

Grades 5 and 6 Science / Geography Lesson

Notes for teachers

- This lesson is a follow up to the assembly, therefore some content is repeated and intended to be used as a recap for your students (as appropriate).
- See the slides' notes section for **additional information and guidance**
- To register your **student's voice**, visit: <https://www.blueair.com/in/freedomtobreathe.html>
- Send us all your **school entries** to paryavaranmitra@ceeindia.org by 15th October 2021.(e.g. poems, stories, drawings, letters etc.). Remember to anonymise this for safeguarding and GDPR reasons

The Freedom to breathe campaign teaching resources have been developed by educational professionals and will achieve three key learning outcomes.

Students will:

- 1.Understand the state of air quality in their city, and how it compares to other cities.
- 2.Understand the health impacts of air quality on their physical health, mental health and their ability to learn.
- 3.Understand how they can claim their right to clean air by understanding what the UN Convention on the Rights of the Child is. It is focused on their rights to the best possible health, clean water and a clean environment (article 24), but does not include the explicit 'right to clean air.'

Curriculum links: this primarily links to the EVS, Science, Social Science, along with links to Languages and Art & Craft aimed at grades 5 to 8.

Grades 5 and 6 Science / Geography Lesson

Notes for teachers

Freedom to breathe:

Campaign aims to gather the support of 20,000 children from four target cities (starting with Beijing, Delhi, London, Los Angeles) - in support of a call to the UN to acknowledge Children's Right to Clean Air.

Take the children's calls to the UN (that's you!) - everyone involved will be invited to attend a virtual event in November, to hear the response from the UN.

How it works:

- Introduce students to the campaign and tell them that session is about the campaign
- Students will learn about the state of air quality, the benefits of cleaner air to children's health and development, and the United Nations Convention on the Rights of the Child, noting the absence of the explicit "right to clean air" (article 24).
- After session, invite students to participate in exciting follow up activities.

What you'll need to do after:

- Submit work done by students as part of activities – selected entries will be shared with the UN and make your calls louder!





Freedom to breathe

Lets begin.....

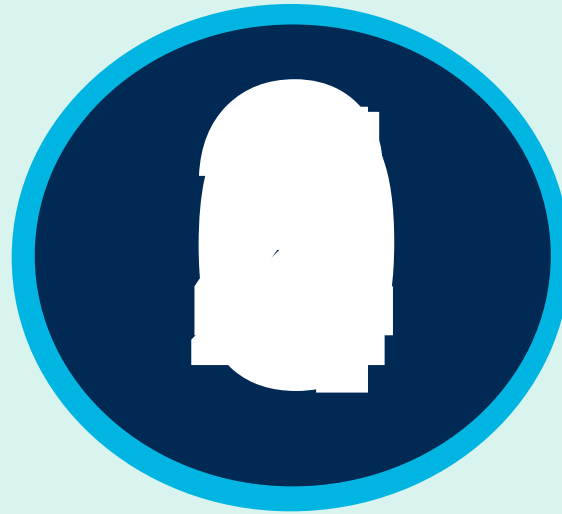
To get most out of the session today, be ready with...

- A pen/pencil and some scrap paper to hand
- Listen carefully to the session
- Respond to questions using scrap paper or chat feature
- Understand follow up activities to work in team and at individual level
- Don't hesitate to ask questions and to share your ideas

What are the
things we
need to live a
**happy and
healthy** life?

PAUSE POINT

30 seconds



Food

**Clean
Water**

Sleep

**What are the
things we
need to live
a happy and
healthy life?**

Warmth

Shelter

Fun!

Exercise

PAUSE POINT

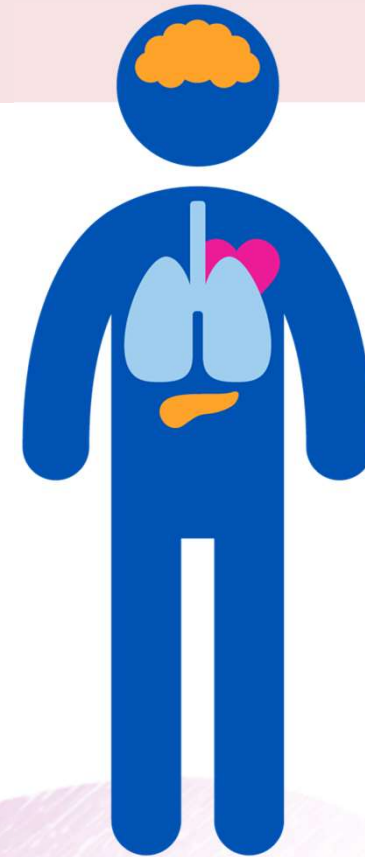
 **Freedom to breathe**

How about clean air?

