

Investigate air quality outside

Activity 2 - Understanding and collecting particles

We all need to live in an environment that has healthier air. When harmful emissions get into the air, it can affect our health and make us feel sick.

Your next mission, if you choose to accept it, is to compare the air quality in 2 locations (you can safely access) over 5 days. We will visually look at the amount of 'dirt particles' collected using Vaseline and 2 white pieces of card. We are going to imagine that the dirt particles represent the PM 2.5 particles.

One thing to note is that the dirt particles you collect in this investigation are not going to be harmful, but will help you visualise or see how many particles there could be in the air!

PM 2.5 (Fine Particulate Matter 2.5)

Air quality monitors measure how clean the air is by measuring how many harmful particles there are in the air. PM 2.5 is the name of one of the tiny particles that contribute to smoggy and hazy air.

Form your question

Unjumble the letters to crack the code! Clues: [IDTR] [APRTLICES] [LAOCTINSO]

What happens to the amount of _____ in two _____ over 5 days?

Predict

Which outside location do you think will collect the most dirt particles?

What makes you think you will collect more dirt particles here?



Plan

Name the outside locations that you will use

Outside location 1 : _____

Outside location 2 : _____

Time to investigate

Materials you will need:

2x Pieces of white card (e.g paper plate or index card)

1x Ruler

1x Scissors

1x Hole punch

1x String

1x Vaseline or clear lip balm

1x Magnifying glass

Access to a camera

Instructions

Step 1: Measure and cut two squares of white card, making sure both are the same size in length and width

Step 2: Punch a hole at the top of each square card and attach some string to each

Step 3: Rub Vaseline or clear lip balm on one side of each square card

Step 4: Hang one square card at location 1 and the other at location 2

Step 5: Take a picture of your square cards hanging in their locations

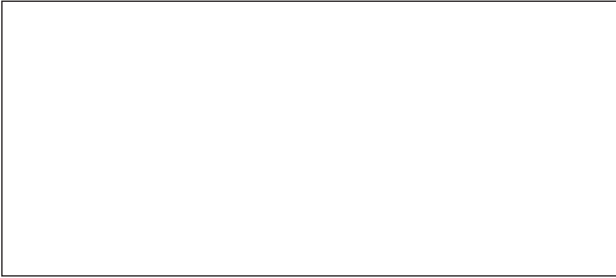
Step 6: Now we wait!

Step 7: On day 3, take a picture of your square cards in their locations and on day 5, do the same! Save those photos

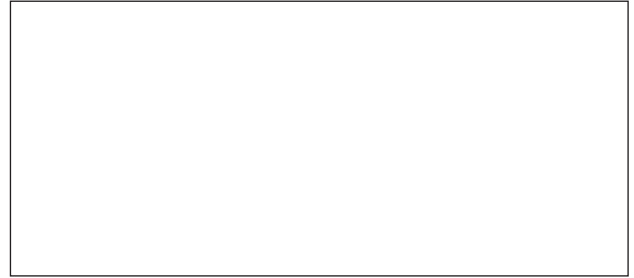
Observe

Record what you observed on your square cards on day 1, day 3 and day 5. You can choose to describe it in your own words, draw pictures or print and stick on the photos you took!

Day 1



Location 1

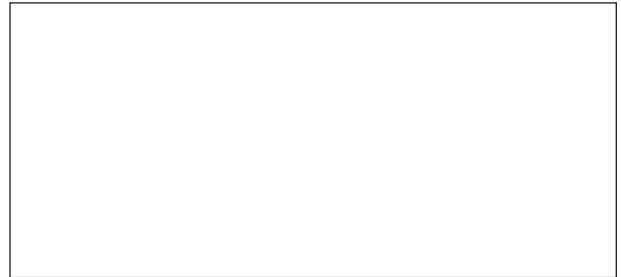


Location 2

Day 3

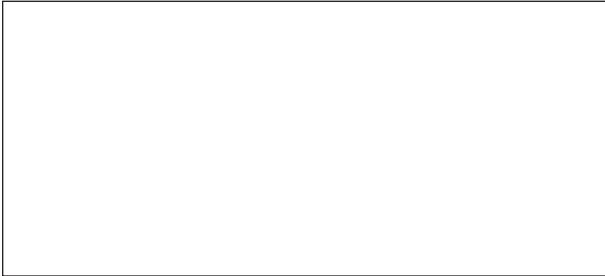


Location 1

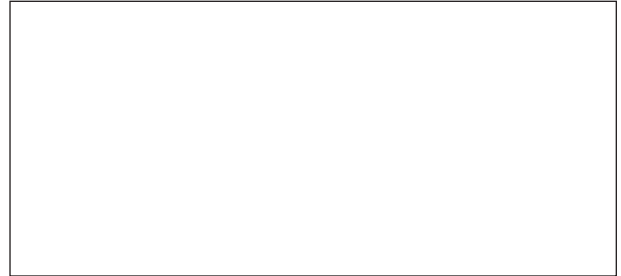


Location 2

Day 5



Location 1



Location 2

Discuss and conclude

1. In your own words, describe what the dirt or dust particles looked like on day 3?

2. Compare day 3 and day 5. Which location collected more dust or dirt particles?

3. Where do you think the particles have come from in location 1?

4. Imagine you kept the square cards in their locations for another 5 days. What do you think the cards would look like in each location?

5. Imagine the dirt particles represented PM 2.5 in the air. If you were outside in a very polluted city, what could this mean for you?

Applying what you have learnt so far, what is one thing you could do to keep the air healthy outside? Draw or write below:

