

## LOKI'S SECOND NATURE

And again, Thor and Loki have got into a cat and mouse chase. And as usual, Thor...



...strikes  
Loki with  
his  
lightnings...



Loki has three ideas in his mind. One, to escape into Aquaman's underwater city, Atlantis...



Two, shield him with Captain America's fantastic shield...



And last, sneak into Ironman's suit...



Now, what would you suggest him to do?



The best suggestion would be, to listen to....

THE LAWS OF NATURE

THAT'S ME...

HIDING INSIDE WATER MAY NOT BE A WISE IDEA, AS WATER, IS A GOOD CONDUCTOR OF ELECTRICITY...

IN YOUR CASE,  
THE LIGHTNING...

NOW, I AM NOT VERY SURE ABOUT THE POWERS OF CAPTAIN AMERICA'S SHIELD. I AM NOT MUCH INTO MOVIES, YOU SEE...

BUT IF I WERE YOU I WOULDN'T STAND HOLDING A PIECE OF METAL AGAINST A LIGHTNING, SON...

BUT  
..LOKI..

Yes...

HAVE YOU HEARD OF ELECTROSTATIC SHIELDING ?

Can you make it a little quick...

IN A CLOSED HOLLOW METAL BODY, ELECTRICITY FLOWS ONLY ON THE SURFACE AND NOT INSIDE IT...

So, IF YOU GET INSIDE THE IRONMAN'S SUIT, ELECTRICITY WILL PASS OVER THE ARMOUR'S SURFACE, KEEPING YOU SAFE INSIDE...

I HAVE HEARD THE SUIT IS INSULATED INSIDE... NOW THAT'S FROM A BOOK, NOT A MOVIE, YOU HEAR?

Please, oh, please don't do it... I don't even have good shoes to run away from you...

OR YOU CAN COMPROMISE WITH YOUR BROTHER, OFCOURSE...

LOKI ??

# In The News

## Air India Flight Hit By Lightning, Lands Safely

In April 2022, An Air India Boeing 777 flight operating from Chicago to Delhi, suffered at lightning strike when it was flying a 10,000 feet above ground. But the flight continued to its destination and landed safely.

## So, how it works...

Hiding inside a metal suit when lightning strikes might not sound very smart but sometimes, the Laws of Nature are not as simple as naked eyes guess them to be. Electrostatic shielding is a phenomenon in which the charges that fall on a closed hollow conductor do not penetrate through the body, but distribute themselves along the surface. Metals are good conductors and holding a metal against electricity might be lethal but not when you are safely covered around by it. These are a few instances when nature pulls off a trick right before our eyes and leaves us wondering how, isn't it? So during a thunderstorm, it is safe to stay inside a car instead of taking shelter under a tree or standing in a open ground. The metal body of the car, shields you from lightning and keeps you safe. But if you have an option to stay warm inside your house, why not prefer it?

# TRY IT AT HOME

## Block the signal



Have you experienced electrostatic shielding before? Or did you know that you can do a shield yourself at home? But let us not call a lightning from sky, instead we will block a different electromagnetic wave - your phone's signal. All you need is a container from kitchen and a phone from your parents.

1. Get a phone from your parents. Check if the network is good. And you can also confidently assure them that the phone is going to be okay.
2. Take a steel container, with a lid, from the kitchen.



3. Ensuring that the container is not wet inside would be smart, because you are going to put the phone inside in a minute.

4. And yes, place the phone inside. And close the lid tightly. There shouldn't be any holes or openings in the container.

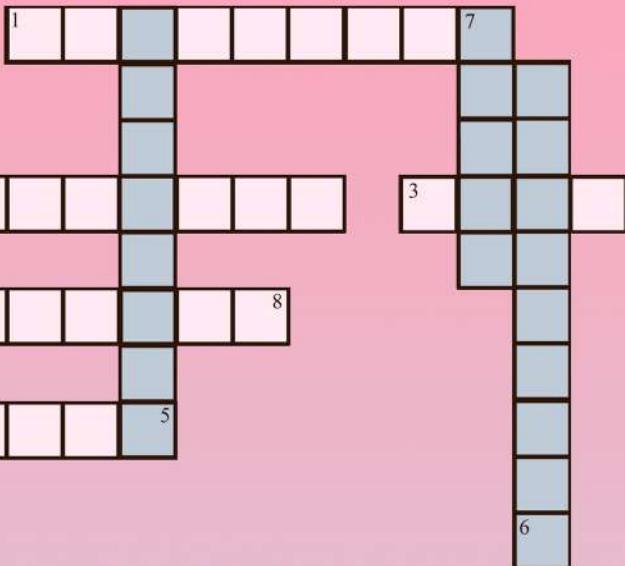
5. Now all you need to do is get another phone and give a call to the phone inside the container. Do you hear it ringing? You might probably not.



6. Congrats, you have successfully blocked the electromagnetic signals from reaching your phone.

# ASSESSMENT

## CROSSWORD



### Across (Left to right)

1. I easily allow charges to pass through me.
2. Charging a material without physical contact.
3. Electric field inside a hollow conductor.
4. Charge of an object after protons leave the body.

### Bottom to top

5. I am a negatively charged particle revolving the nucleus.
6. Act of releasing the accumulated charge.

### Top to bottom

7. Like charges \_\_\_\_\_ each other.

### Across (Right to left)

8. An instrument used to detect the presence of charge.

# PICK THE CORRECT OPTIONS

1. If you rub a balloon against your hair and take it near a gently flowing tap water, what would you observe?  
a. Water moves away from the balloon.  
b. Water moves towards the balloon.  
c. No changes in the flow.
2. When you rub a glass rod against a silk cloth, the rod develops \_\_\_\_\_.  
a. Positive charge  
b. Negative charge  
c. No charge
3. During a thunderstorm, where would you prefer to be?  
a. On rooftop  
b. Under a tree  
c. Inside a car
4. Material through which electric charges do not move easily.  
a. Insulator  
b. Conductor  
c. Semi-conductor
- Bottom to Top
- Answers      Across (Left to right)      Top to Bottom      Across (Right to left)
1. Conductor      1. b      1. Repel  
2. Induction      2. a      2. Attract  
3. Zero      3. c      3. Across (right to left)  
4. Negative      4. a      4. Electroscope  
5. Electron      5. Discharge  
6. Discharge
- Answers for crossword