Clean air is very important for us to stay happy and healthy.

Cleaner air means that our lungs, our hearts and our brains can function better!

Unfortunately some of the air around us is polluted...

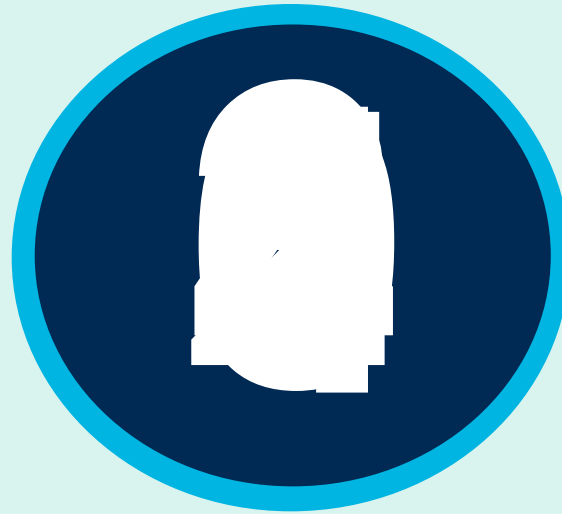


**What do you
know about
air pollution?**



PAUSE POINT

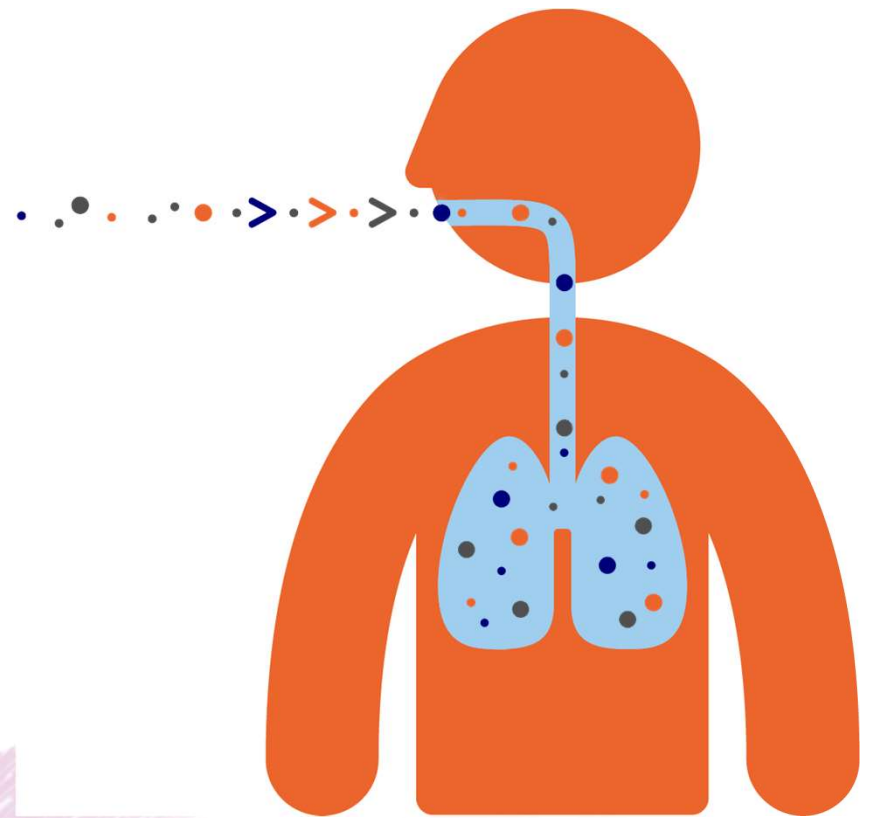
30 seconds



Air pollution is in the air that we breathe in.

The particles and gases enter our bodies and can damage our health and physical and mental development.

Air pollution can be indoors and outdoors.





Any amount of air pollution can be damaging to our health and physical and mental development, but the more that you are exposed to, the bigger the risk and the larger the impact it can have.

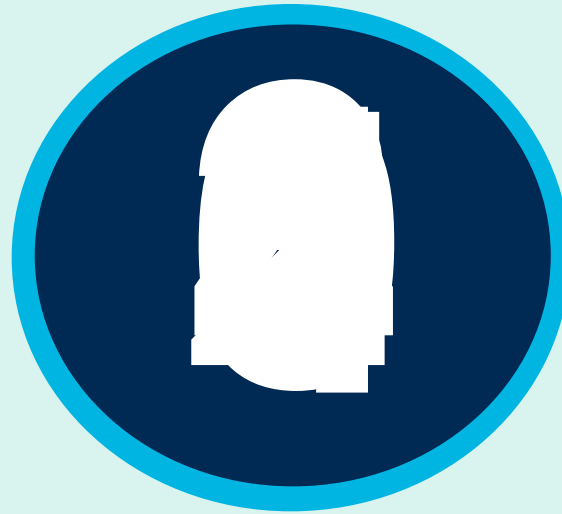
Can you guess where air pollution comes from?

