

KIDS, VAAYU & CLIMATE CHANGE

: HEATWAVE STRIKES



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KIDS, VAAYU & CLIMATE CHANGE

HEATWAVE STRIKES

(A COMIC TO BEAT THE HEATWAVES THROUGH SIMPLE PREVENTIVE MEASURES)

Climate change is often linked with ecosystem destruction, but it also directly affects our lives & our health. Climate change has increased the frequency of natural disasters such as droughts, floods & heatwaves. Globally, we are now observing the increased frequency, duration & intensity of heatwaves.

We have specific definitions of heatwaves. Generally, uncharacteristically high temperatures & other meteorological parameters help to build heatwaves. Every year heatwaves claim thousands of life but do not get much attention as other disasters. Hence, heatwaves are known as silent killers.

Heatwaves could lead to heat-related illness. These adverse health conditions vary from minor symptoms such as excessive sweating to heat exhaustion & potentially fatal heat-stroke. Heatwaves are also linked with respiratory & cardiovascular disease, kidney disorders & mental health issues. This increased burden of heatwave-related morbidity & mortality could be minimized through proper adaptation & mitigation strategies.

Considering this, PGIMER-Chandigarh & Panjab University-Chandigarh created a new comic series on KIDS, VAAYU & CLIMATE CHANGE. This comic focuses on what is heatwaves & heat-related illnesses. Further, it educates children & general public about the symptoms of heat-related illnesses & how to minimize them to achieve the goal of ZERO heatwave-related deaths.



Your **School Time** is over.



GOVERNMENT SCHOOL

SARVA SHIKSHA ABHIYAN

EDUCATION FOR ALL



Yehhhh.....

KID^s ARE WALKING HOME

Its too hot today!

Yes, I heard on the news that the temperature reached over 40°C.



BREAKING NEWS

43° HIGH TEMP		9-16 mph WIND
30° LOW TEMP		0% CHANCE OF RAIN

HEATWAVE GRIPS SOUTH ASIA



Are you ok?

I am not feeling well!

Let us take him to the shade.

KIDS TAKE HIM UNDER THE SHADE & GIVE HIM SOME WATER



Please have some water.

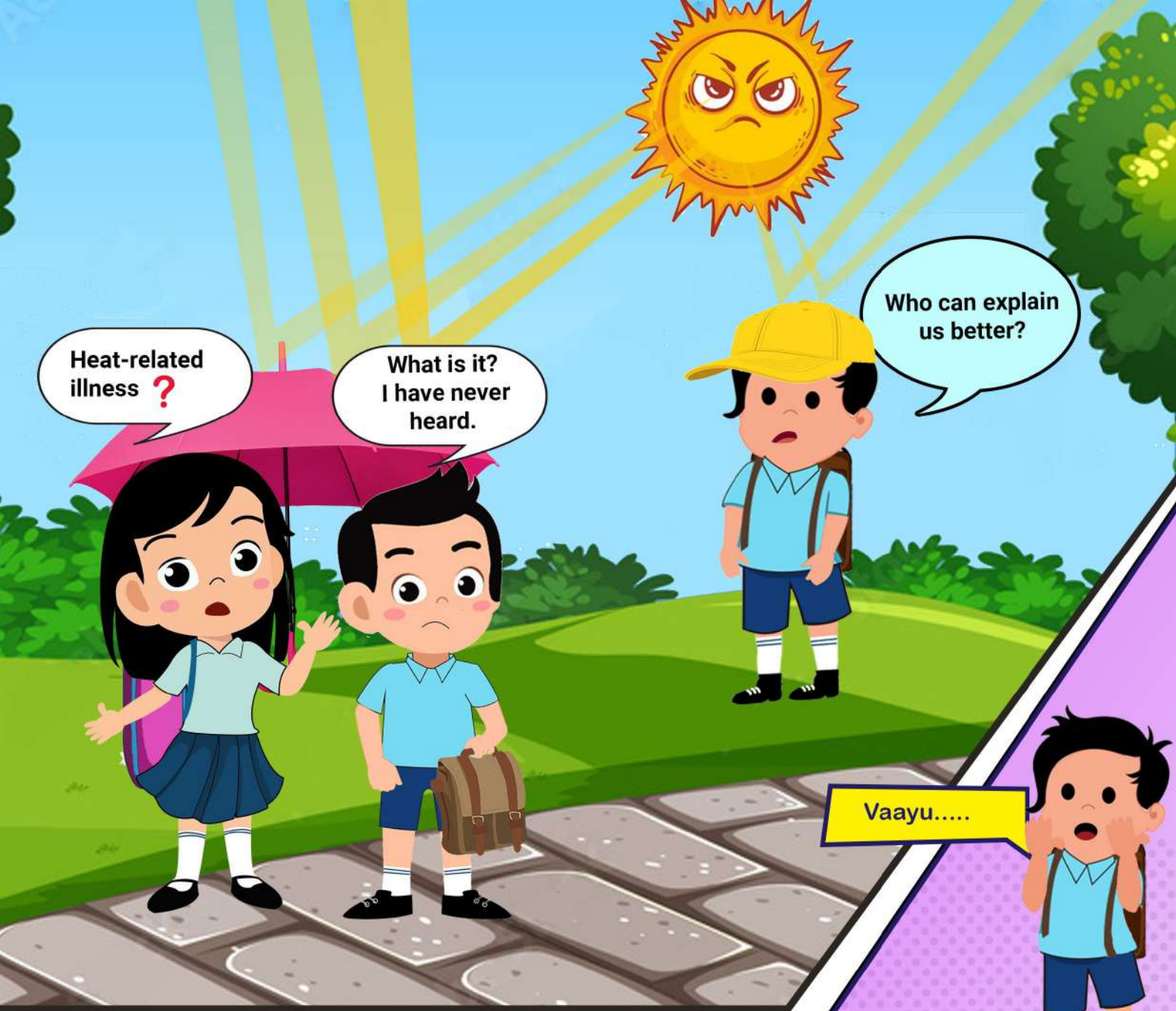


Are you feeling better?

Yes, I am fine now. I was feeling weak & dizzy.



You seems to be affected by extreme heat. I learnt on TV that this may be a heat-related illness.



Heat-related illness ?

What is it?
I have never heard.

Who can explain us better?

Vaayu.....

