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# Run the risk

This simple game will help young people understand how air pollution affects their bodies and health.

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## You'll Need

- Chalk
- Stopwatch or phone
- Scrap paper
- Pens or pencils

## Activity Outcomes

### Be active

Look after your body by being physically active.

### Live Healthily

Gain awareness and practical skills to take care of your body and mind.

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## What's air pollution

The focus of this activity is air pollution. This is the release of harmful chemical and substances into the air we breathe, both indoors and outdoors.

Air pollution affects us all. The particles and gases that make up this pollution enter our bodies, and can be damaging to our physical and mental development.

By breathing in the pollutants, they can have impact our lungs, and enter our blood stream, damaging our heart or brain. The more of these pollutants we breathe, the higher the risk of harm and the bigger impact it can have on our health.

There are many causes of air pollution.

Outdoor air pollution's caused by:

- vehicles (cars, vans, planes, trains, boats and so on)
- factories
- farming
- burning fuel (bonfires, wood burners, barbecues and so on)

Indoor air pollution is caused by:

- cooking
- chemicals in cleaning or personal care products
- dust
- mould

Outdoor air quality in the UK has improved significantly during the past 40 years. But there is no safe level of air pollution, and there is still more we could do.

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## Play the game

1. Gather everyone in a circle and ask everyone if they know what causes pollution. Choose a few people to share their answers then tell everyone that pollution is made up of particles and gases in the air, which we often can't see, but are very harmful to our health. They can cause serious illness because they can reach every organ in our bodies when we breathe them in – especially our brains, hearts and lungs. There are many causes of air pollution.

2. Outdoor air pollution is caused by things like: vehicles (cars, vans, planes, trains, boats...), factories, farming and burning fuel (e.g. wood burners, barbecues). Indoor air pollution is caused by things like: cooking, chemicals in cleaning or personal care products, dust and mould.
3. Tell everyone that they'll be playing a simple game that'll help them to understand the impact of air pollution on our ability to breathe. It can be played indoors or outdoors.
4. First, use chalk to draw a 2m-by-2m square on the ground. In the game this represents the lungs.
5. Ask the young people to space themselves around the square and stand still. They need a gap between them, so everyone's about 1 or 2 arm lengths apart, depending on the size of the group.
6. Select one young person to be an 'oxygen molecule' and a group of about 5 young people to be 'particulates'. The 'oxygen molecule' and 'particulates' should stand to one side, outside of the square. Everyone stood around the square will be the lungs.
7. Explain that particulates are tiny particles of solid or liquid matter suspended in the air, such as dust, soot, smoke, chemicals and dirt. Together, these particulates build up to cause air pollution. Some particles are big or dark enough for people to see, such as smoke, but others are so small that you can't see them. Breathing in the particles can harm your health, as the particles can get into your body through your lungs and travel around your body through your bloodstream.
8. The 'oxygen molecule' should start to run slowly and carefully around the young people stood around the square, the 'lungs'. They should be weaving in and out to pass through the 'lungs' and then stop when they get back to the person they started at. Time how long it takes and write it down.
9. Next, ask the 'oxygen molecule' to do it again, but this time they must take a 'particulate' with them – they could link arms or hold hands.
  - To represent the harm caused to the body by these pollutants, ask the particulates to do something annoying. They could try to slow down the oxygen by pulling against them with gentle force or blocking their path.
10. The 'oxygen molecule' should keep repeating this, taking another 'particulate' with them and each time leaving them in the lungs. When they try to pass through the lungs, they will find it becomes increasingly difficult as the inside of the lungs get more polluted. This shows how much harder it is for oxygen to move around the body when the lungs are breathing in polluted air.

## Reflection

This activity shows us what the particulates in air pollution do to our lungs but it can also affect other parts of our bodies.

Exposure to air pollution can affect your brain and therefore your ability to learn and your mental health, it can also affect your heart and cause future heart problems.

What actions could you take to avoid breathing air pollution? How could we affect bigger change?

## **Change the level of challenge**

- You could make the lungs bigger or smaller, or add more or less young people to make the 'oxygen's' journey more or less difficult.

## **Make it accessible**

- If someone isn't comfortable in holding hands with someone else, give them the opportunity to hold a piece of material, such as a Necker or piece of rope, with the other person to connect them together.

### **Safety**

All activities must be safely managed. You must complete a thorough risk assessment and take appropriate steps to reduce risk. Use the safety checklist to help you plan and risk assess your activity. Always get approval for the activity, and have suitable supervision and an InTouch process.

### **Outdoor activities**

You must have permission to use the location. Always check the weather forecast, and inform parents and carers of any change in venue.

### **Active games**

The game area should be free of hazards. Explain the rules of the game clearly and have a clear way to communicate that the game must stop when needed. Take a look at our guidance on running active games safely.

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