Try to finish the sentences:

- **Indoor** air pollution is caused by things like....
- **Outdoor** air pollution is caused by things like....

PAUSE POINT

30 seconds



Indoor air pollution is caused by...

Cooking - gases and particles are released when food is cooked.



Release of smoke from things that are burnt in the home e.g. cigarettes and incense sticks.



Chemicals in cleaning products, craft materials, or personal care products (eg body sprays) that are released into the air. These harmful gases are called volatile organic compounds (VOC)



Dust, mould and bacteria.



Outdoor air pollution is caused by ...

Vehicles such as cars, vans, trains, ships, planes release nitrogen dioxide & carbon monoxide & particulate matter into the air.



Factories and **power plants** that generate energy/electricity by burning fossil fuels, release harmful gases and particulate matter.



Agricultural practices like stubble burning emits fine particulate matter (PM2.5). Fertilisers & pesticides (chemicals) can cause pollution.



Burning of waste, plastic, painted or treated wood release toxic chemicals in the air



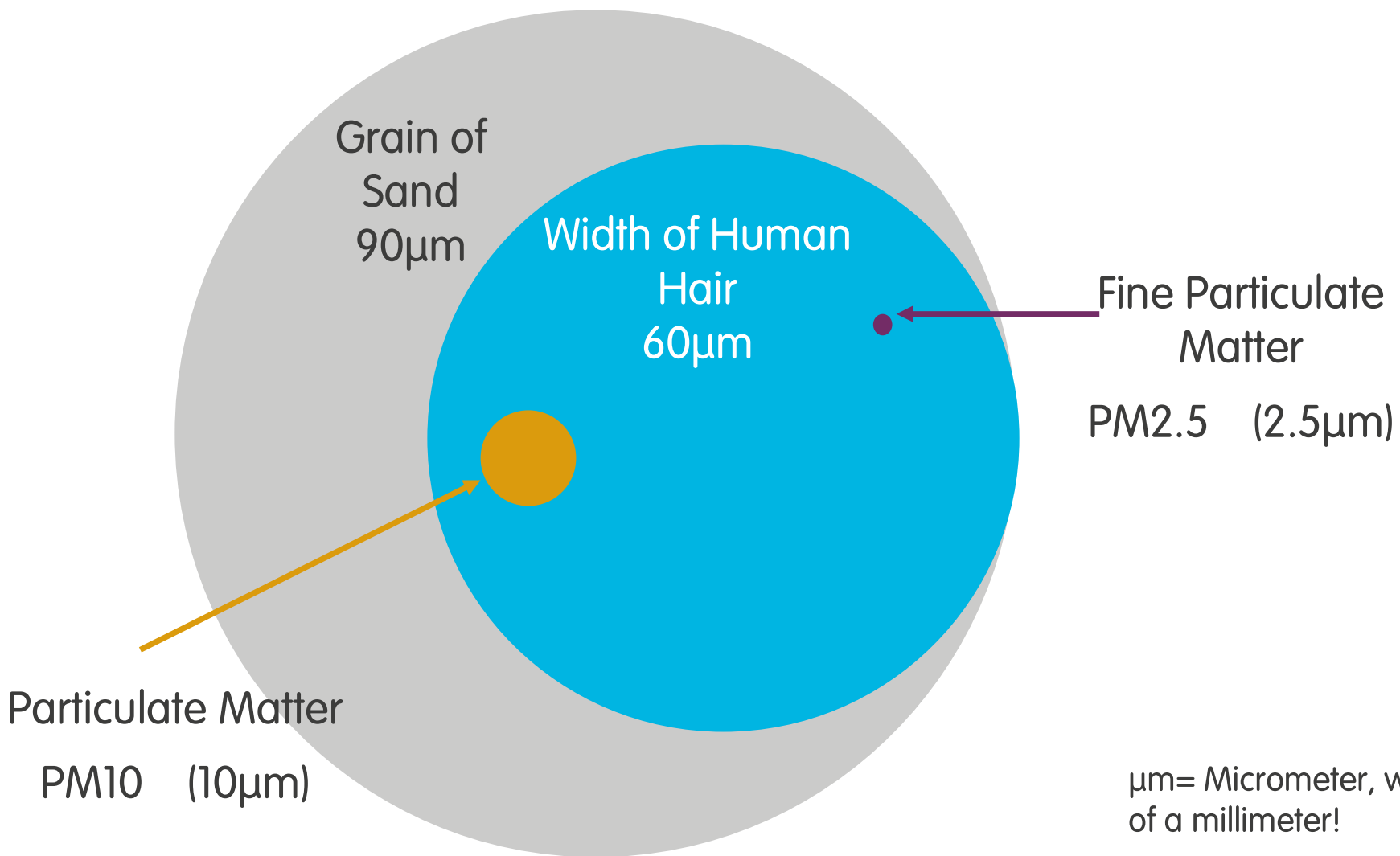
The particles in the air are called particulate matter (PM)

The air carries some **tiny tiny tiny tiny** particles, so we can't always see them!