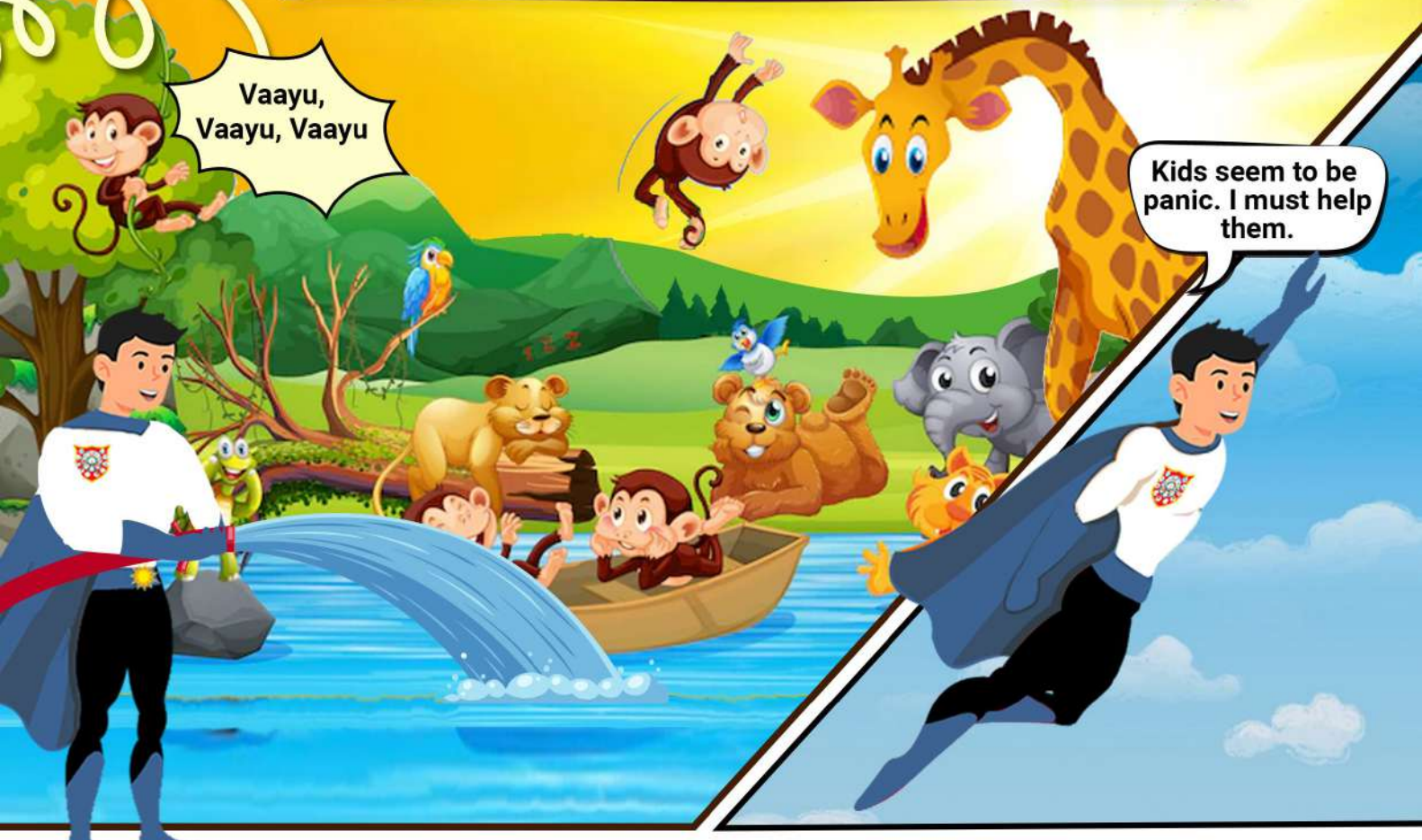


I know who can help us. Let us call Vaayu.....

Vaayu.....

Vaayu.....

Vaayu is helping animal by filling water for them.



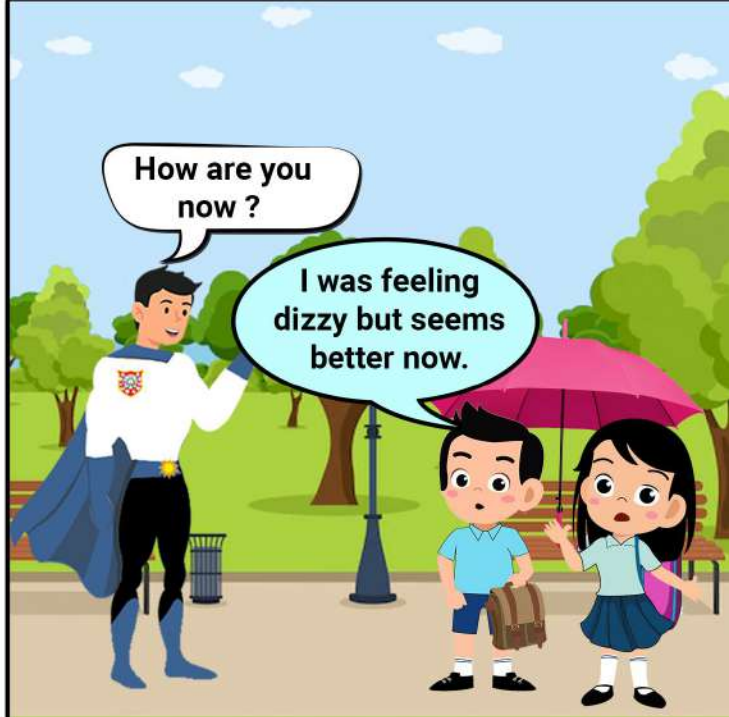
Vaayu,
Vaayu, Vaayu

Kids seem to be
panic. I must help
them.



What happened? Kids,
are you all right?

He was
feeling unwell due
to the heat.



