

# ENCOUNTER WITH THE MARTIANS



Tania was waiting for her uncle Karan to arrive. Uncle Karan was a prankster. He had helped Tania play a few practical jokes on her friends, and Tania thought he was super cool. Also, there were some important things she wanted to discuss with him.

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It all began on 29<sup>th</sup> September 2015, when the planet Mars had quite literally made a splash in the media. NASA had just announced that, there was evidence of water on Mars. Mama said "You know Tania, your uncle Karan works for NASA. I am sure he will have some interesting things to tell us when he visits in a few months."



Tania had heard snippets of the news on television and asked "Mama, what is Mars?"

Mama said "Okay this is going to take some explaining. Do you remember how I told you we live on planet Earth which is shaped like a ball?"

"Yes, I still find that hard to believe. The Earth looks so flat. But you said that, the Earth is a very big ball, and we are tiny in comparison. We only see a very, very small part of the Earth at any time, so it looks

flat."



"Very good Tania! And what do you know about the Sun?"

"The Sun is a ball of fire much, much bigger than the Earth. It only looks small because it is so very far away."

"That is correct. You can line up a 109 Earths to fit across the Sun. Also the Sun is so far away, that you can line up about 10,000 Earths from side to side between the Earth and the

Sun. Can you imagine that?"

• —————▶ Earth

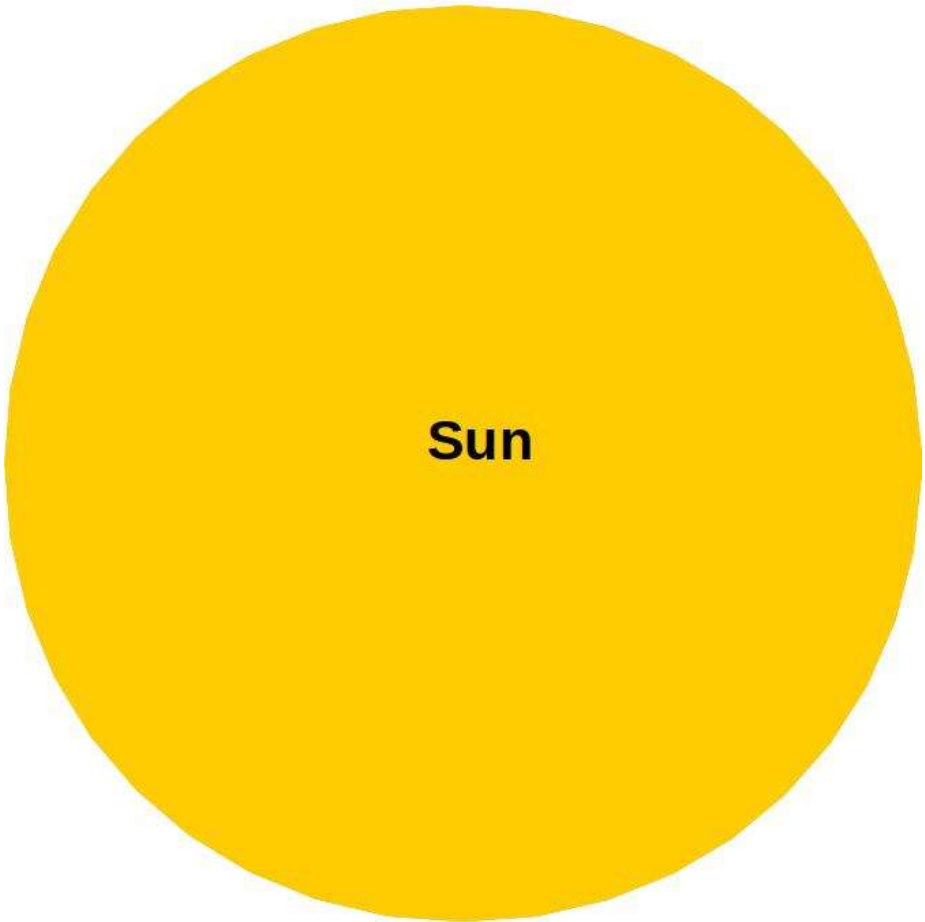
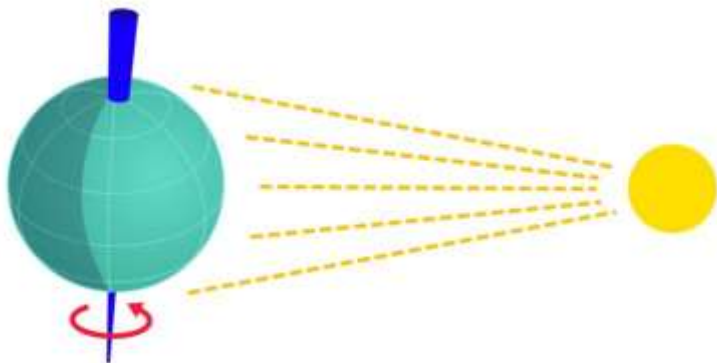


