WORKSHEET

Fly a kite for clean air

Air quality for primary schools





Images: M. Littek

Air pollution

Air pollution is mixture of dangerous gases and tiny particles that we often can't see. These fumes, smells, speckles of dust, dirt and soot are harmful to people, animals and plants.

Scientists who study air pollution are interested in a gas called nitrogen dioxide (NO_2), and small particles known as particulate matter (PM). These come from burning fossil fuels. Transport is the biggest source of air pollution in the UK.

Activity 1: List as many fossil fuels as you can think of and note how we may use them in our daily lives.

Pollution in the air we breathe affects us from our first breath to our last.

Activity 2: List parts of the body which may be affected by air pollution. Using a timer, now count how many breathes you breathe in one minute.

Remember

One breathe cycle = one breath in (lungs full) and one breath out (lungs relaxed).

Making a kite

Spending time in your garden, looking out from your balcony or opening a window is great way to enjoy fresh air.

Activity 3: Make your own kite using this step-by-step guide and recycled materials. You will need:

- A4 sheet of paper (21x30cm)
- Pencil and ruler
- BBQ skewers/stick/twig
- String
- Tape
- Plastic bag, tissue paper or wool.

Step 1: Fold paper in half (portrait).

Step 2: Mark a point on the top edge of the paper, 2.5cm from fold, and another point 2.5cm from open side. Draw a line connecting the dots and fold paper along this line.

Step 3: Open folds to reveal a kite shape. Use a skewer/stick to put 2 small holes in opposite corners of paper at widest part. Thread skewer/stick through holes and tape the middle for strength.

Step 4: Turn kite over. Place some tape over paper stem, level with skewer and make another hole. Tie string through hole using reef knot.

Step 5: Add tails and decorate kite.

Step 6: Fly your kite and celebrate clean air.



Activity 4: Observe which direction the wind blows.

Activity 5: Think of actions that you can take at home to reduce air pollution. This may include turning off electricity points, planting something in the garden, switching to eco-friendly cleaning products or asking a grown up to switch off their car engine.

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Notes for teachers and parents

Activity 1:

Air pollution causes up to 36,000 deaths a year in the UK. There are many sources of air pollution in addition to road transportation, including energy generation to heat our homes, industry to manufacture our goods, open fires and stoves, and agriculture. Pupils should identify the following fossil fuels: gas, coal (less frequently used), petrol, diesel and oil. See bonus activity below.

Activity 2:

Breathing polluted air puts people at a higher risk from asthma and other lung related health problems. These include:

- Heart and vascular problems: stroke and heart disease in adults.
- Upper airways (nose, mouth, throat) and lungs: cancer, asthma, lung growth problems in children.
- Brain: linked dementia in adults; impacts how babies brains develop in the womb.
- Pancreas: linked to type 2 diabetes in adults

On average school children (5-11years) take 20-29 breathes a minute, while adults take 14-20 breathes per minute.

Activity 3:

More detailed kite instructions found here: https://www.instructables.com/id/Easy-Paper-Kite-for-Kids/

Activity 5

Simple steps can have a huge impact on the air we breathe. Changing the way we travel by walking and cycling more, using public transport or working from home, reduces the number of short car journeys and is great way of building regular physical activity into a young persons life. Research shows that those who travel to school actively take these positive behaviours into adulthood.

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Spot the pollution: Circle 10 sources of pollution in the picture below.

