

Memory cards



Goal

Facilitate ākongā's learning of scientific vocabulary related to greenhouse gases, while fostering their creativity and curiosity. By engaging in this activity, ākongā will have the possibility to create their own game set and will not only become familiar with scientific terminology but also develop critical thinking skills as they conceptualise matching pairs.

Proposed activity

Materials:


- Cards
- Whiteboard Pens

Instructions:

- Give the ākongā the set of cards.
- Shuffle the cards and place them upside down.
- Ākongā find the matching pairs. [Hint: matching cards have the exact same image].
- After they match all the pairs, ākongā can use the blank cards and whiteboard pens to propose their own matching pairs and play it again.
- At the end of the activity, each rōpū (group) can choose one or two pairs of cards and share their learning with the whole class.
- Kaiako can guide a discussion by asking why and how ākongā proposed the new matching pairs. Always trying to encourage them to have an optimistic view of the future.

Printing instructions:

If you want to print additional cards, we recommend the following printing settings:

- Size: A4
 - Full page slides (if asked)
 - Colour (suitable for printing B&W)
 - Print both sides
- 

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Memory cards - Key for teachers

Image

Pairs



I am called

CARBON DIOXIDE.
I am made of 1 carbon atom and 2 oxygen atoms.



I am called

NITROUS OXIDE.
I am made of 2 nitrogen atoms and 1 oxygen atom.



I am called

METHANE.
I am made of 1 carbon atom and 4 hydrogen atoms.



I am called

WATER.
I am made of 2 hydrogen atoms and 1 oxygen atom. Water vapor is a greenhouse gas!



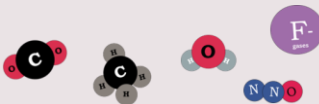
I am called

OZONE.
I am made of 3 oxygen atoms. I protect the Earth against UV radiation (in the stratosphere).



We are a group of gases called

FLUORINATED GASES.
We are powerful greenhouse gases, but usually not released as much as other greenhouse gases.



We are called

GREENHOUSE GASES, or GHGs. We absorb radiation and this helps to trap heat in the atmosphere.



“EVs” stand for






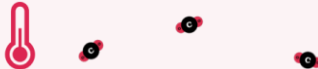



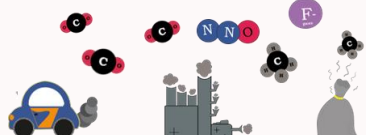
ELECTRIC VEHICLES.
They emit much fewer greenhouse gases than petrol vehicles.

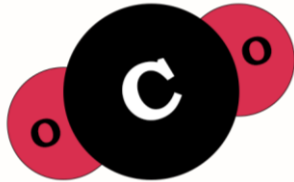


One source of greenhouse gases is

A FOSSIL FUEL VEHICLE.
It releases carbon dioxide and other air pollutants.

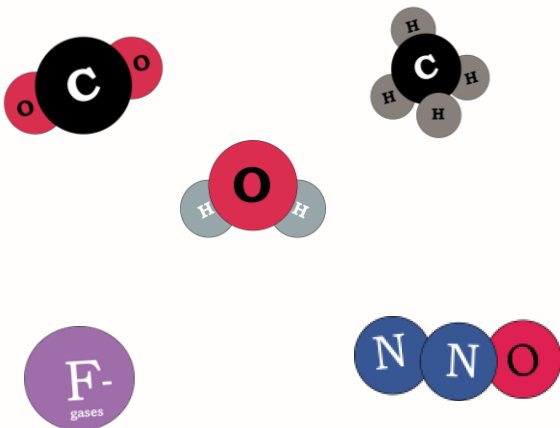
Memory cards - Key for teachers

Image		Pairs
	Plants take in carbon dioxide through	PHOTOSYNTHESIS during the day. Both during day and night they also respire, releasing carbon dioxide!
	Things like	WIND AND TEMPERATURE, can change how much greenhouse gases are in the air.
	When the wind is calm	molecules can keep close together, temporarily increasing the atmospheric CONCENTRATION.
	Low temperatures can	keep molecules close to each other, temporarily increasing the atmospheric CONCENTRATION.
	When the wind is strong	molecules are spread out far from each other, temporarily lowering the atmospheric CONCENTRATION.
	High air temperature	keep molecules far from each other, temporarily lowering the atmospheric CONCENTRATION.
	Scientists use instruments to measure	how much gases, like carbon dioxide and other greenhouse gases, are in the air. This is called the ATMOSPHERIC CONCENTRATION.
	Fossil fuel vehicles and landfill release greenhouse gases	EMISSIONS, which contribute to global warming.
	Atmospheric CONCENTRATION is	how CLOSE TOGETHER or how SPREAD OUT molecules (gases) are in the air.
	EMISSIONS are	THINGS THAT GO INTO THE AIR, like smoke or gases, often coming from cars, factories, or other sources.



