

KINDERUNI CURIOSITY CONTEST



Questions from Mumbai, India

1. How is a rainbow formed?

by Harshita Choudhary, Kendriya Vidyalaya, Balaghat

Ans: You can see rainbows only when the sun is behind you and you look in same direction as the sun shines. A rainbow is formed by billions of tiny raindrops. The sunlight is reflected inside the raindrops and the light comes back to you, creating a bow. If someone stands beside you, he or she will see another rainbow, because rainbows are seen individually.

2. What is the spider web made up of and how long does it last? Don't the spiders get confused in finding their homes as all webs look the same?

by Naina Nakra, Euro School, Airoli

Ans: Spider webs are made up of a very special fiber which is – compared to its thinness – five times stronger than the steel cable of a suspension bridge. It is made up of proteins. Spiders don't get confused with other spider webs because they don't leave their webs often as they have to watch the victims coming too close to their web.

3. If Earth starts rotating from east to west, then what will happen to time, day, night, weather, seasons, sun and moon?

by Aarav Jain, Navrachana International School, Vadodara

Ans: At this moment people in India are 4,5 hours ahead of those in central Europe. If Earth starts rotating from east to west, then central Europe would be 4,5 hours ahead and subsequently, India would be 9 hours behind its current time. Day and night would be the same, I guess. Weather and seasons too, but cyclones would rotate in opposite direction as compared to now. Sun and moon would slide in opposite direction, so sunrise would be in the west and sunset in the east. Wow, this question is so tricky.

4. What happens to the person who is sleepwalking?

by Prasun Ghosh, Kendriya Vidyalaya, IIT Powai

Ans: Sorry, I never met a person doing that. No idea. Sorry to say that.

5. Why are there only 60 seconds in a minute?

by Aditi Kathuria, Euro School, Airoli

Ans: Nowadays our number system is based on ten. In ancient times, it was based on 12, and 60 is five times twelve. So it's a historical relict of former times. That's interesting, isn't it?

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6. Why do tornadoes spin like a top while cyclones don't have any form?

by Jadya Dcunha, St Francis School ICSE, Borivali

Ans: Tornadoes are pretty small compared to cyclones. Cyclones can be bigger than a country, tornadoes are local. The form of cyclones is a giant vortex.

7. Why can't we see air and current?

by Palash Khongal, Kendriya Vidyalaya, Balaghat

Ans: Sometimes we can see air. If you look at the flame of a burning candle, you can see smear formation of air because of different density due to heat. But usually, light isn't affected by air so we can't see air because it's absolutely transparent (if it is not polluted). Concerning current, we can only see or feel the *impact* of current but not current itself because current happens on a microscopic scale, so small that you can't see it with ordinary human eyes.

8. How do internet and Bluetooth work wirelessly?

by Chetan Naita, Euro School, Airoli

Ans: It's magic, isn't it? Wi-Fi and Bluetooth use so-called 'electromagnetic waves'. They can even cross space. The electromagnetic waves are modulated to carry some information for us. You always need a transmitter and a receiver. Usually transmitter and receiver are combined for communication in devices like a smartphone. The range of Bluetooth is about ten meters, therefore it is much simpler to connect. The range of Wi-Fi is much wider, therefore it could be a little difficult to connect sometimes.

9. What is inside the quark of atom?

by Keshav Nandan Baghel, Keshav Vidyalaya, Balaghat

Ans: Oops, you have to ask a physics Nobel Laureate. I really don't know...

10. Why do birds not get electrocuted when they perch on an electric wire?

by Mireya Bastia, Euro School, Airoli

Ans: It's amazing, isn't it? Because they are just sitting on one contact point of a giant battery. As soon as they touch the metal of the pylon, they would get deadly burned because they would get in contact with earth. Current always flows in an electric circle between two poles. If there is no circle, no current can flow. So as long as birds are sitting on the wire, they are absolutely safe.

11. The Sea has 5 zones: Sunlight, Twilight, Midnight, Hadal and Abyssal zones.

The last 3 zones are scary where water pressure is heavy and has no sunlight. But some animals like Angler fish, Sea cucumber etc. still amazingly exist in these zones. Why do they have to struggle to live where there is less food, very little sunlight and more danger? Why don't they move to Sunlight or Twilight zones to live life comfortably?

by Pratham Karia, Navrachana International School, Vadodara



Ans: Because it's their ecological niche. Living there where no one else wants to live is very safe. So they orientate with the help of electric fields created by them. Bacteria, for example, use the heat of undersea volcanoes to attain energy.

12. When we put our device like mobile phone to charge, sometimes even if the switch is not turned on, the electronic device starts charging. Why does this happen?

by Harill Thakker, Euro School, Airoli

Ans: Because it is pretty intelligent. It detects the charging automatically and sometimes turns on itself. It just sleeps when it's turned off, but it's not completely 'dead'.