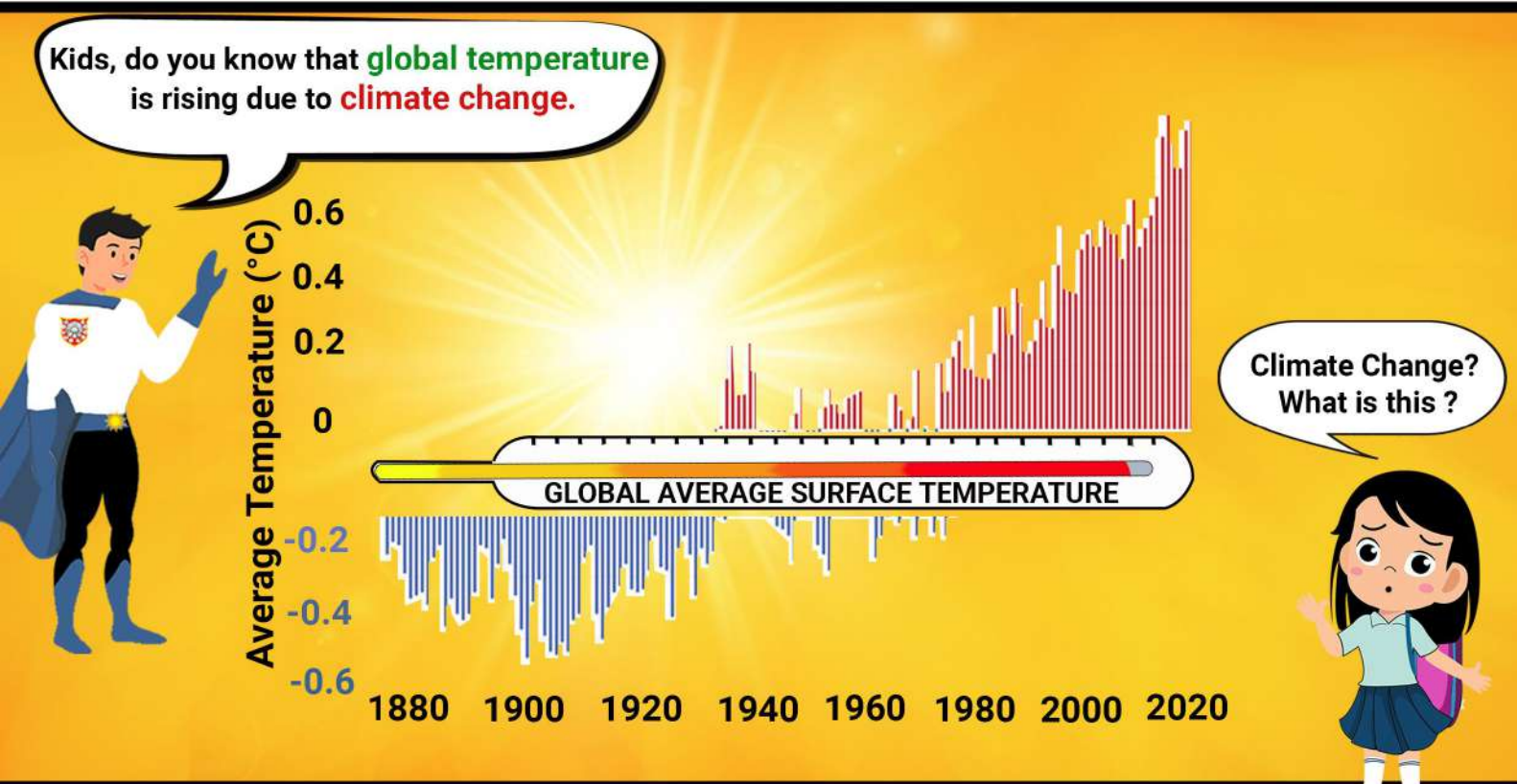
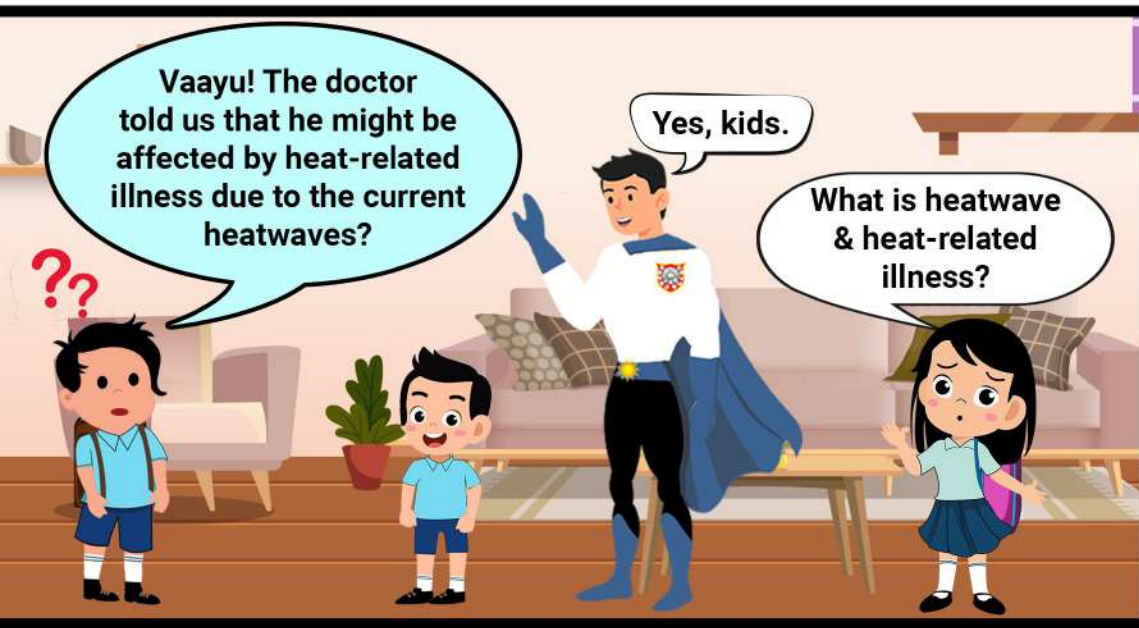
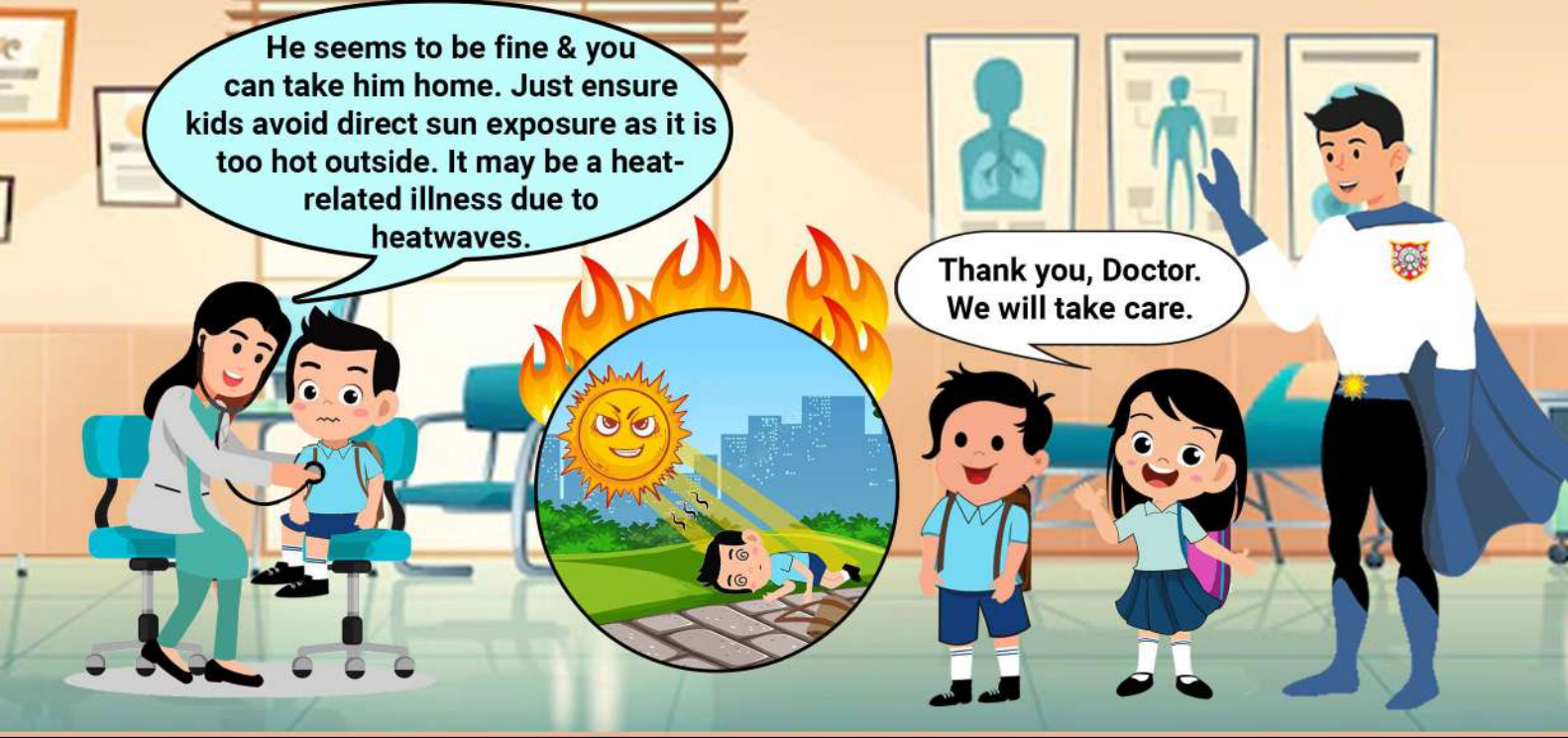
How are you
now ?

