

KS2 Science / Geography / PSHE 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).
- You can either use the **pre-recorded assembly** <https://youtu.be/rw7YckaP2jE> or deliver it using the resource pack in your own time.
- See powerpoint slides' notes section for additional information and guidance
- **Advance preparation** – (1) print and cut cards for the sentence matching game. (2) Print templates for dream clean air school (optional)
- **Next steps** - to register your student's voice – please use <https://www.blueair.com/gb/freedomtobreathe.html> and send a selection of any work your students do to freedomtobreathe@globalactionplan.org.uk (e.g. poems, stories, drawings, letters etc.). Remember to anonymise this for safeguarding and GDPR reasons (further details on slide notes).



Freedom to breathe

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

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

Food

**Clean
Water**

Sleep

Warmth

Shelter

Fun!

Exercise

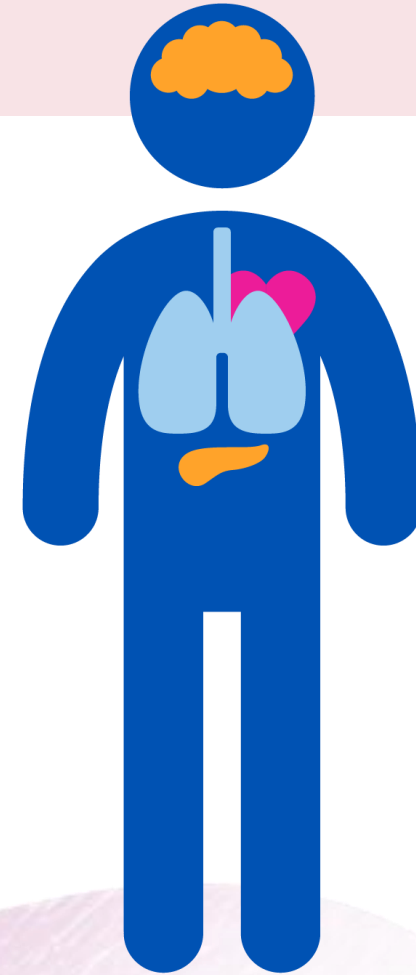
PAUSE POINT

How about clean air?

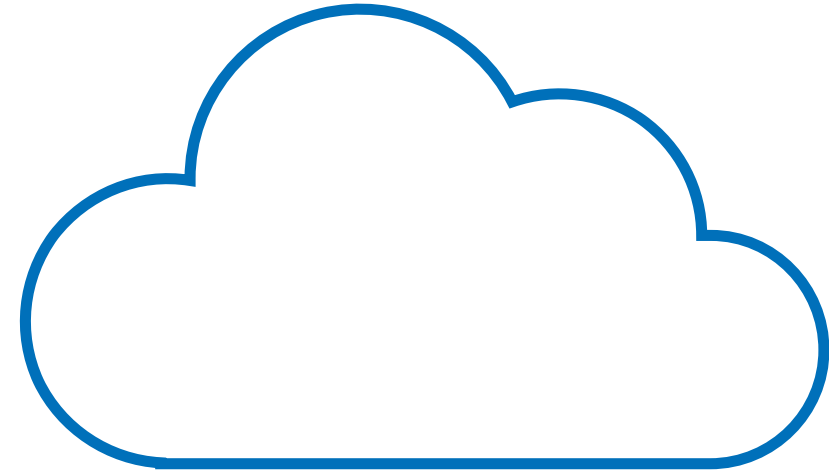
Clean air is very important for us to stay happy and healthy.

