
Mai Kirsing
Samuel Kolsar
Mihkel Liivago

Portugal

Afonso Castro
Martim Teixeira
Inês Espírito Santo
Inês Ferreira

Italy

Albanese Chiarra
Battiante Carmen
Caruso Giuseppe Pio
Ciccione Benedetta
Di Paola Karol
Di Paola Pasqualina
Iorizzo Grace Maria
Raduazzo Luigia Pia

ILLUSTRATIONS

Bulgaria

Valeri Androva

Beloslava Shamun

Ivana Ftuli

Dilyana Tsekova

Ralitsa Tsekova

Yoana Shomaklyiska

Valeri Ivanov

Hana Lachkova

Viktoria Trifonova

Niya Atanasova

Reni Nikolova

Bibliography:

www.wikipedia.org

www.superstickers.com

This final product was achieved by the contribution of the project team members from all partner organizations whom we thank.