Some particles, known as **PM10**, are **10 times smaller** than a grain of sand!!

Even smaller are **PM2.5**, which are **40 times smaller** than a grain of sand!

PM = Particulate Matter



µm= Micrometer, which is one-thousandth of a millimeter!

Particles all around us?

Examples of PM10

Sea Salt
Pollen
Heavier dust
Mould
Bacteria



These are quite irritating! They can cause hay fever, sneezing and coughing.

Examples of PM2.5

Soot
Cat allergens
Viruses
House dust mite
Tobacco smoke

These can seriously damage our health and development

1. Do you think air pollution affects us?

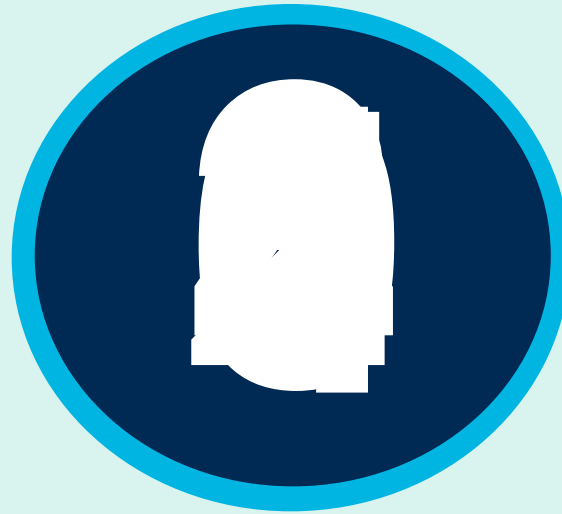
2. Why? Why not?

3. If yes, how do you think it affects us?

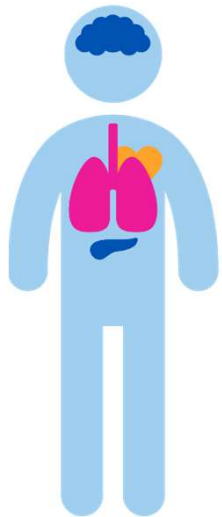


PAUSE POINT

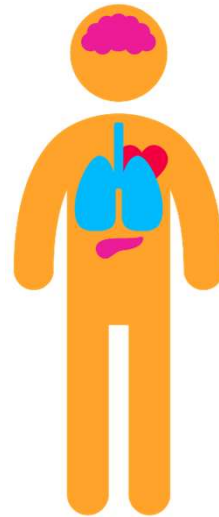
30 seconds



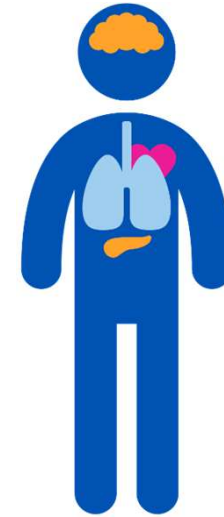
How does air pollution affect us?



Air pollution can damage your **lungs** and impact your breathing.



Exposure to air pollution can affect your **brain** and therefore your ability to learn and your mental health.



Breathing in air pollution can impact your **heart** and cause future heart problems.

PAUSE POINT

New Delhi

- Daily levels of toxic air in Delhi schools, which are often close to roads, are more than 10 times worse than acceptable standards.
- About half of the 4.4 million children who live in Delhi have serious lung damage.
- Recent lung tests conducted on 5,718 students in Delhi show that 43.5% suffer from “poor or restrictive lungs”.



What do you notice about PM 2.5 levels around the world? Why does this matter?



Beijing, China

42.1 $\mu\text{g}/\text{m}^3$



Delhi, India

98.6 $\mu\text{g}/\text{m}^3$



London, UK

11.4 $\mu\text{g}/\text{m}^3$



Los Angeles, USA

12.7 $\mu\text{g}/\text{m}^3$

$\mu\text{g}/\text{m}^3$ = micrograms per one cubic meter of air

The safe limit is 10 $\mu\text{g}/\text{m}^3$.

We can all help to make sure the air around us is cleaner.