Image shows the relative sizes of the Earth and the Sun

"No. When I try, I feel like my brain is going to collapse. The Earth itself is so big. I just can't imagine these enormous sizes. "

Mama smiled. "Yeah, I find it hard to imagine too. Anyway, do you know why day and night follow each other?"

"I think so. You once told me, that the Earth spins like a top. So different parts of it face the Sun at different times. The half of the Earth facing the Sun, gets sunlight and has day. But as the Earth spins, that half slowly turns away from the Sun and has night. That is why we have day and night and then day again as the Earth happily spins on and on. One day is the amount of time it takes the earth to spin once."

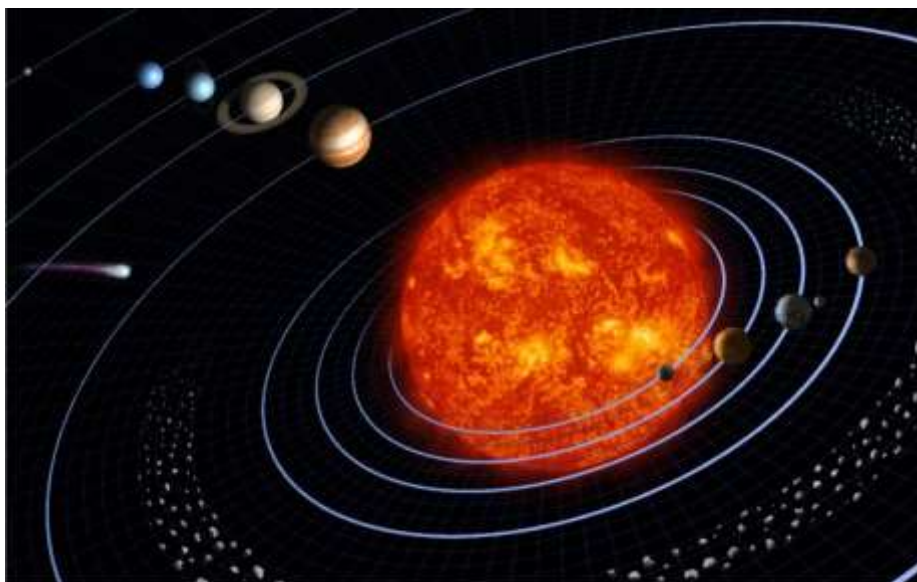


"Very well explained, Tania. The Earth not only spins like a top, but also goes in circles around the Sun. This motion of the Earth is called orbiting. It takes the Earth one year, which is 365 days, to complete one

circle around the Sun. "

"Oh I see. But what has all this got to do with Mars?"

"Ah, I am coming to that. Earth is not the only planet that orbits the Sun. There are a total of 8 such planets."



The one closest to the Sun is Mercury. Next is Venus, then Earth, then Mars, Jupiter, Saturn, Uranus and finally Neptune. The Sun and these planets together form 'The Solar System' "

Mama showed Tania some lovely pictures of the Solar system.



Tania asked, "Is Mars another planet like Earth? Are all these planets just like Earth?"