I was feeling
dizzy but seems
better now.

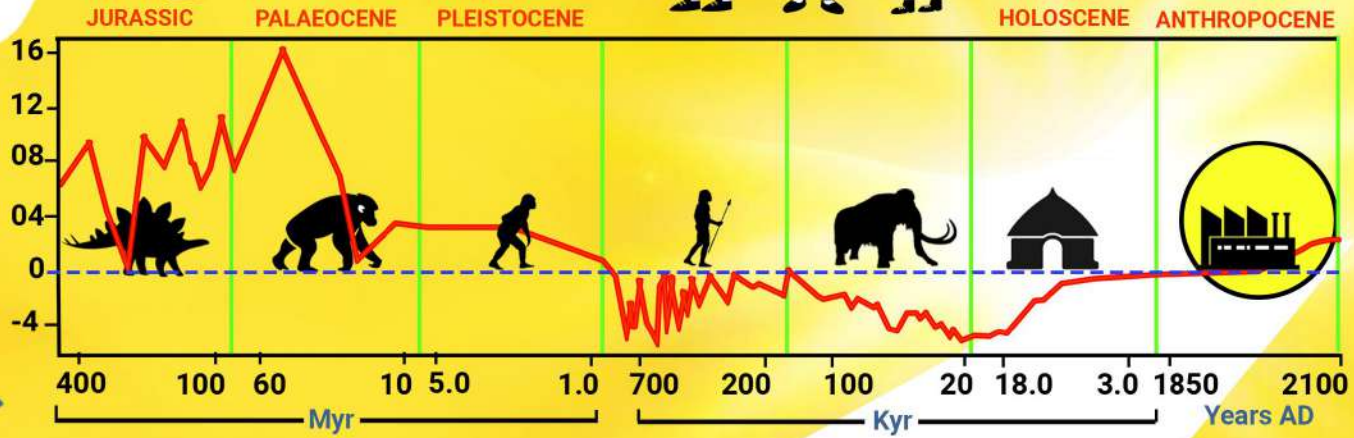


Do not be panic, let me
take you to the hospital !





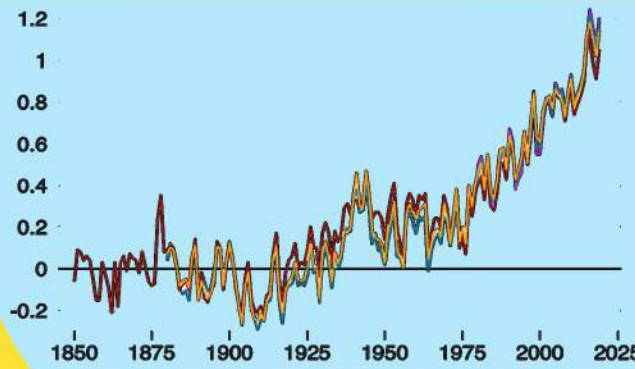
Kids, **CLIMATE CHANGE** refers to the long-term changes in earth's temperatures & weather patterns.



These changes may be natural such as due to the variations in the solar cycle, which takes thousands of years. You will be surprised to know that the earth's climate has changed throughout the earth's history.



However, human activities such as burning fossil fuels like coal, oil, & gas have led to a rise in global temperature over the last two centuries. This rise is even faster than any time in the earth's history we know.



FACTOR RESPONSIBLE FOR CLIMATE CHANGE

SOLAR RADIATIONS



BURNING OF COAL



WASTE EMISSIONS



DEFORESTATION



VEHICULAR POLLUTION



Yes kids! We know that earth has a protective atmosphere, which allows the energy from ☀️. Earth's surface reflects some of the energy & absorbs the rest as heat energy.