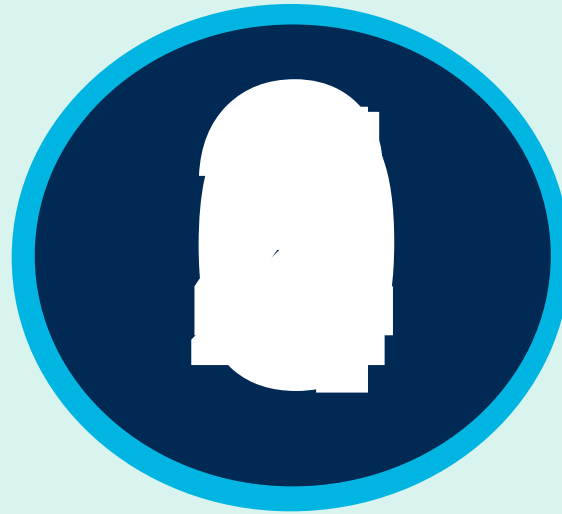
What could you do?

Hint: think about things you've done over the last week (e.g. at home/school, your journeys, your activities):

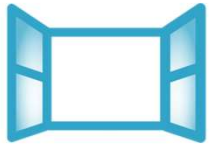
- Could you have done anything differently?
- Are you already doing something to help?

PAUSE POINT

30 seconds



At home



- Keep your windows open to let the fresh air in – especially when cooking or cleaning



- Switch to environment friendly or low VOC generating household cleaning and personal care products



- Talk to friends and family to create awareness on how some of our actions (like burning things, smoking) can affect indoor air quality

When travelling to places



- Walk, cycle, scoot or take public transport whenever you can instead of using your car



- Car pool with your friends

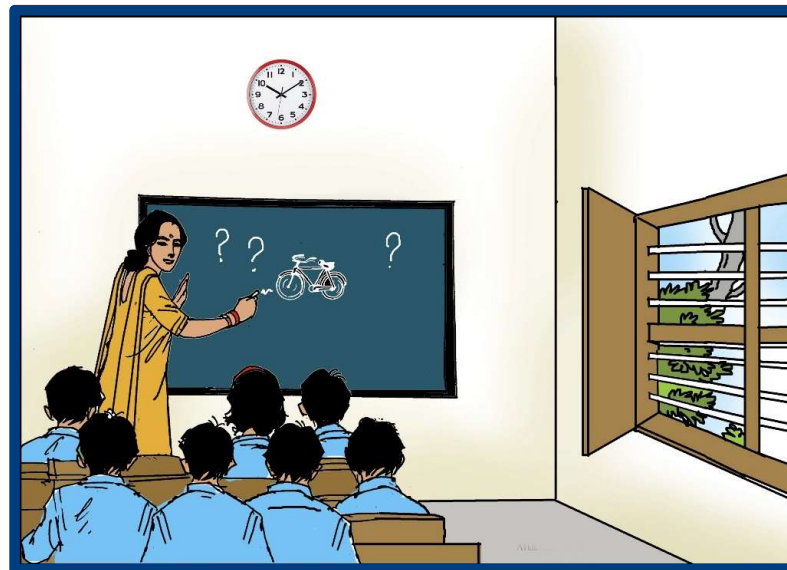
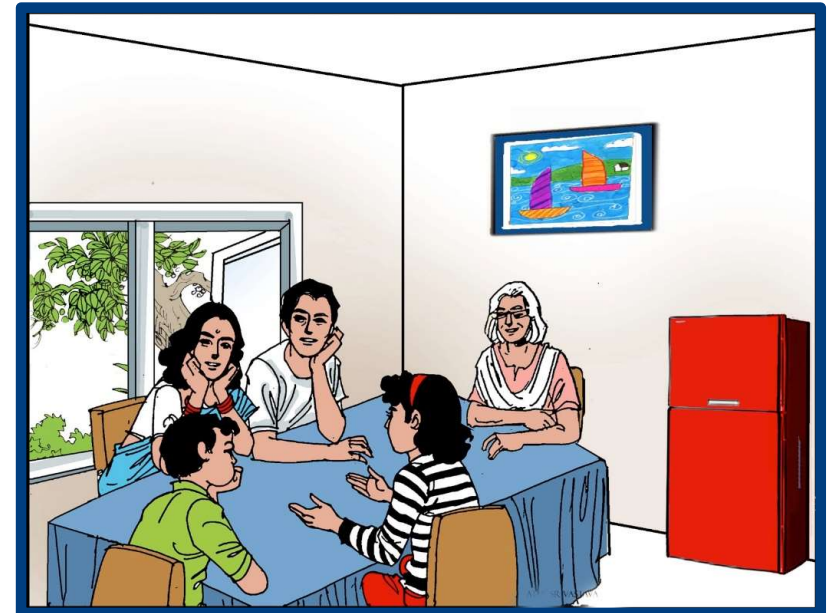