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

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

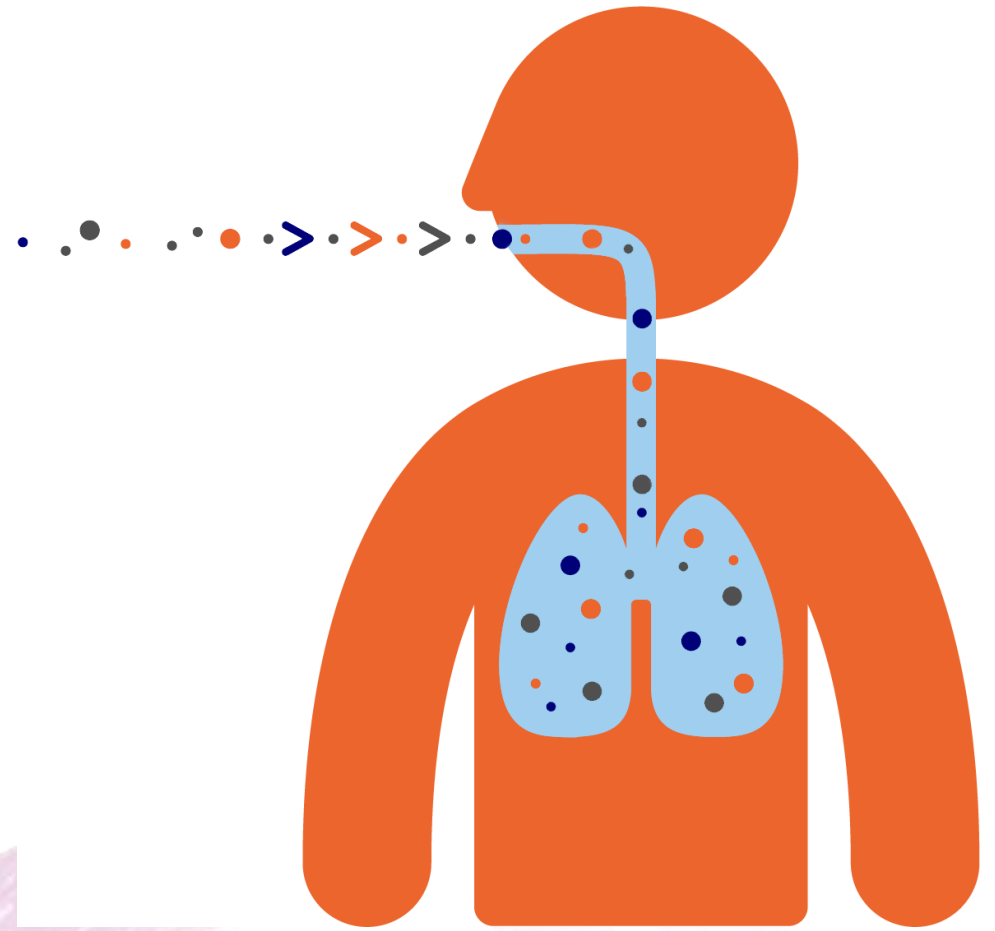


What is air
pollution?



Air pollution is in the air that we breathe in. It enters our bodies and can damage our health and physical and mental development.

Air pollution can be indoors and outdoors.....



Can you remember some causes of indoor air pollution?

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



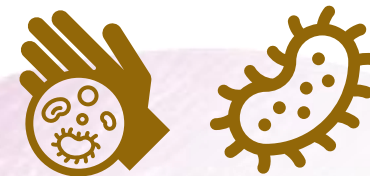
Personal care products like shower gels and body sprays.



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

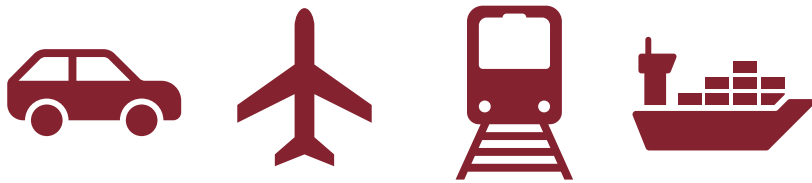


Dust, mould and bacteria.



Can you remember some causes of outdoor air pollution?

Vehicles such as cars, vans, trains, ships and planes release gases and tiny particles (in soot) into the air.



Factories that make things such as food, clothes and toys and **power stations** that generate energy by burning fossil fuels.



Farming often has a lot of animal waste and uses fertilisers and pesticides (chemicals) to help food grow, all of which can cause pollution.



Burning fuel such as wood and coal to heat homes.