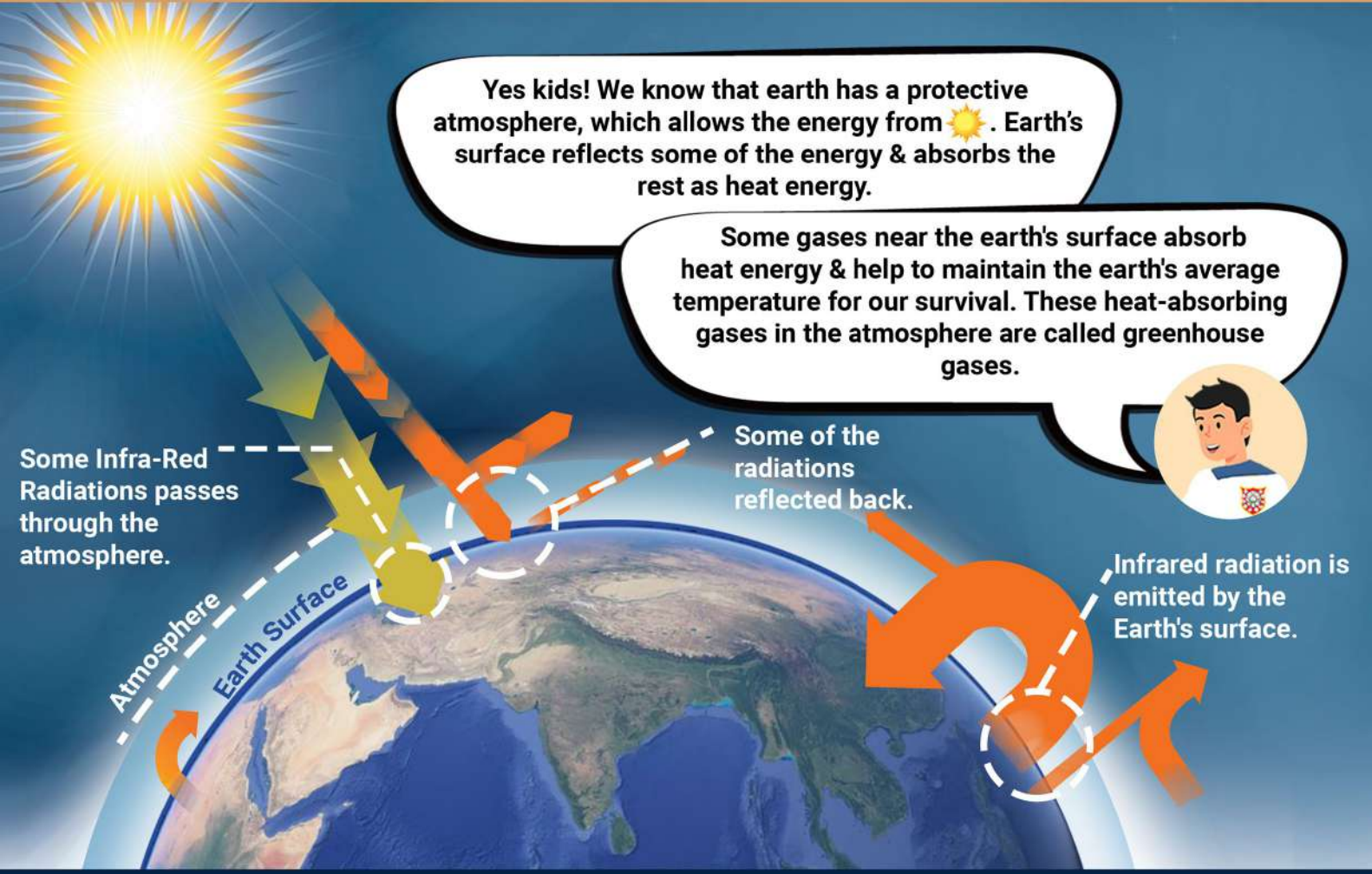
Some gases near the earth's surface absorb heat energy & help to maintain the earth's average temperature for our survival. These heat-absorbing gases in the atmosphere are called greenhouse gases.



Some Infra-Red Radiations passes through the atmosphere.

Some of the radiations reflected back.

Infrared radiation is emitted by the Earth's surface.



Vaayu, what are the examples of greenhouse gases?

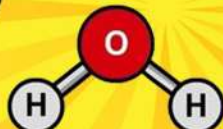
Kids here are some major greenhouse gases.



Carbon Dioxide



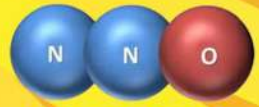
Methane



Water Vapour



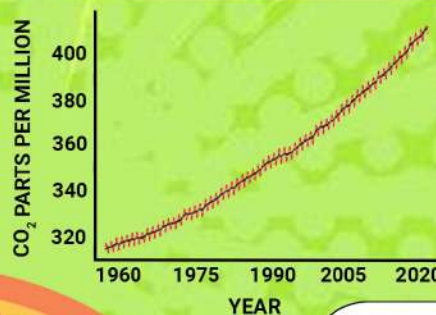
Ozone



Nitrous Oxide

But Vaayu, how the fossil fuel raises the earth's temperature?

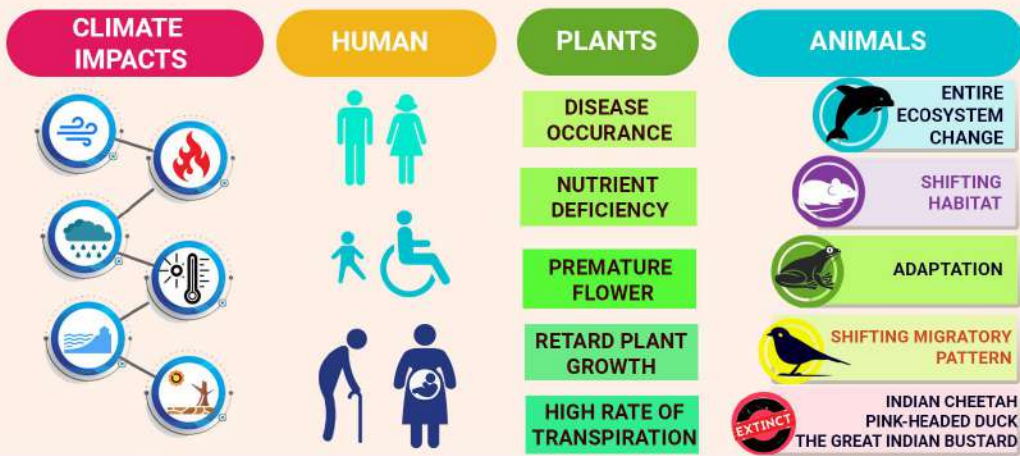
Kids, when we burn fossil fuel, we rapidly increase greenhouse gases. The more the greenhouses are, the more heat absorption, which causes global warming & climate change.



Okay, Vaayu!