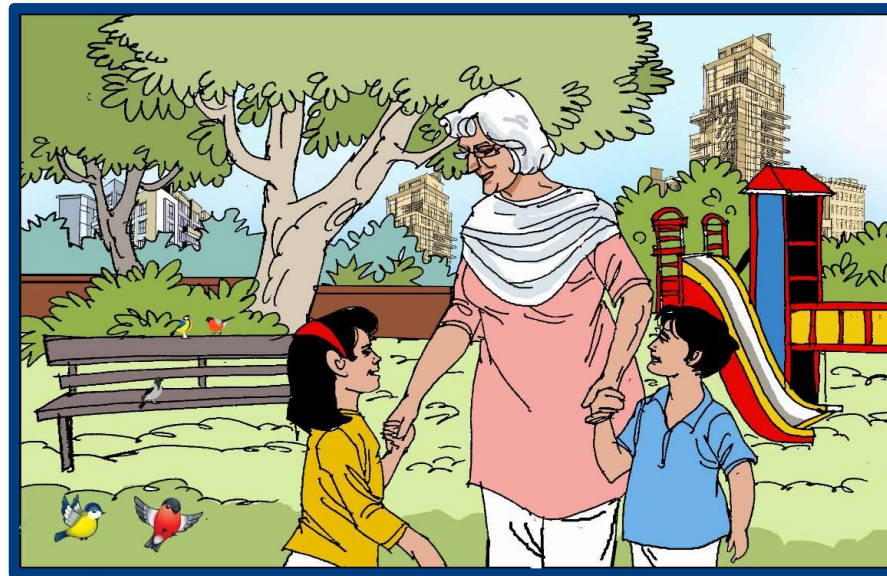
- Don't idle – ask your parents/adults to turn off their engines when the car isn't moving

What can we do to
make sure we have
cleaner air?

Activity 1: Weave your own story

- You are given pictures from two stories. You can choose to work on any one
- Arrange the pictures in any order and weave a story around it. Please remember that you need NOT describe what is there in the picture.
- Use your imagination to create a story using these pictures.
- Make sure your story has the following:
 - A title
 - An introduction
 - Description of Characters
 - Problem/s shown
 - Ideas on Solution/s