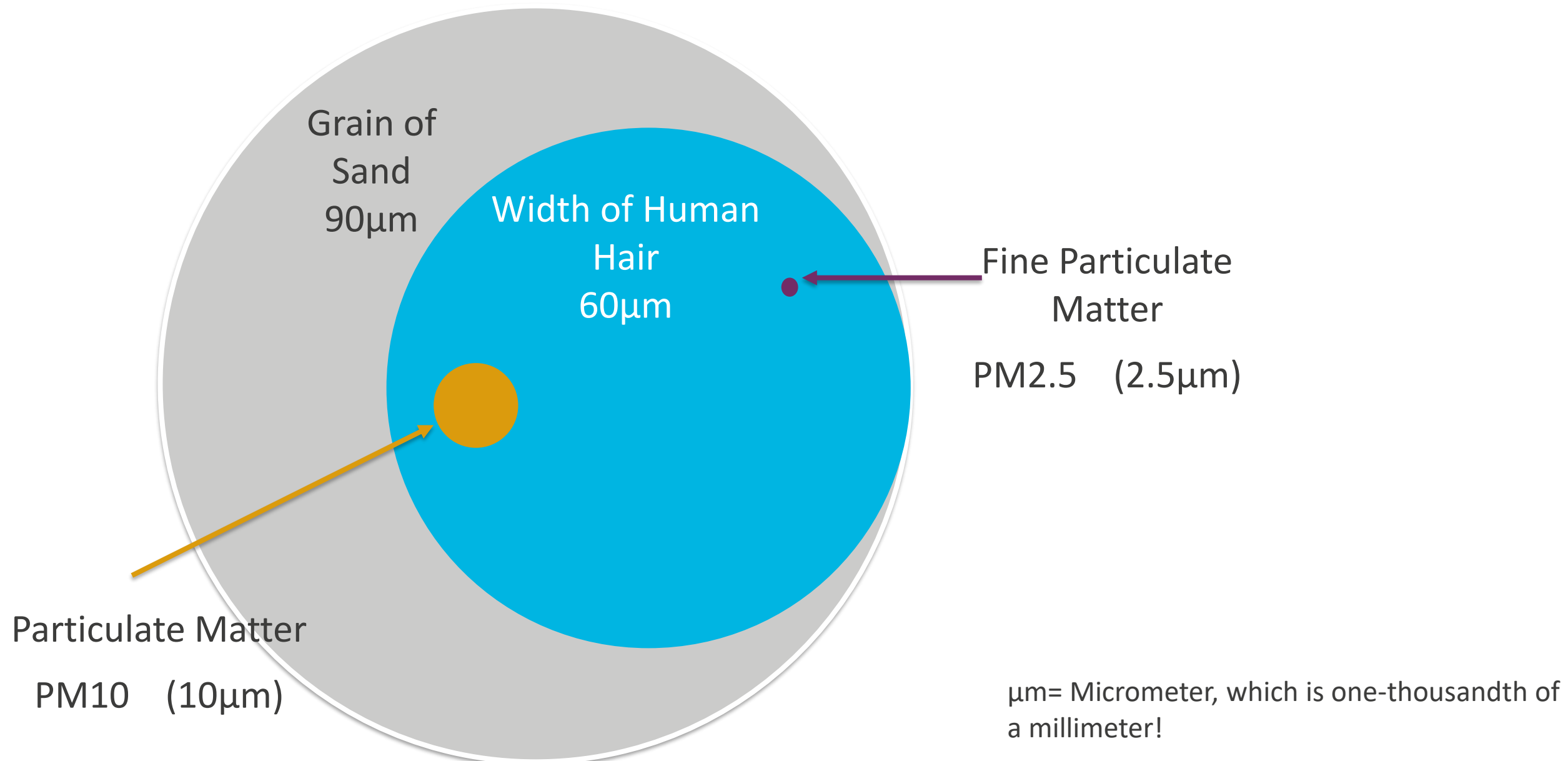
The particles in the air are called particulate matter (PM)