Mama replied "No they are all quite different. The 4 planets closest to the Sun have an outer crust of solid rock. Jupiter and Saturn are huge balls of gas. Uranus and Neptune are made of ice and other frozen material."

"I see. So only the first 4 planets are like Earth."

"No. Mercury, for example, is a lot smaller than Earth. Mercury spins very slowly and orbits the Sun very fast. So for a person on Mercury in the time between sunrise and sunset and then sunrise again, Mercury would have gone twice around the Sun."

"So if we call the amount of time a planet takes to go around the Sun a year on that planet, then on Mercury a day is 2 years long."



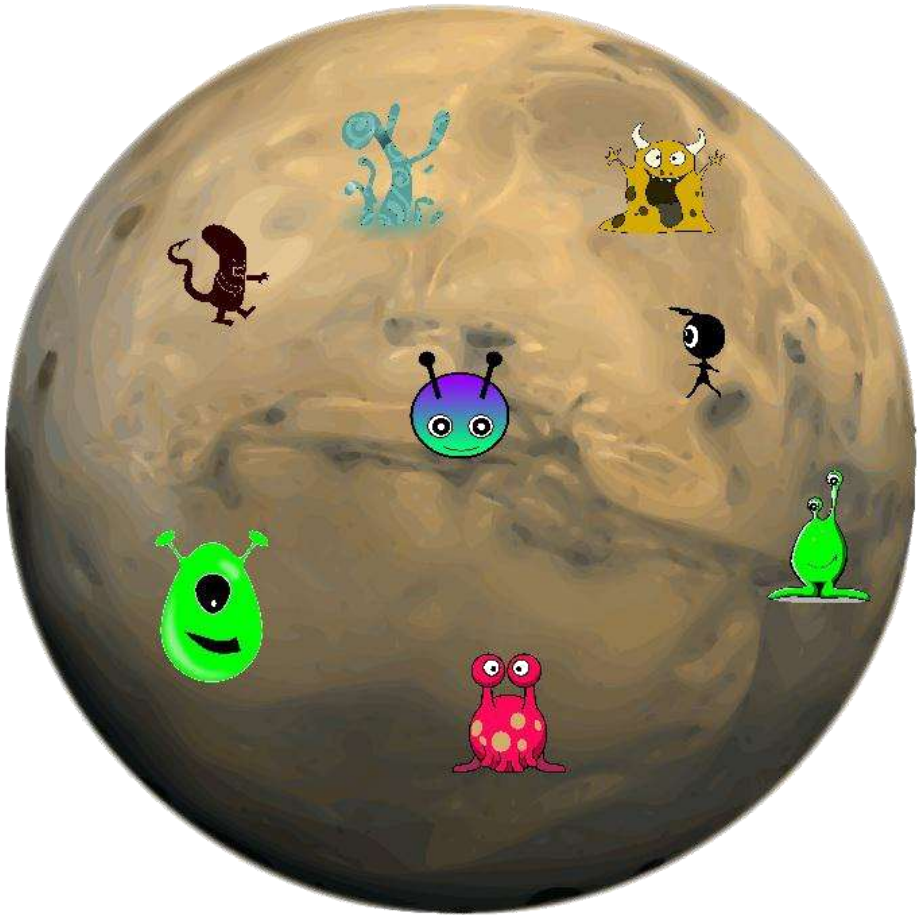
That sounds crazy! But there are no people on Mercury, right?"asked Tania.

"As far as we know, Earth is the only planet that has life of any kind.

"Do you mean these other planets don't have any plants or even insects or germs?"

"It seems unlikely because they are either too hot or too cold or they do not have air and water which are essential to life as we understand it."

"Is that why people are so excited about water on Mars? Does this mean there might be aliens there?"  
Tania pictured all the aliens she had seen in books, movies and cartoons running wild on Mars.



"It is too early to tell. To find life on other planets scientists look for water. Water is necessary for life as we understand it."

"Since they found flowing water on Mars, the scientists are very excited, because this means they can look for simple life forms like bacteria or algae in the water."