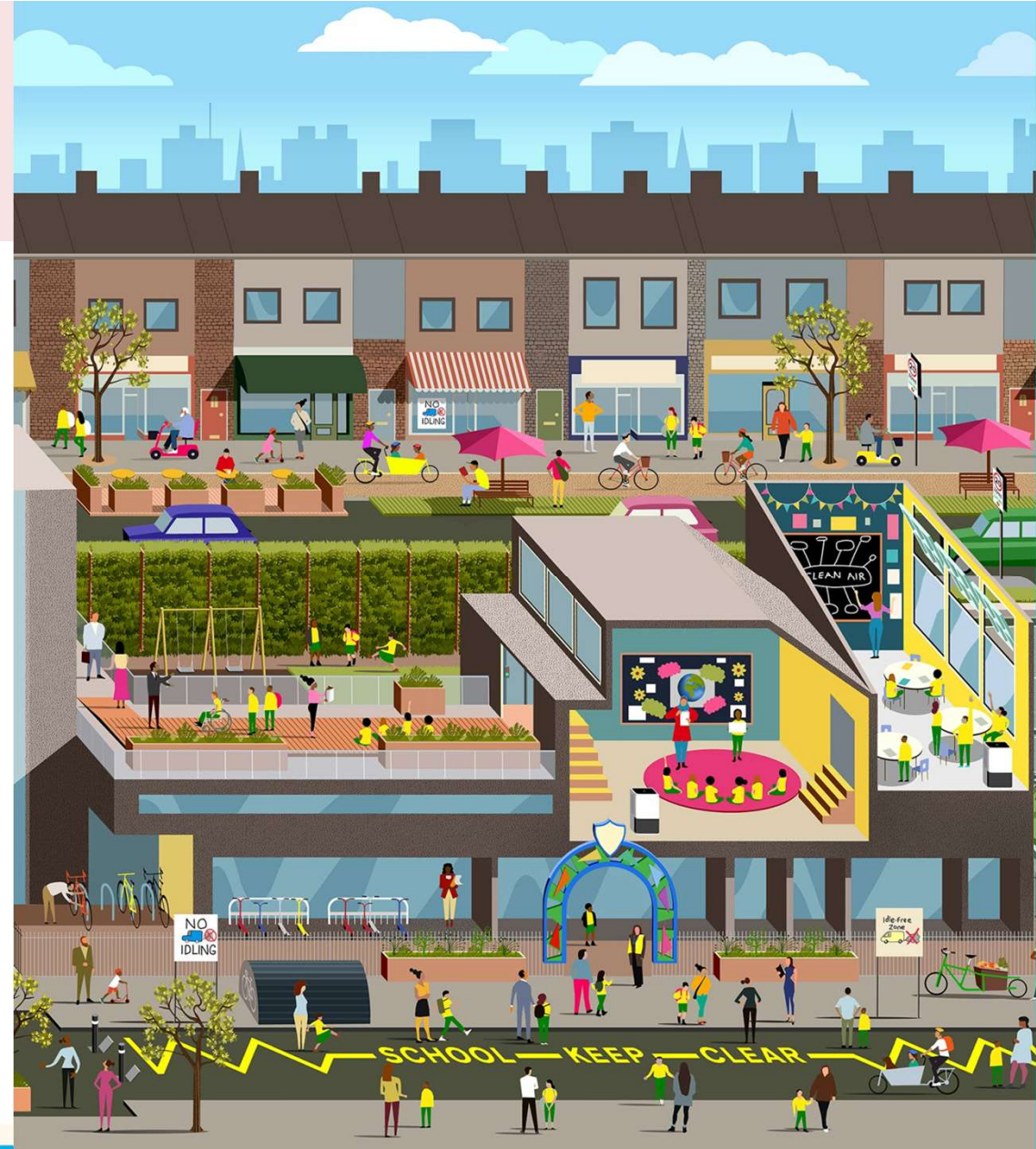




 Freedom to breathe

Activity 2 – My Vision

Create a vision
of your Clean Air
School/
Neighbourhood




What do we want?

A world where every school/neighbourhood is a clean air school/neighbourhood.

The student voice has the power to create real change.





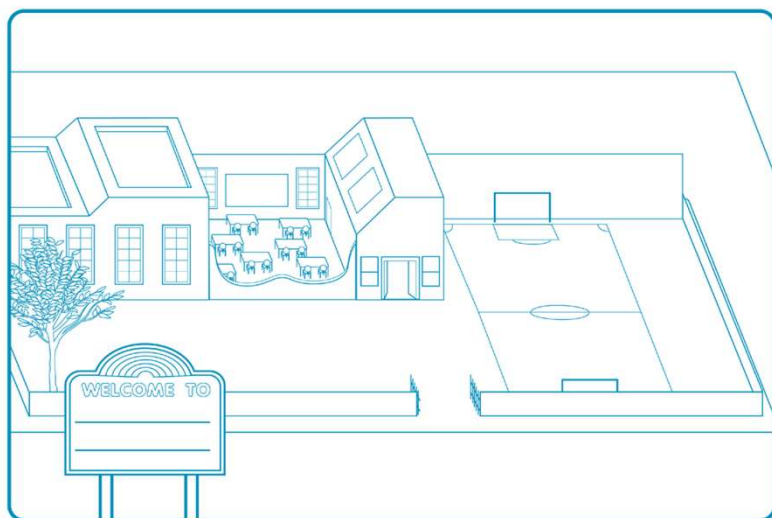
What could your
Clean Air School
or Neighbourhood
have?

These questions might help you come up with more ideas for your Clean Air School/ Neighbourhood

- What can you do to support people to use different methods of travelling?
- Don't forget about indoor air pollution! What could you do to help avoid this in classrooms, or at home? What could you do to improve air circulation?
- How can you raise awareness about air pollution in your school and local community? What might your Clean Air events involve?

