

What is Air Quality?

We all want to be healthy!

We all want to breathe clean air!



air
aware
Staffordshire

What is Air Quality?

- Air Quality is a measure of pollution levels in a certain area
- Some of these pollutants are very hazardous to health
- Children are affected more as they are developing and growing

Did You Know?

Air Pollution is attributable to around 40,000 premature deaths in the UK every year and the economic costs associated with air pollution is around £20 Billion each year!

Did You Know?

Children and Babies are worst affected by Air Pollution as they are still developing. Elderly and people with pre-existing conditions are also at greater risk.

Take a look at these main six sources of Air Pollution in the UK and see if you can put them in the correct order from highest polluter to lowest, and also what percentage of the total amount of Air Pollution they produce
Work in your groups and you have 5 minutes..... GO!



Agriculture



Household & Business

(not industrial business)



Energy Production and Distribution



Non-Road Transport



Road Vehicles



Industry and Factories

Okay – Time is up

**Let's take a look at the order of
polluters**

highest to lowest.



40 %

By far the largest individual source of pollution in the UK is from road vehicles such as cars, vans and lorries.

The good news is that this is something that we can all make a difference to ourselves with 2/3 of journeys under 5 miles and 1/3 of journeys under 2 miles we can choose to travel differently.

*Did you know?
You are generally exposed to double the amount of air pollution inside a vehicle than outside*

*Did you know?
Ditching the Car on the school run could reduce asthma cases in that school by up to 30%*

*Did you know?
If everyone car shared with someone just one day a week traffic on the roads would reduce by 20%*



21 %

This includes electricity produced by coal fired power stations as well as gas, oil and bio fuels

40% of electricity generated in the UK still comes from Fossil Fuels but this figure is slowly falling. We can improve this ourselves by choosing green energy suppliers which will help make that shift to carbon neutral low pollution energy.

Did you know?

Since 2018 the UK has the capacity to generate a greater percentage of electricity through renewables such as wind, solar and water, however this still only accounts for 27% of electricity generated.



14 %

Sources of air pollution from buildings includes gas fired boilers, coal fires, wood burners and chemicals.

As well as affecting outdoor air quality, pollution inside buildings can be as bad or worse than outside. Cleaning chemicals, coal fires, wood burners, gas cookers and hobs and even burning candles produce air pollution.

Did You Know???

Burning dry wood and having a properly maintained and serviced boiler or flue will help reduce pollution as well as making it more efficient

Did You Know???

Household Wood Burners account for the highest levels of fine particulates (PM10 & PM2.5) in the UK



12 %

Manufacturing is the highest sources of Industrial pollution in the UK. Processing & Refining also contributes greatly.

Despite contributing only 12% of NO₂ levels in the UK Industry accounts for much higher levels of other sources of air pollution including Ammonia, Solvents, CO₂, Carbon Monoxide and Ozone.

Did You Know???

The UK are the 3rd highest polluters in Europe when it comes to Industry behind Poland and Germany

Did You Know???

*Recycling and re-using products will help cut down on air pollution!
The "throw away" society increases the need for virgin products which pollute more.*



7 %

The largest polluter of non-road transport is aircraft with around 250 million passenger journeys per year in the UK

Most of the pollution from non-road transport that affects air quality is from planes on the ground or taking off when most Nitrogen Dioxide is produced.

Around 20% of trains in the UK are diesel hauled, and pollution levels at Paddington Station at peak times are higher than on the road outside.

Shipping accounts for 1%, Trains 2% and Planes 4% of the total 7%

Did You Know???

Any train journey is far less polluting than a car journey, especially single occupancy journeys. Air Travel is the most polluting way to travel per person.



4 %

Farming and Agriculture produces NO₂ from farm vehicles and burning which contributes to around 4% of UK levels. Agriculture does account for high levels of other pollutants

Agriculture accounts for a massive 87% of ammonia pollution in the UK. Of this 57% is from Beef and Dairy Cattle production and 20% from fertiliser use on land, which can also affect water courses causing water pollution

Did You Know?

Methane is a greenhouse gas which leads to global warming. A main source of methane gas in the UK and the wider world is animal agriculture.

Okay, How did you do????

For the Keenest mathematicians in the class you may have worked out that those six sources of Air Pollution in the UK account for 98% of all of our air pollution in the UK.

So – We have identified the problems, what are the solutions?

Work in your groups to come up with possible solutions to some of these Air Quality Problems. If you were in charge of the country what could you do to make things better? Just remember that all of these have a budget that we eventually have to pay for through taxes. Also remember that the solutions need to be practical.

For example – we cannot just say “Shut Down The Factories”. How would our goods be manufactured?

We cannot just say Ban Planes from the sky – what would be the alternative?



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Have 5-10 minutes to come up with as many solutions to the problems that you have identified as sources of pollution as you can. We do not need to see technical plans or the technology behind your ideas but they do need to be realistic.



Okay, Let's hear what you have
got, one group at a time 😊



Think about **your** journey to school.....
What can **you** do to make a difference?





We can all make a **HUGE** difference by
Walking, Cycling and Scooting more