The news continued to give updates on the Mars situation for a while, but Tania was looking forward to hearing the inside story from her uncle.

Unfortunately, because of the amazing discoveries on Mars, uncle Karan was very busy and had to delay his visit to Mumbai several times. Now, almost a year after NASA's exciting announcement, uncle Karan was finally on his way.

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The doorbell rang and Tania shot off to answer it. Uncle Karan gave Tania a big bear hug. Baby Sonia had never met him before and was frightened by his odd hair style and beard. So she stuck to mama and tried to hide behind her legs whenever possible.



Tania, on the other hand, had spent a whole month with uncle Karan before he took the job with NASA a couple of years ago, and was very fond of him. He had shown her some very messy

and fun science experiments and she was hoping for more messy fun.

During lunch mama asked uncle Karan about Mars. He told a few amusing anecdotes and gave them some interesting details but he could not reveal much because most of his work was classified. Tania was disappointed.

In his efforts to cheer up his beloved niece, uncle Karan said "Okay I think it is present time." and predictably, Tania perked up.



Uncle Karan had brought mama and papa a box of their favourite liquor chocolates. For baby Sonia he got a Lego set. Tania was getting impatient. "What about me? What about me?" she asked, bouncing up and down.

"Ah, for you little munchkin, I have got something quite awesome. Here it is."

Tania opened her gift with mounting

excitement. Inside was a compound microscope. Oooh how exciting. "Can we set it up right now?" asked Tania hopefully.



"Sure." said mama. "Why don't Karan and you set it up while Sonia and I take an afternoon nap?"

Uncle Karan helped Tania set up the microscope. Tania opened a package wrapped in

thin paper and bubble wrap. "What is this?" she asked.

"Those are glass slides. You put the sample you want to inspect on the slide and then place the slide under the lens. So what do you want to see under the microscope?"

"I don't know. I have never used one before. What should I look at?"

"How about some of your hair?"

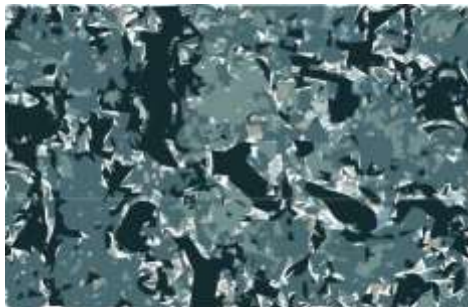
"Why? I can see that without a microscope."

Yes but it looks quite different when you look at it under the microscope. Why don't you give it a try?"

Tania did and she was amazed at what she saw.



Fascinated by how different things could look under the microscope Tania examined a piece of plastic.



Tania noticed that uncle Karan was not sharing in her excitement. He looked quite abstracted. So she said, "Uncle what are you thinking about?"



"Well you know how I said a lot of my work at NASA is hush hush."

"Yes. What about it?"

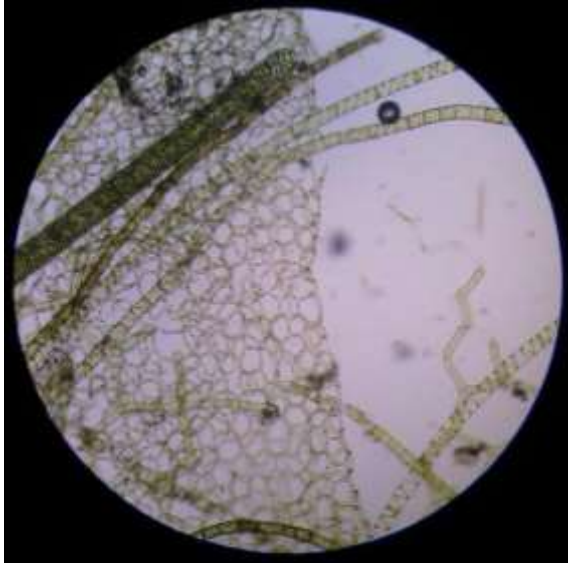
"It really annoys me. We found something super exciting. That is why I got you the microscope in the first place. But then they told me I can't tell anyone about it. It is really frustrating. I have never worked on classified stuff before. I hate secrets." said uncle Karan, now looking quite glum.