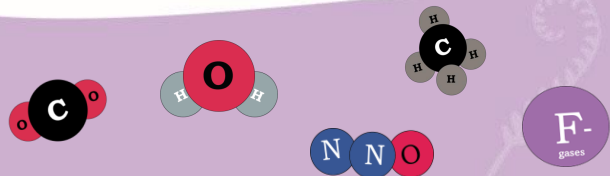
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CARBON DIOXIDE.
I am made of 1 carbon
atom and 2 oxygen
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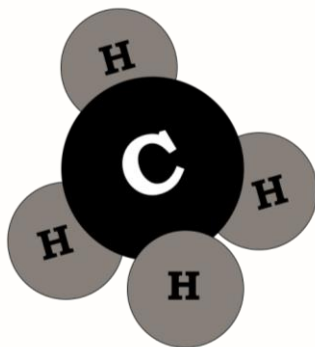






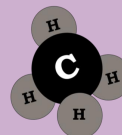
I am called

NITROUS OXIDE.
I am made of 2 nitrogen
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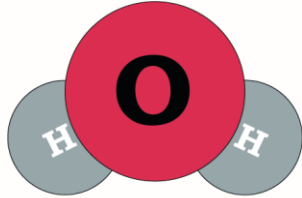


I am called

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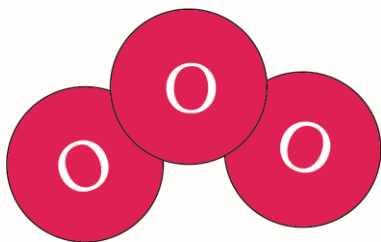
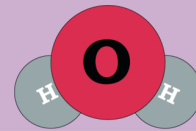






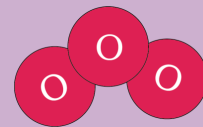
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I am made of 2
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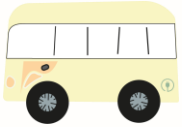


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I am made of 3 oxygen
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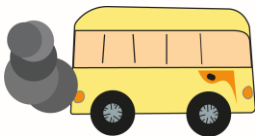






“EVs” stand for

ELECTRIC VEHICLES.
They emit much fewer
greenhouse gases than
petrol vehicles.



**One source of
greenhouse gases is**

**A FOSSIL FUEL
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It releases carbon
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pollutants.

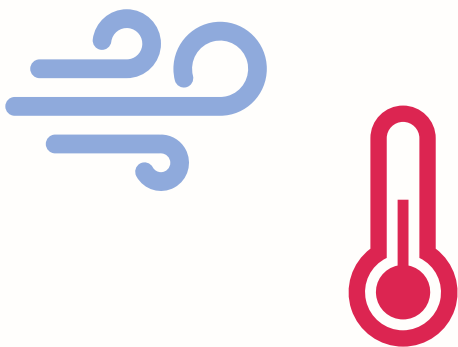






Plants take in carbon dioxide through

PHOTOSYNTHESIS
during the day. Both during day and night they also respire, releasing carbon dioxide!

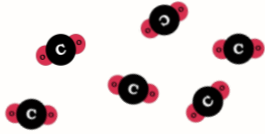


Things like

WIND AND TEMPERATURE,
can change how much greenhouse gases are in the air.

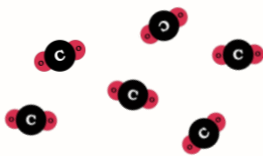






**When the wind is
calm**

**molecules can keep
close together,
temporarily
increasing the
atmospheric
CONCENTRATION.**

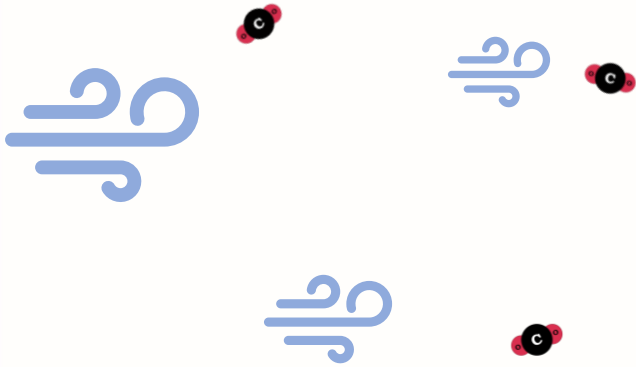


**Low temperatures
can**

**keep molecules close
to each other,
temporarily
increasing the
atmospheric
CONCENTRATION.**

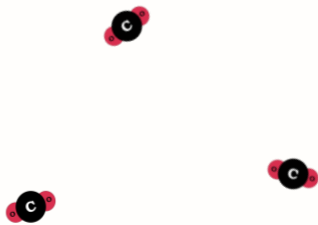
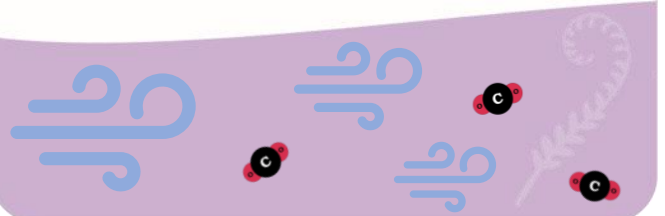






