# Measuring local air quality

## Aim

To investigate how much pollution is in the air in your local environment.

## Method

1. Prepare your air particle catcher by spreading a thin layer of petroleum jelly over a piece of graph paper.
2. Attach the graph paper securely to a board using bulldog clips.
3. Write about what your group or class would like to investigate.

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1. Identify the different variables in your experiment

Independent variable: …..........................................................................................................

Dependent variable: …............................................................................................................

Control variables: …................................................................................................................

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1. On the top of each piece of graph paper, write the location of your particle trap and the names of the people in your group.
2. How could you label your graph paper so that you can refer to different squares when you are describing your results?

Discuss this with your group.

1. Cover your graph paper with a layer of petroleum jelly. Make sure that you can still see the grid lines.
2. Choose a good site for your air particle trap and use garden wire to fix it to something.

**Make sure that you have had permission to put your trap here!**

## Results

1. Once you have collected your particle traps, count how many particles there are in each square. You can use a magnifying glass and a microscope to help.
2. Write down how many particles are in each square using the table below.

You should have one table for each of your particle trap locations.

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** | **10** | **11** | **12** |
| **A** |  |  |  |  |  |  |  |  |  |  |  |  |
| **B** |  |  |  |  |  |  |  |  |  |  |  |  |
| **C** |  |  |  |  |  |  |  |  |  |  |  |  |
| **D** |  |  |  |  |  |  |  |  |  |  |  |  |
| **E** |  |  |  |  |  |  |  |  |  |  |  |  |
| **F** |  |  |  |  |  |  |  |  |  |  |  |  |
| **G** |  |  |  |  |  |  |  |  |  |  |  |  |
| **H** |  |  |  |  |  |  |  |  |  |  |  |  |
| **I** |  |  |  |  |  |  |  |  |  |  |  |  |
| **J** |  |  |  |  |  |  |  |  |  |  |  |  |
| **K** |  |  |  |  |  |  |  |  |  |  |  |  |
| **L** |  |  |  |  |  |  |  |  |  |  |  |  |

Calculate the mean number of particles in each square: ..............................................................

**Conclusion**

Compare everyone’s results for the mean number of particles, then answer these questions:

1. Which area(s) had the highest pollution?

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1. Did any of the sample cards have more or less pollution than you expected?

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3. Describe how the outdoors pollution look different to the indoors pollution.

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1. Why do you think the results for the outdoors pollution were different to the ones for the indoors pollution?

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