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

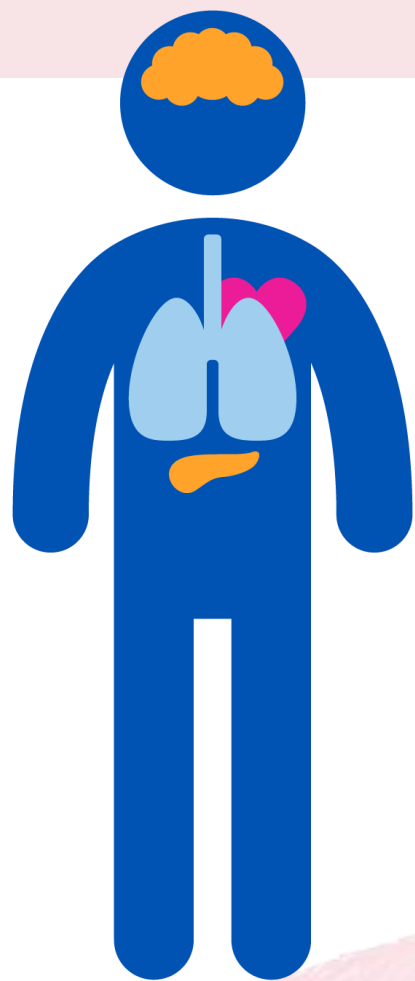


These are quite irritating! They can cause hay fever, sneezing and coughing.

Examples of PM2.5

Soot
Cat allergens
Viruses
House dust mite
Tobacco smoke

These can seriously damage our health and physical and mental development – especially our brains, hearts and lungs!



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.

In London...

- Children are exposed to 5 times more air pollution on their way to school (compared to other parts of the UK).
- 1/5 primary schools are by major roads.
- 240,000 children are diagnosed with asthma.
- The amount of PM 2.5 in the air is high.

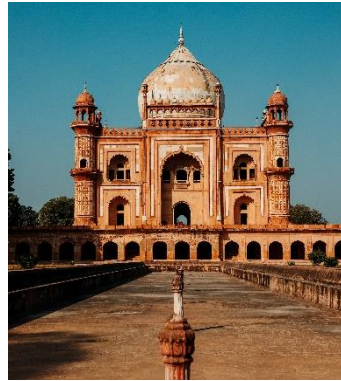


The PM 2.5 levels are also high in other cities like these. Do you think that is good or bad? Why?



Beijing, China

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



Delhi, India

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



London, UK

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



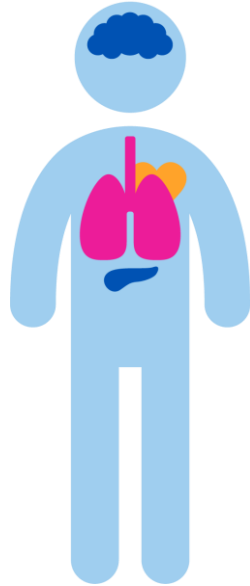
Los Angeles, USA

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

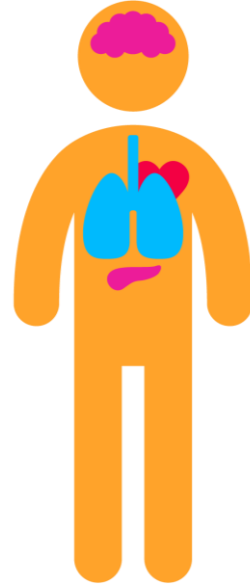
$\mu\text{g}/\text{m}^3$ = micrograms per one cubic meter of air

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

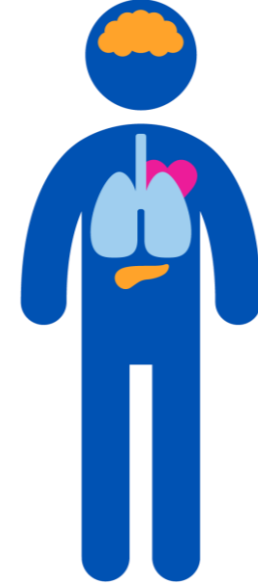
How does air pollution affect us?



Air pollution can damage your **lungs**. It can impact your breathing, can cause respiratory diseases (e.g. asthma) or make symptoms worse.



Exposure to air pollution can affect your **brain** and therefore your ability to **learn** and your **mental health**. There is also emerging evidence on the link between air pollution and worse cognitive functions, such as memory, and increased risk of dementia.



Air pollution can impact your **heart**. It causes heart disease and other coronary (heart) related problems. Every year, air pollution is estimated to contribute towards up to 36,000 deaths in the UK .

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

Activity: Let's play 'match your sentences'!

- You will each be given a sentence.
- **Your aim** is to **find your partner** who has a sentence that connects to yours.
- If you have a sentence which begins with '1', you are looking for a sentence that begins with '2'.

What did we find out?

- Listen closely to your classmates, to find out what we can do to make sure we have cleaner air.

(This will also help you with your next activity!)

Activity

Create a vision of your Clean Air School!




What do we want?

A world where every school is a clean air school.

The student voice has the power to create real change.





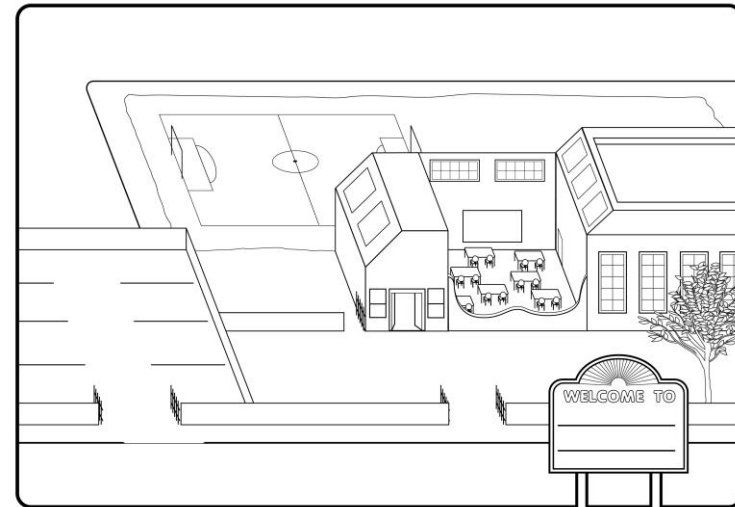
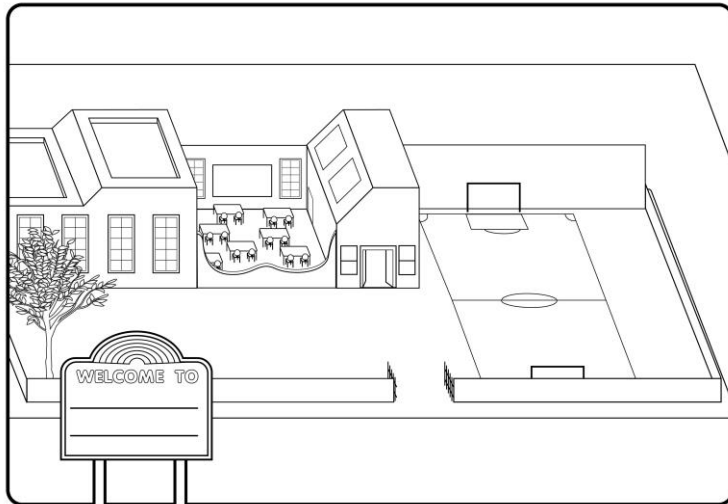
What could your
Clean Air School
have?

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

- 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!