When the wind is strong

molecules are spread out far from each other, temporarily lowering the **ATMOSPHERIC CONCENTRATION.**

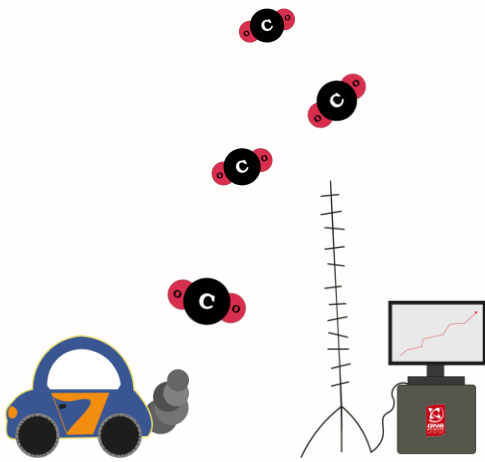


High air temperature

keep molecules far from each other, temporarily lowering the **ATMOSPHERIC CONCENTRATION.**

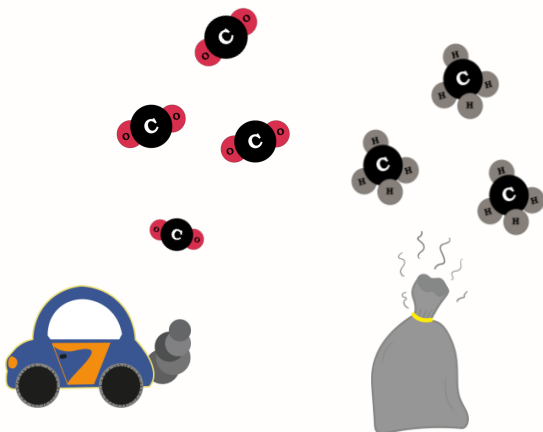
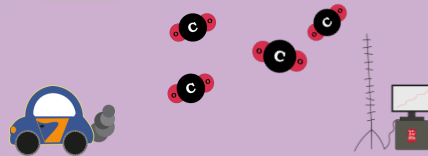






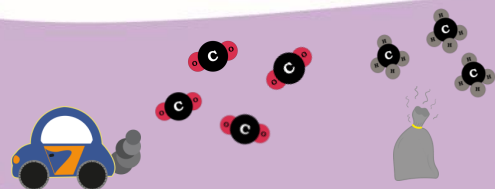
Scientists use instruments to measure

how much gases, like carbon dioxide and other greenhouse gases, are in the air. This is called the
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Fossil fuel vehicles and landfill release greenhouse gases

EMISSIONS,
which contribute to
global warming.



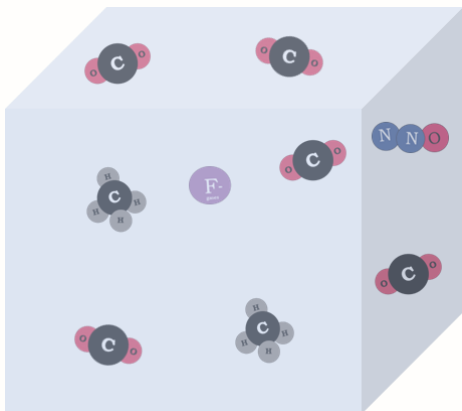




We are a group of gases called

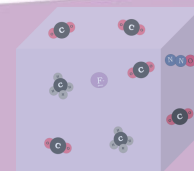
FLUORINATED GASES.

We are powerful greenhouse gases, but usually not released as much as other greenhouse gases.

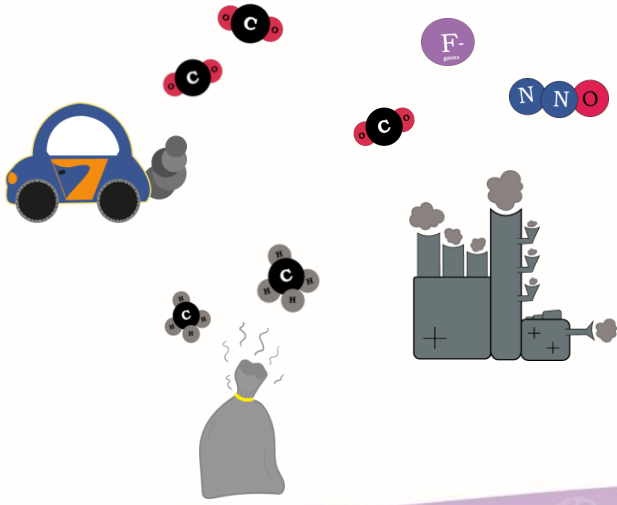


Atmospheric CONCENTRATION is

how CLOSE TOGETHER or how SPREAD OUT molecules (gases) are in the air.







EMISSIONS are

**THINGS THAT GO INTO
THE AIR, like smoke or
gases, often coming
from cars, factories, or
other sources.**

