



WATCH & LEARN: SCIENCE AND NATURE
HOW WE LIVE: SUSTAINABLE DEVELOPMENT
WHY CITIES NEED MORE TREES! (3:10 min)
VIDEO Script & Vocabulary (page 1 of 2/v23721)

INTERMEDIATE (B1 - B2) AND ABOVE

- ◊ Read the script and note new vocabulary
- ◊ Write three sentences using new vocabulary
- ◊ Prepare for the discussion questions

Starting Off

Over 3 million people die annually from air pollution. Planting trees can help lower that number.

- 1 Read the **Video Script** below. The words in **bold** are defined in the **Vocabulary** section. Look up any new words in a dictionary.
- 2 Go to the **Your Turn** section at the end of this document. Practice using new words and expressions from the video script to prepare for your next class.
- 3 Look at the **Discussion Questions** and prepare your responses for the next class.

Discussion Questions:

- ◊ What do you like about trees and why are they important for regulating the natural environment?
- ◊ Are there a lot of trees in the neighborhood where you live?
- ◊ Why do you think there aren't more trees in cities and what do you think should be done about this problem?

Video Script:

Narrator: Search Google Earth for China and you'll see this. But an **unedited** satellite photo might look more like this. That gray **smudge** is air pollution and it's coming from Chinese cars, factories, and **power plants**. But it's not only here.

In cities around the world, air pollution is a big problem.

A majority of humans now live in cities and that number is only going to rise, which means more cars, more factories, and more power plants. As officials explore options for fighting air pollution, there is one tool that's often **overlooked**: trees.

Cities are centers of industry, but the resulting pollution is filling our lungs and making us sick. One major **culprit** is particulate matter: airborne particles of dust, **soot** and smoke that are released when we burn fossil fuels or **kicked up** during construction and farming. When we **inhale** them, they can cause asthma and they can also enter our bloodstream to cause **strokes** and even death. Experts estimate that outdoor air pollution kills over three million people a year and as cities grow, leaders are funding creative—and often expensive—solutions for the problem.

In London, the mayor spent over £1million **spraying** city streets with an **adhesive** that was supposed to glue pollutants to the road. And in the Netherlands, designers have created a giant air purifier they call "The Smog Free Tower", which is cool, but there is another, simpler solution...

A new report from The Nature Conservancy shows that planting trees can be a cost-effective way to improve public health, which they do in two ways:

- First, a tree removes particulate matter when polluted air blows through its branches. The particulate matter **settles** on the leaves and when it rains the dust is washed down the **gutter** so we don't inhale it.
- Second, trees cool temperatures by providing **shade** and releasing water through photosynthesis, which cools summer temperatures by about two to four degrees Fahrenheit.



Video Script continued on next page...

Vocabulary:

- **unedited** - (of material for publication or broadcasting) not modified in preparation for publication
- **smudge** - a blurred or smeared mark on the surface of something
- **power plant** - an engine or other apparatus which provides power for a machine, building, etc.
- **overlook** - fail to notice
- **culprit** - the cause of a problem or defect
- **soot** - a deep black powdery or flaky substance consisting largely of amorphous carbon, produced by the incomplete burning of organic matter
- **kick up** - become more active or noticeable
- **inhale** - breathe in (air, gas, smoke, etc.)
- **stroke** - a sudden disabling attack or loss of consciousness caused by an interruption in the flow of blood to the brain
- **spray** - apply (liquid) to someone or something in the form of tiny drops
- **adhesive** - a substance used for sticking objects or materials together; glue
- **settle** - fall on to a surface and remain there
- **gutter** - a channel at the side of a street for carrying off rainwater
- **shade** - comparative darkness and coolness caused by shelter from direct sunlight

Vocabulary continued on next page...





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Video Script continued...

But there *is* a **catch**, trees can only clean and cool the air within a close **radius**, about one hundred feet, so city officials need to be careful where they plant.

Officials can maximize pollution reduction by planting trees where population density and air pollution **overlap**. The Nature Conservancy report uses data from Washington D.C. to create a map showing where planting trees will have the highest return on investment and some trees work better than others. Trees with larger, **stickier** leaves, like maples and elms are more effective, but they also need to be considered within the larger ecosystem.

Compared to DC, many cities around the world have even more to **gain** from planting trees: this map shows where return on investment is highest for reducing particulate matter. With proper **targeting**, planting trees can be just as cost-effective as other strategies like converting public transportation to use less diesel fuel. But there is one major **limiting factor**: water access.

What might work in Boston, will be less feasible in a city like Doha, Qatar, where water is a **scarce** resource. And **on top of that**, many mayors don't yet think of trees as a public health resource.

Trees might not look like giant air filters, but that's exactly what they are, and the sooner we start thinking of them that way, the sooner the air we breathe might be cooler and cleaner in cities around the world.

Vocabulary continued...

- **catch** - hidden problem or disadvantage in an apparently ideal situation
- **radius** - a specified distance from a centre in all directions
- **overlap** - cover part of the same area of interest, responsibility, etc.
- **sticky** - tending or designed to stick to things on contact; (of a substance) glutinous; viscous
- **gain** - benefit
- **target** - select as an object of attention or attack
- **limiting factor** - constraint; lack of a particular resource
- **scarce** - (especially of food, money, or some other resource) insufficient for the demand
- **on top of that** - in addition; furthermore

Your Turn! Using new vocabulary is the best way to learn and remember it.

1 Choose three words or expressions from the video that are new to you and write a sentence using each one in the box below.

2 Try to use them in a context that is familiar to you to help you retain them.

1 _____

2 _____

3 _____