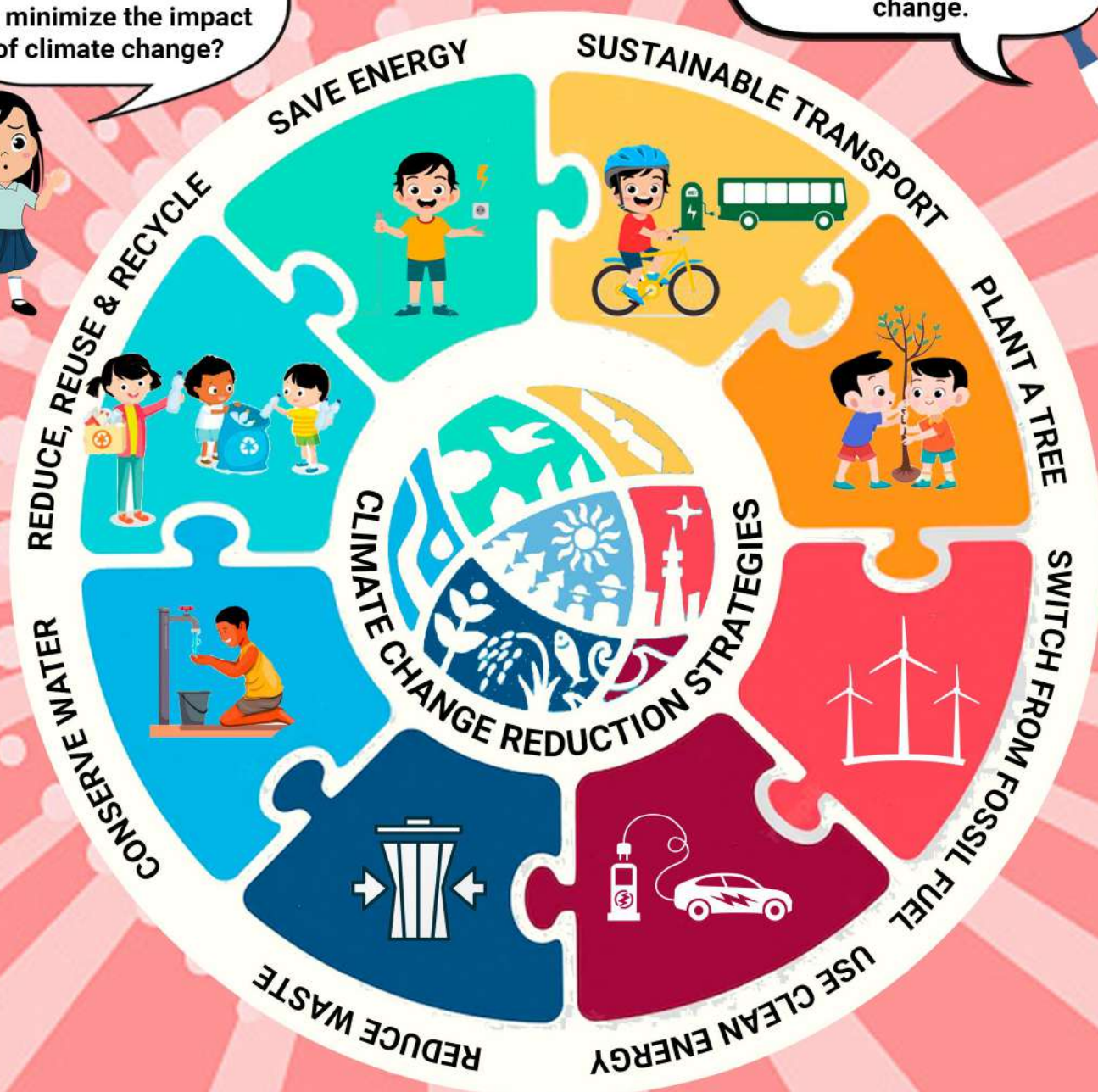
Kids, do you know that Climate Crisis is a human health crisis. Climate change also poses a severe threat to plants, animals, & their habitats.



Oh! Vaayu. This is a serious concern. How can we minimize the impact of climate change?



Kids, we all can take few steps to limit climate change.



But Vaayu, do heatwaves & climate change have a linkage?



Kids, due to climate change, we are seeing an increased frequency of extreme weather events, including extreme heat or cold. There is scientific evidence that both are linked.



EXTREME WEATHER EVENTS



ॐ द्यौः शान्तिरन्तरिक्षं शान्तिः
पृथिवी शान्तिरापः शान्तिरोषधयः शान्तिः वनस्पतयः ॥

Om, Peace is in Sky, Peace is in Space
Peace is in Earth, Peace is in Water, Peace is in Plants.

But Vaayu, you did not explain heatwave & heat-related illness to us?



Thanks, Kids for reminding me. I will explain.





We say heatwave when the temperature of a place (imagine your city) reaches over 40°C or more.

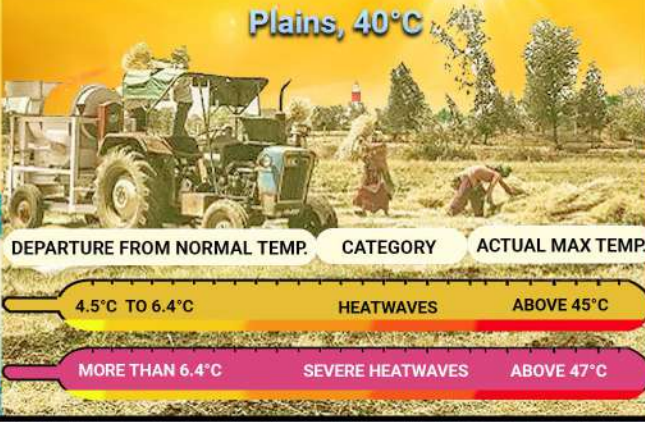
Ok, this is interesting. Different criteria for a different geographic location.



30°C or more



Plains, 40°C



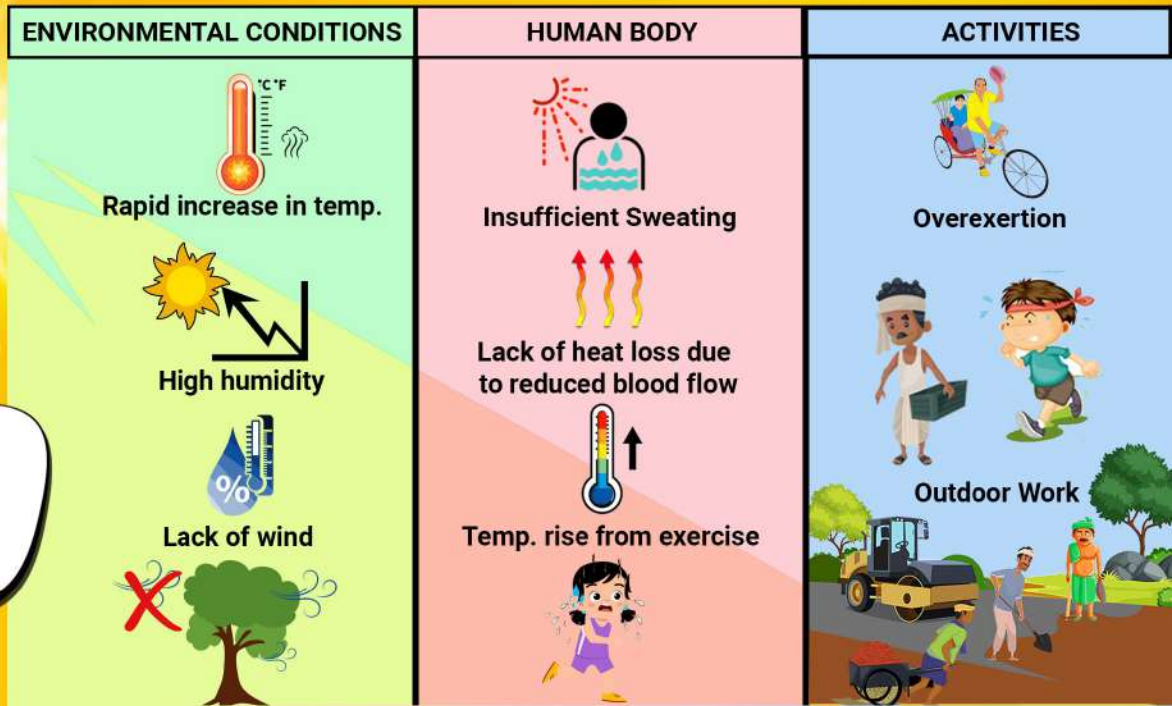
37°C or more



So, heatwave cause heat-related illness?