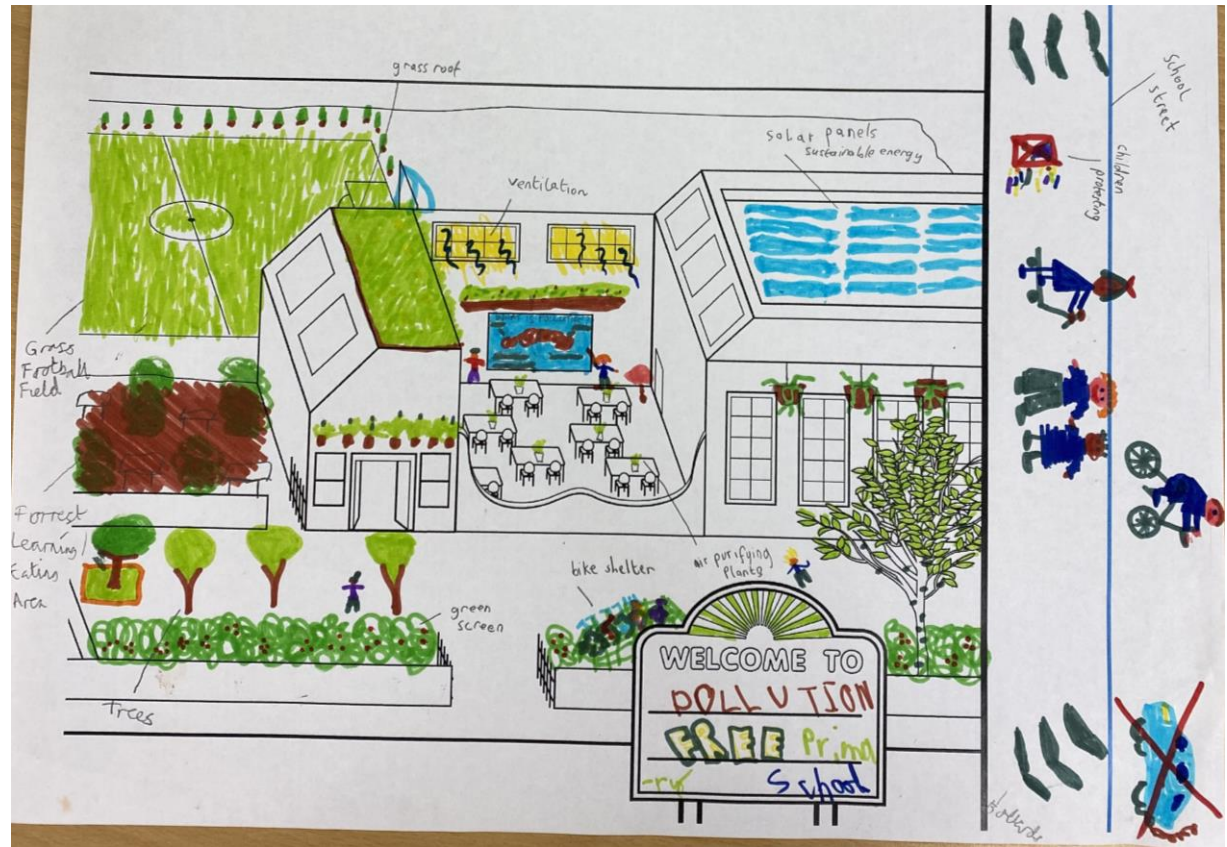
- Use the ideas on the mind map and the sentence matching game.
- Label your ideas and use colour!
- If you prefer you can draw your own too.



What could you do with your clean air school vision?

Here are a few ideas:

- Share your designs with your teachers, headteachers, families or your local MP – ask them to help with some of your ideas where possible
- Present them at assembly or school event – let others know why clean air and your ideas are so important
- Put them on a notice board at your school – help others learn more about clean air
- Ask your teacher to email them to Global Action Plan – we can help bring together yours and other children's ideas to share with the UN (we'll explain more about this later!)



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

**Together, we can work
towards having cleaner air.**

Let's think about how else we
can do that...

Who would you talk to if you needed help...

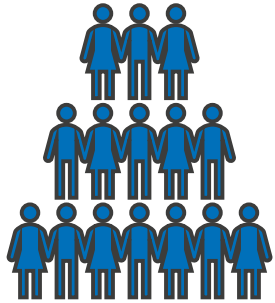
- At school?
- About something in your local community?

Here are a few ideas:

Friends, teachers, headteacher, parents, other adults you know and trust (e.g. a sports coach or a religious leader)



With other people...



- We can raise awareness by telling others why clean air is so important.
- If we all told at least one other person, and they tell one other person, think how many people we can spread this message to!
- We also need to make sure the right people know about clean air, e.g. headteacher, local council, local MP, the UN...

What can we do as a class?



- Could we change some of the things we do as individuals?
- Could we help other children find out more about clean air?
- Could we organise an assembly? Or a school event?
- Could we work together with our teachers and trusted adults, to make sure the right people listen to us?

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

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 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 teachers will make sure that the right people know you think clean air should be a clear right, by adding the number of children who voted 'yes' to <https://www.blueair.com/gb/freedomtobreathe.html>

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 – we'd love to know what they are so we can help you share them with the UN! Examples might include:
 - Stories, poems, letters, songs
 - Artwork
 - Videos or photography (of actions and places, not people)

Please ask your teacher to share your work with us via email:
freedomtobreathe@globalactionplan.org.uk.



Freedom to breathe