"Uncle you can tell me. I can keep a secret. I wont tell anyone. Oh please do tell me. Please."

"Okay. I really do need to tell someone. Otherwise I'll explode. But promise me you'll keep it a secret or I'll get in big trouble."

"I promise. Now tell me quick, before mama wakes up."

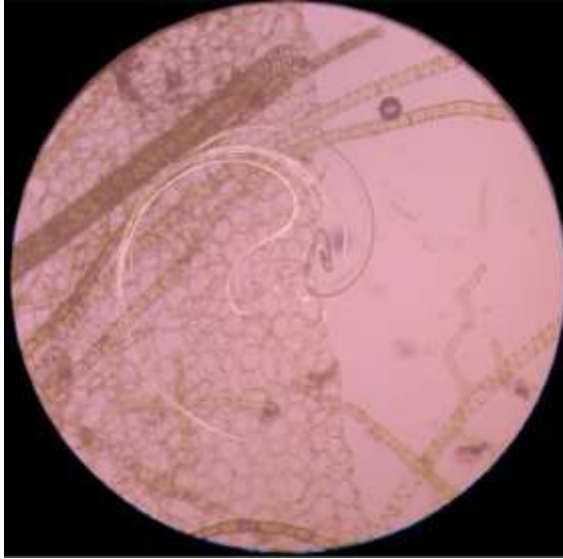
Uncle Karan took out a couple of glass slides carefully stored in plastic cases. He mounted one on the microscope and asked Tania to take a look.



Tania peered at it curiously and asked, "What is this uncle?"

Karan replied, "This is just algae found on Earth."  
"But now take a look at this." he said mounting another slide. "Do you see any difference.

"It looks very similar to the algae but it is reddish and has some curved lines of jelly like stuff. So what is this?"



"This is algae they have found on Mars. We think the red colour comes from a nutrient, it picks up from the red Martian soil."

"No way!. You are telling me this is Martian life. That would have made big news. I would have heard something about it.

NASA heard about it a while back. But the samples just arrived a couple of weeks ago. We have been studying them and it is really exciting. But we are not allowed to talk about it to anyone."

Tania was exploding with excitement. "So this is an alien. I am actually seeing an alien. So cool. I am the youngest Earthling to see a

Martian. Woohoo!"

In her excitement Tania forgot to speak softly. Mama and Sonia woke up. They heard Tania's last statements and came to find out what was going on.

Mama asked "Karan, what is Tania talking about?"

Karan blushed. "Okay, okay. I am sorry. I was just playing a prank on Tania. I fooled her about finding life on Mars."

"But you showed me the slide with Martian algae on it." wailed Tania annoyed about having been tricked.

"Well that was just regular Earth algae with red dye." said uncle Karan laughing hard. "Got you didn't I?"

"Very funny" said Tania and stomped off in a huff. She was annoyed that she had been so easily tricked and upset that Karan uncle could be so heartless. Mama too glared at uncle Karan and told him he was mean to upset Tania when she was looking forward to his visit so much.

Uncle Karan apologised to mama and said he would fix things with Tania.

Tania was furious with uncle Karan. "I hate you." she said. "How could you fool me? You are supposed to help me fool other people."

Uncle Karan smiled. "Now Tania. I did not fool you. I really did need someone to talk to. But your mother heard the tail end of our conversation. Do you remember how I said that if the secret got out I would be in very big trouble?"

"Yes. Oh wait so you pretended to fool me so mama would not ask more questions."

"Yes. I was telling you the truth. That was Martian algae you saw. I know it is a hard secret to keep. But I can trust you, right?"

"Of course, uncle. I promise I wont tell a soul."

That evening Tania felt thrilled to belong to the group of the elite few, who had seen Martian life. But suddenly doubt crept in. Was her uncle fooling her again? He was a prankster after all. Hmm.. May be she would never know. Wait she thought, there is one way

to find out. When I grow up, I'll work for NASA  
and they'll tell me.