Yes, kids! Heatwaves reflect combined effect of environmental conditions, human body & activities.



HEAT-RELATED ILLNESS



Thanks Vaayu, we now understand about heatwaves & heat-related illness.



But Vaayu, do we really need to worry about heatwaves?



Kids, heatwaves are silent killers. We do not care much about them like other disasters, e.g., floods & earthquakes.



Heatwaves as a disaster?



Yes, kids! during the last 25 years, scientists have estimated that heatwaves caused more than 25,000 premature deaths in India.



Really? so, what can we do to save lives?

Kids, we could have avoided these deaths through proper awareness & implementing a heat action plan by engaging health sector.

Yes, kids, **India adopted a vision in 2015 to Zero Heatwaves deaths.**

Is this true?

A very good initiative by the Government of India. We will also help to spread awareness.

ZERO HEATWAVE DEATH





But Vaayu, how can we identify the symptoms of heat-related illness?

Kids, below are the symptoms of heat-related illness.



SYMPTOMS OF HEAT-RELATED ILLNESS



SEIZURES



BODY CRAMPS



HEADACHE



EXHAUSTION



EXCESSIVE SWEATING



NAUSEA & VOMITING



BREATHLESSNESS



WEAKNESS/DIZZINESS



IRRITABILITY

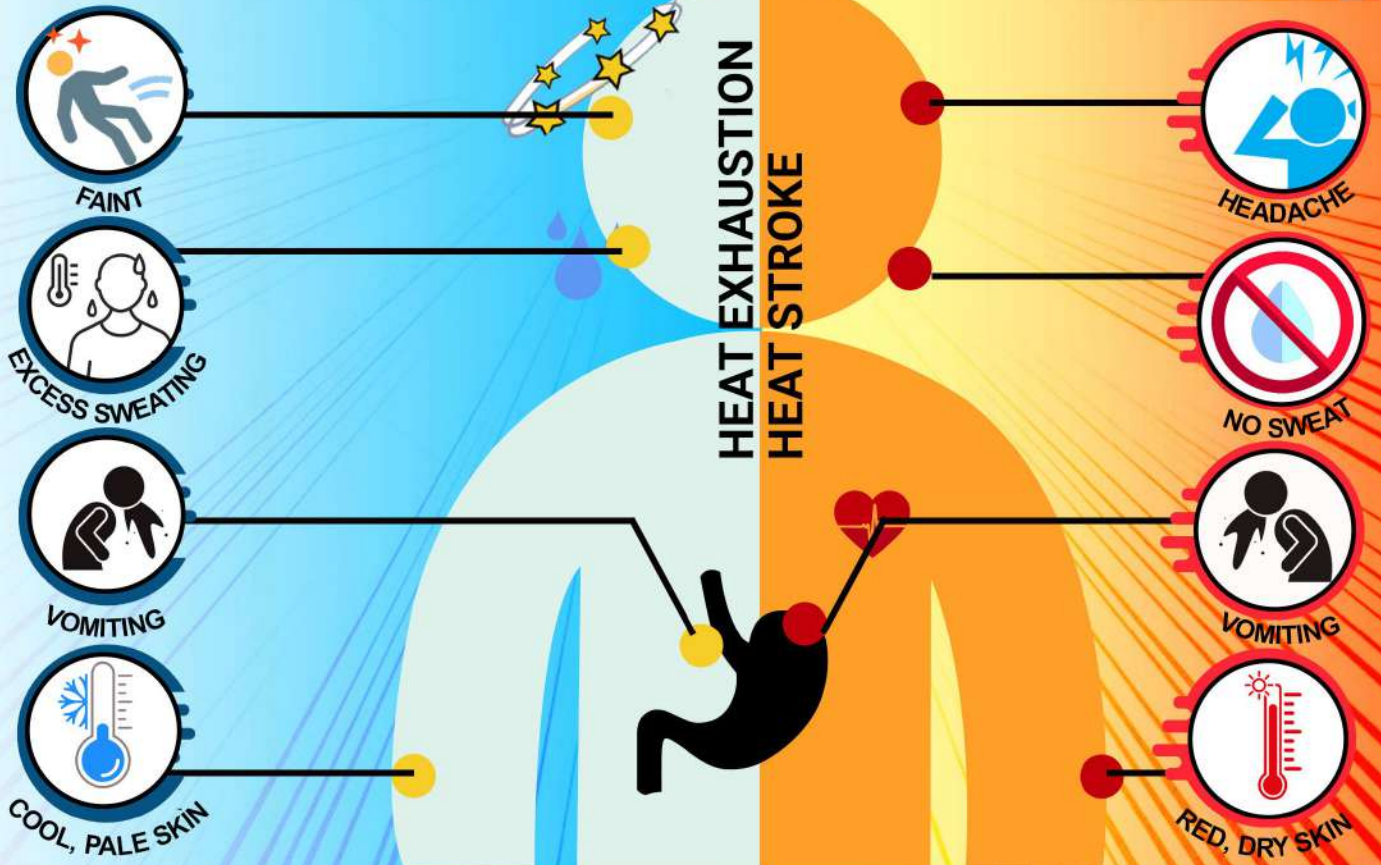


RAISED BODY TEMPERATURE

Vaayu, I also heard about Heat Exhaustion & Heat Stroke. Is there any difference between them?



Yes, kids. The symptoms of Heat Exhaustion & Heat Stroke differ. Let me explain to you with the help of a graphic.



Vaayu, please also explain Dehydration.



Kids, the symptoms of dehydration are thirst, dry mouth, rapid pulse & less urination.



You can prevent it by drinking more water or ORS.



Thank you. We now understand the symptoms of heat-related illness.

Good kids, you all are very fast learners.

Vaayu, please also explain how we can prevent the heat-related illness?

Kids, we must avoid exposure to the sun during the peak time such as noon. This may lead to heat-related illness.

Yes, this is why our friend was feeling dizzy.

PEAK HOUR



12 PM - 4 PM

Yes, I also heard that our school timings also changed.

We need to go to school early morning & come back before the peak sun hours.

This is a good preventive strategy to ensure the safety of all school kids & their parents from heatwaves.



Vaayu, what if we need to go out during the peak sun hours. Can we also take other measures?

