Wondering About Clouds

CHAPTER 1

It was a hot day, but Margaret and Eduardo were cold! They were at the beach watching a seagull flying around. They had just come out of the water and were waiting for the sun to dry them off. They were looking at clouds.



"That cloud looks like an elephant!" said Margaret.

"And that one looks like a house!" said Eduardo.

"What are clouds made of?" asked Margaret. Eduardo was her older cousin and Margaret thought he knew just about everything.

"They're made of cotton candy," said Eduardo.

"You mean that stuff we ate at the fair?" asked Margaret.

"Yes," said Eduardo. "That's what they look like, anyway."

Margaret and Eduardo were nearly dry by now.

"Where does the water go?" asked Margaret.

"What water?" asked Eduardo.

"The water when you dry," said Margaret. "Where does it go?"

"It doesn't go anywhere," said Eduardo. "It just disappears."

"It can't just disappear!" said Margaret. "Things don't just disappear."

"What about that rabbit?" asked Eduardo.

"What rabbit?"

"The one that disappeared when the magician waved his wand at that show." $% \mathcal{T}_{\mathrm{s}}$

"That's different," said Margaret. "That was magic."

"Well, maybe the water disappearing is magic, too."

"I don't think so," said Margaret. "My mom says that magic isn't real."

"Your mother is right!" said someone.

Margaret and Eduardo looked up and saw a tall lady standing right next to them.

The lady was dressed very strangely. Instead of a swimsuit she had on a long purple dress that reached all the way down to her ankles. She wore an enormous hat and big, dark sunglasses, and she had a small pack on her back. But the strangest thing of all was her shoes. They were gold, with high heels, and they sparkled in the sun.

What do you think clouds are made of?

"Where did you come from?" asked Eduardo.

"Why aren't you wearing a swimsuit?" asked Margaret. "And how canyou walk on the beach in those shoes?"

"Don't you like my shoes?" asked the lady.

"Sure we do," said Eduardo. He didn't want to annoy this strange lady.

"I'm not wearing a swimsuit," the lady said, "because I don't want to swim. And I'm here because you told a fib!" She pointed at Eduardo. "Two fibs, really."

"What fibs?" asked Eduardo.

"You said water disappearing was magic!" said Margaret.

"Well if it's not magic, what is it?" asked Eduardo.

"The water goes into the air and turns into clouds," said the lady. "That was your other fib. Clouds aren't made of cotton candy. They're made of water."

"They sure don't look it," said Eduardo.

"They look like elephants," said Margaret.

"And houses," added Eduardo.

"Well, they're not elephants and they're not houses and they're not cotton candy either," said the lady. "They're water. I can prove it to you."

"How?" asked Eduardo.

"I could take you there," said the lady. "We could all go up there and see for ourselves."

"We can't do that," said Margaret. "We can't fly. We're not birds."

"No, you're not birds," said the lady. "My name is Elvira, by the way."

"But Elvira," started Eduardo, "what did you mean about going to visit the clouds? How could we do that?"

"Oh, there are ways," said Elvira, "You could fly! Oh yes, I could teach you how! But you'd have to really, really want to. And you'd have to be very brave, of course."

"We're brave!" said Margaret. "We're brave as anything! Just show us how to fly!"

"All right then, " said Elvira. "Let's get started!"

"Hold your arms out like this," said Elvira. "Make a 'T.'"

Margaret and Eduardo held their arms out and they noticed a curious thing. The sounds of the other children playing on the beach were fading away. So were the voices of the grownups. And as though a cloud were passing in front of the sun, the rest of the beach got darker and darker until it faded away, too, until Margaret and Eduardo and Elvira were left in a little circle of light all their own.

"There, that should do it," said Elvira.

"What's going on?" asked Eduardo. "Where is everybody?"

"Oh they're still there," said Elvira. "They're just not paying attention to us any more. If the other kids saw us flying they'd want to join in and I can't handle more than two at a time."

Eduardo's shoulders were starting to feel itchy. It felt as though ants were crawling all over them. "This is scary!" he thought, but for some reason he didn't feel scared. He looked at Margaret. She didn't look scared, either. She just looked surprised. She was staring at him until her eyes nearly popped out of her head.

"You're sprouting wings!" she said. She craned her neck to look down her back. "And so am $\ensuremath{\mathsf{I}}\xspace"$



Sure enough, two little white wings were popping out from Margaret's shoulders. As Eduardo watched, the wings grew wider and longer. Pretty soon Margaret had the most beautiful wings he had ever seen! They looked like a seagull's wings, only bigger.

Eduardo's wings grew until they were even bigger than Margaret's. When he spread them out he could touch the ground with them. Elvira had sprouted wings, too, while he wasn't watching.

Eduardo tried beating his wings up and down a few times, but his feet stayed on the ground.

"What's the matter, Elvira?" he said. "Why can't I fly? What am I doing wrong?"

"You need to move your wings in little circles, not just up and down," said Elvira. "Like this." She demonstrated. Slowly she rose in the air about ten feet and remained there, beating her wings and smiling down at the kids.

It took a little practice, but pretty soon Eduardo and Margaret could fly, too. They flew over the beach and then out over the ocean. They tried to chase a seagull, but he got away. They flew up high and then came swooping down over the ocean. It felt just like sledding down a hill. They swooped so low that they got their feet wet and then they tilted their wings a little and up they went, laughing and shouting at each other. It was great fun and they would have kept on doing it for a long time if Elvira hadn't reminded them of something.

"It's time for our trip to the clouds," said Elvira. "Follow me!"

"Can we really fly that high?" asked Eduardo.

"Sure we can!" said Elvira. She pointed to a small fluffy cloud directly overhead. "I bet that one's not more than a mile up. We can do it easily. Yes, we can!"

A mile sounded like a long way to Eduardo, but before he could say anything Margaret and Elvira started to fly. Eduardo followed them and the three of them flew up and up. The beach below them got smaller and smaller and they could see the houses behind it and a road behind the houses.

As they got closer to the cloud it looked less and less like cotton candy. In fact, it looked vaguely familiar. Eduardo tried to think where he had seen something like this before. Then he remembered.

"It looks like fog!" he said.

"It is fog," said Elvira. "Fog is what we call a cloud when it touches the ground. Fog is made of water, too. Now you two stay real close to me, you hear? We're about to enter the cloud. There's nothing to be afraid of, but it might be a bit bumpy."

What is fog?

All of a sudden the air around them started to get very bumpy indeed. The air was getting colder, too.

"Grab my hands!" said Elvira. "We're going into the cloud!"



Margaret and Eduardo held very tightly to Elvira's hands. The wind was blowing very hard now and the air was even colder and it was getting really foggy. Margaret and Eduardo could no longer see the beach below them. Everywhere they looked they saw nothing but grey fog.

And then something surprising happened. Margaret and Eduardo could feel their hands and faces getting wet! It felt as though they were taking a cold shower.

"I don't like this cloud!" said Margaret.

Elvira said, "The cloud won't hurt you. It's not dangerous. In fact, it's really interesting, oh yes! I can show you!"

"Will we be in this cloud long?" asked Eduardo.

"No," answered Elvira. "This is just a little cloud. We'll be through it in a few minutes."

Margaret was still a little scared, but she had to admit this cloud was pretty interesting! Her curiosity overcame her fear. "Why is everything so wet?" she asked.

"Remember what I told you?" said Elvira. "Well, here's the proof!"

"So clouds really are made of water!" said Margaret. "That's so cool!"

"I knew they weren't really cotton candy," said Eduardo. "I was just fooling. But there's something I don't understand. Where does the water come from?"

"Remember Margaret's first question," said Elvira. "She wanted to know where the water went when you two were drying off."

"And you said it disappeared by magic!" said Margaret.

"And then what did I say?" asked Elvira.

"You said that it went into the air," said Eduardo, "even though we can't see it."

What are clouds made of?

"Right!" said Elvira. "The heat of the sun changed the water on your skin from a liquid into a gas. That's called evaporation and the gas is called water vapor. The water vapor went into the air and climbed up here just the way we did."

"But I didn't see any water on the way up," said Margaret.

"That's because water vapor is invisible," said Elvira. "You can't see it, but it's part of the air all around you."

"You mean like steam?" asked Margaret.

"No. You can see steam, but you can't see water vapor. Steam is made of tiny drops of liquid water. Water vapor is what you get when those little drops evaporate and turn into water vapor. There's water vapor in the air all the time, even though you can't see it. So when you were drying off, the water on your body was disappearing, but it wasn't going away – it was turning into water vapor."

The fog that was a cloud seemed to be getting thinner. Looking up, Margaret could see a bit of sunlight peeking through. She was glad that they were almost out of the cloud, but she still had one more question.

"If water vapor is invisible," she asked, "how can we see clouds?"

Eduardo had the answer. "Because clouds aren't made of water vapor!" he said, triumphantly. "They're made of regular liquid water. That's why our faces and hands have been getting wet."

"That's exactly right, Eduardo!" said Elvira. "When the air gets cold, the water vapor condenses back into liquid water. Condensation is the opposite of evaporation."

What is evaporation?



"And clouds are just lots and lots and lots of little water droplets?" asked Margaret.

"Yes, and sometimes little bits of ice, too," said Elvira. "But I don't see any ice in this cloud. I guess it isn't cold enough."

"It's plenty cold enough for me," said Eduardo.

"Me, too," said Margaret.

Just then they popped out of the cloud. It was quite sudden. The fog lifted and the sun shone brightly. The warmth of the sun felt good on their backs. The cloud was just below them.

"You know what?" said Eduardo. "Even though we've been through it and we know it's made of water, it still looks like cotton candy!"

"How are we going to get back down?" asked Margaret. "I bet Mom and Dad are missing us!"

"Don't worry about them," said Elvira. "They won't notice a thing. As for getting back down," she went on, "we could fly down or if you two are getting bored..."

"Oh, we're not bored!" said Margaret, "It's just that..."

"I understand," said Elvira. "It's been fun, but now you'd like this little adventure to end. Of course, you would! And we can do that, too. Just hold my hands real tight and close your eyes." Draw a picture of rain falling from a cloud.

There was a small popping sound. All of a sudden Margaret found that she was no longer holding Elvira's hand. The sound of the wind had gone away very suddenly, too, and in its place Margaret heard children playing and mothers calling to them not to go out too deep. She opened her eyes. She was lying on her back on the beach. Her wings were gone. She looked at Eduardo. His back was all sandy and there were no signs of wings between his shoulders.

"Where is she?" he asked. "What happened to Elvira?"

"I think she's gone," said Margaret, sadly.

Eduardo was staring down. "Look!" he said "She didn't leave any footprints in the sand. It's as though she wasn't real!"

"But we know she was here," said Margaret, "and we know we flew up into that cloud and got water in our faces. We know it really happened, right?"

"Uh, right." said Eduardo. But he sounded a little doubtful.

A drop of water hit Margaret on the shoulder. Then another one hit the other shoulder. "Children," called Margaret's mother, "it's starting to rain. Get your things together, we're going home!"

The windshield wipers swished back and forth and the headlights of the car shined on the wet road. Margaret and Eduardo were in the back seat. Margaret's parents were in the front, listening to the radio. They had never even noticed that the children had been gone all that time! Margaret and Eduardo hadn't told them what had happened. They were afraid that Margaret's parents wouldn't believe them. Sometimes they wondered themselves whether it had all been a dream.

"I'm sure it was real!" Margaret whispered to Eduardo. "I'm just sure of it!"

"Then how come no one noticed?" asked Eduardo. "We were gone a long time. How come no one missed us?"

"I don't know," said Margaret. "It was magic, I guess."

"You said there was no such thing," Eduardo reminded her.

"But Elvira is different," said Margaret. "She's real magic!"

"If she even exists!" said Eduardo, but he said it so softly that Margaret didn't hear him.

Suddenly Margaret had another question!

"Where does the water go?" she asked.

"What water?"

"The water in the clouds."

"I don't know," said Eduardo. "Maybe it just turns back into water vapor and becomes invisible again."

"But then sooner or later all the water in the world would end up in the air," said Margaret. "I don't get it."

Suddenly a familiar voice sounded in Margaret's head. "Look around you," the voice said. "What do you see?"

"It's raining," said Margaret.

"And where do you think all that rain came from?"

Margaret looked at Eduardo and Eduardo looked at Margaret. They smiled. Margaret could tell that Eduardo had heard the voice, too.

"Now I see," said Margaret. "The cloud dumps its water on us and we call it rain!"

"And then the sun heats the water up and it evaporates and turns into water vapor. And then it goes up in the air and condenses and turns back into a cloud," said Eduardo.

"It goes round and round!" said Margaret, happily.

Margaret's mother turned around to look them. "What are you children talking about?" she asked.

"Oh, nothing," said Eduardo. "We were just wondering about clouds."

"Oh," said Margaret's mother. She had a funny expression. She shook her head and turned around to face the front again. "And we were wondering about Elvira!" whispered Margaret. "She is real, after all!"



"I guess she is," said Eduardo.

THE END

Describe something from this story you learned about clouds.

Draw your own picture of the inside of a cloud.