

Key Stage 2 (Year 3 & 4) SCIENCE

Lesson 2: "Sources of air pollution"

Length of Lesson: 50 minutes

National Curriculum in England, for teaching from September 2015

Curriculum Topic: Animals including humans (Year 3); Living things and their habitats (Year 4)

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/425601/PRIMARY_national_curriculum.pdf pages 158 (year 3) & 161 (year 4)

CURRICULUM

Animals including humans (Year 3)

Non-Statutory requirements: Students should be introduced to the main body parts associated with the skeleton and muscles, finding out how different parts of the body have special functions.

CURRICULUM

Living things and their habitats (Year 4)

Non-Statutory requirements: human impact on environments: negative effects of population and development

LESSON PLAN

Start the class by asking the students whether they think the air outside their school is clean or a little dirty, and why. Are there parks and green spaces near by or surrounding the school for fresh air? Are there roads nearby with heavy traffic, and if so which time of day do they think there is most traffic, or do they think it is constant? Ask the class what makes outdoor air polluted, e.g. a result of population, travel, industry and development. Explain to the class that a high amount of combustion into the immediate atmosphere can cause the air to be more polluted, and that in London the amount of pollution in various parts of the city can cause people to feel unwell. These are in particular major junctions such as Brixton Junction, Marylebone Junction, Oxford Street, Clapham Junction etc.

Ask the class what type of health problems polluted air can cause: from shortness of breath, a tickle in the throat and irritated eyes, coughing and increased asthma cases and attacks, to larger problems such as lung cancers.

Next, get the materials ready for the **class activity!**

Get each student to place a few drops of ink at the bottom centre of their A3 sheet of paper. Now ask them to take a deep breath and blow the ink across the page. The resulting pattern will resemble the branches within a human lung.

Compare the drawings with anatomical diagrams of the lung, provided. Pupils should understand that we need lungs for breathing and the type of air we breathe impacts the health of our lungs. Get pupils to imagine the air with any bad polluted air travelling down the into the lung, just like their ink travelled in tubes across the page. This class can also be linked to the effects of smoking.

LESSON OBJECTIVES

- Introduce students to the idea that the type of air we breathe impacts the health of our lungs.

Students should learn which processes impact our air: positive from trees and plants, negative from types of human activities such as cars, factories, aeroplanes

LESSON REQUIREMENTS:

- Ink,
- A straw,
- A3 sheets of thick paper for each student.

KEY TERMS

- Air pollution
- Air quality
- Health risk
- Health problems
- Human development activities