Very good question. Here are a few tips to beat the heat



CARRY YOUR OWN WATER BOTTLE



CARRY YOUR OWN UMBRELLA



PROTECT YOUR HEAD FROM SUNLIGHT



WEAR FULL SLEEVES & LOOSE CLOTH



EAT LIGHT FOOD



DON'T SIT IN PARKED CAR

Recently our government issued guidelines to beat the heatwaves.

ENSURE COLD WATER FACILITY IN SCHOOL & COMMON PLACES



PM FOOD JAANCH



FOOD SHOULD BE FRESH



FOOD SHOULD BE WARM



SUPERVISOR TO EAT BEFORE SERVING

PUBLIC PLACES



DON'T LEAVE KIDS IN PARKED CAR



USE SUNSCREEN



STAY INDOOR DURING PEAK HOUR



WEAR LIGHT COLOR CLOTHES



NO TIGHT UNIFORM



WEAR LIGHT SHOES

SCHOOL SHOULD HAVE



POWER BACKUP



CLEAN TOILETS

NO DIRECT SUNLIGHT



PARENTS/TEACHER AWARENESS ON HEATWAVE



COVER YOUR HEAD WHEN YOU GO OUT ON BICYCLE



CHECK WEATHER FORECAST



You can also take cool bath.

That's true, kids. Use a bucket to take a bath. It saves water compared to taking a bath shower.

Vaayu, I love to take cool showers. But Mom says, 'do not waste water'.

Okay, Vaayu



These are simple things. We all can do to prevent heat-related illness.



PLAY INDOOR DURING THE PEAK SUN HOURS



AVOID COOKING DURING PEAK SUN HOURS



AVOID STRENUOUS ACTIVITIES IN THE SUN



DO NOT WALK BAREFOOT

Okay, Vaayu

Kids, we should avoid taking alcohol, tea, & coffee, including sugary & fizzy drinks.

We need to stop drinking COCA mixed drinks.

Right!

Kids in India, we have many traditional drinks, which help to boost health & prevent heat-related illnesses.

Really, please tell us more.

Yes, they are natural & healthy.

Thank you! Vaayu. We will take these traditional drinks.



Vaayu, are we equally vulnerable to heat-related illness or are some people at higher risk?

You asked an excellent question.



Kids, all those who work outside under the sun for long hours are at higher risk of heat-related illness.

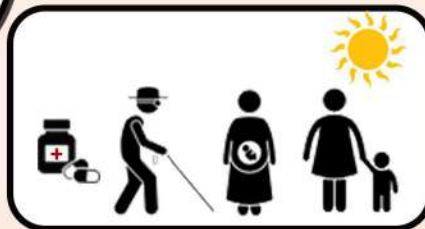
You mean farmers, labourer, factory workers, delivery boys & sports persons?

Ohh..



Yes, kids! also, the elderly population & people under any medication are at higher risk.

Okay, I will tell my Dada ji to take extra care during the heatwaves.



We all should take care of our elderly population.



Yes, we will take care of them, Vaayu!



Please remember these tips.



But Vaayu, what should we do if someone feels unwell?



Bring the person immediately in the shade or in an indoor cool & comfortable environment.

If a person is alert & awake, you can also give cool water & fluids (Juice, ORS)



You can loosen their clothes but ensure the dignity of the person.

Lay down the person with slightly raised feet. But, if the person vomits, turn on to the side to prevent choking.



If they may have fever, sponge them with cool tap water



Kids, remember! If the person is unconscious, do not give them anything to eat. Immediately take them to the nearest health center or call an ambulance.



HELPLINE NO.



112

Vaayu, I saw my mom keeping water bowls for birds.

Yes, kids. Birds/animals could also be affected by the heatwaves. These small steps also help to save their life.

Cool

Okay, I will also feed & provide water to birds /animals.

Perfect, Kids! Do not forget to change the water daily as some times mosquitos may grow.



Thank you, Vaayu. We will change the water daily & keep the water bowl clean.

Cool

Cool

Good kids! You can keep yourself safe & others from heatwave & heat-related illnesses.

Yes, Vaayu!

Very good kids, I am happy that you are keen to learn & save lives.

KIDS, REMIND ME HOW WILL YOU KEEP THE HEATWAVE COOL

Dad, please take
Water bottle &
drink frequently.

Uncle, please take
frequent rest
under the tree
during peak sun.

Dada ji, please
remember to take
umbrella when you
need to go out during
the peak sun hour.

We will stay
indoor during
the peak sun
hour.

Dadi, please take
scarf to protect
your head.

Don't leave
kids in parked
car.

Let us all wear
loose & light
clothes.

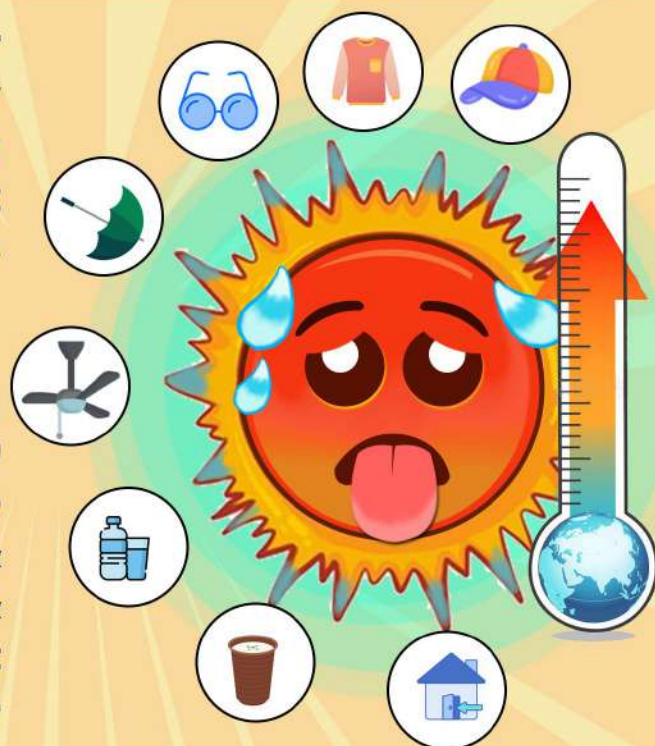
KIDS, YOU ARE OUR HERO.



KIDS & ZERO HEATWAVE DEATHS

Climate change is adversely affecting our earth. We are seeing an increased frequency of extreme weather phenomena, including extreme heat or cold. There is scientific evidence that climate change & heatwaves are interlinked.

Heatwaves are silent killers & considering this, India adopted a vision of ZERO heatwave deaths. Kids could play a vital role in creating awareness about heatwaves & helping to prevent heat-related illnesses & deaths. This comic guides how we can beat the heat through simple preventive measures.



Concept, Script & Idea



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