Your task: to design your dream Clean Air School/Neighbourhood

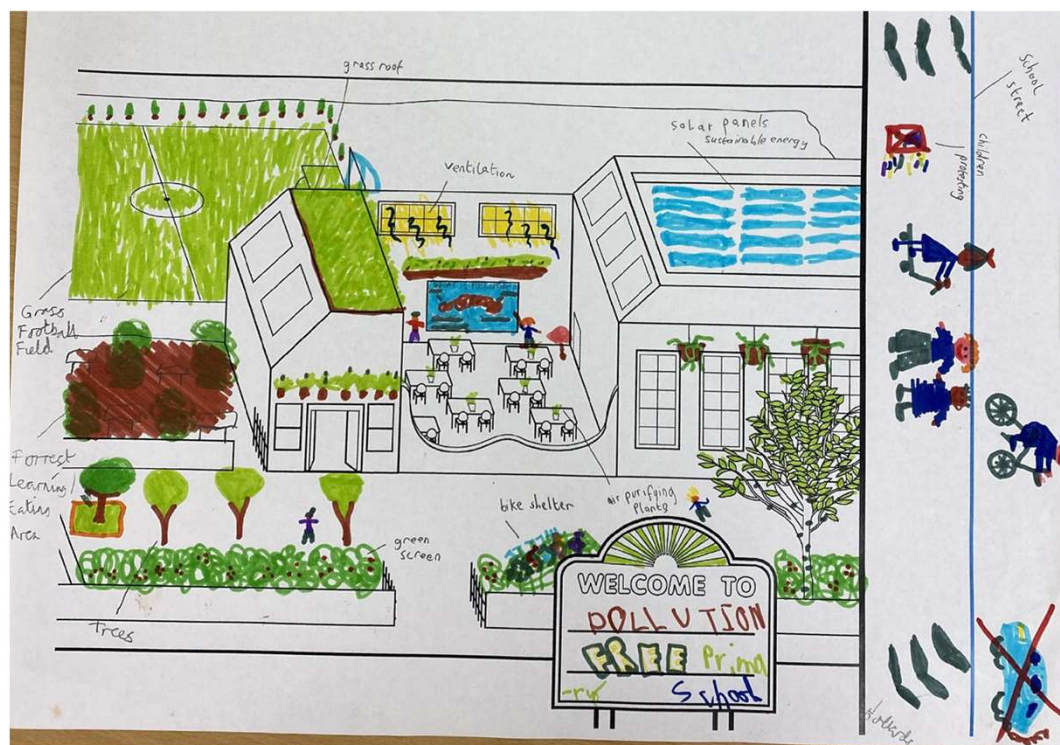
- Use the ideas emerged through discussion.
- Label your ideas and use colour!
- If you prefer you can draw your own too.



What could you do with your clean air school/ neighbourhood vision?

Here are a few ideas:

- Prepare and share your designs with teacher, parents and others.
- Present them at assembly or school event– let others know why clean air and your ideas are so important.
- Display them on a notice board of your school – help others learn more about clean air.



Y5/6 Double G (SDGs) and Rights Respecting Committee members - Haimo Primary School, Eltham

One important thing we
can do is to make sure that
Clean Air becomes an
explicit right!

A young girl with curly hair, wearing a striped shirt and blue shorts, is smiling on a colorful playground. The playground has a red and blue surface with yellow and white markings. The text "The United Nations Convention on the Rights of the Child (UNCRC)" is overlaid on the left side of the image.

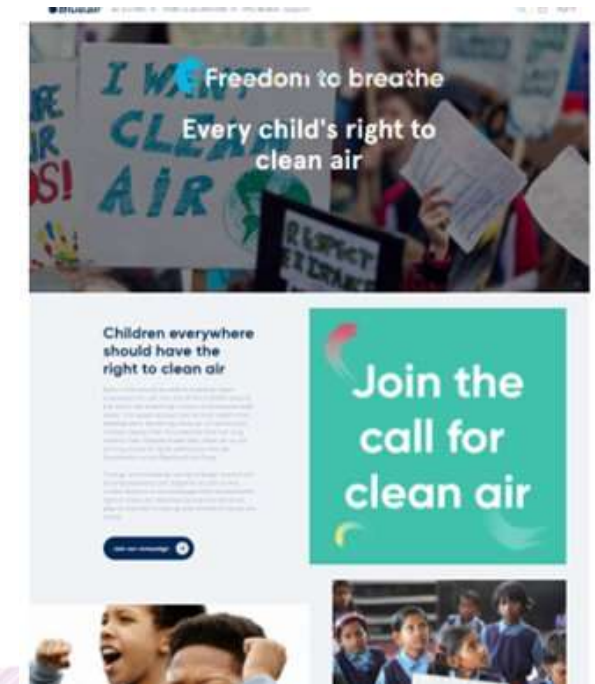
The United
Nations
Convention on
the
Rights of the
Child (UNCRC)

The UN says that children should have access to hospitals, clean water, healthy food, a good and clean environment and education.

But they do not clearly say that clean air is a right!

The UNCRC does not explicitly state Clean Air should be a right.

- Do you think it should?
- Raise your hand if you agree.
- Your voice will be shared along with other children from Delhi, London, Beijing and Los Angeles to tell right people know you think clean air should be a clear right.



Visit: www.blueair.com/in/freedomtobreathe

Follow us on Twitter: @Join_Ftb #Freedomtobreathe



What happens next?

- 20,000 children calling for the Right to Clean Air all over the world – starting in Beijing, Delhi, London & Los Angeles!
- Event in November bringing together the children's voices to the UN.
- Your ideas are really important – express yourself creatively using any of the methods:
 - Stories, poems, letters, songs, dance
 - Artwork – paintings, posters
 - Videos or photography (of actions and places, not people)



Freedom to breathe