

# gridlocks – can you unlock the grid?

## Pollutants in the air (14–16)

Before you answer the puzzles below fill in the table of pollutants using:

	reflect sunlight in the atmosphere	poisoning	carbon dioxide	NO <sub>x</sub>	CO <sub>2</sub>
pollutant	problem caused	details	when it's formed	formula	
nitrogen oxides	acid rain	dissolves in water to form acid	nitrogen combines with oxygen at high temperatures		
	climate change	is a greenhouse gas	when any fuel containing carbon is burnt		
sulfur dioxide	acid rain	dissolves in water to form acid	when fuel burnt contains sulfur impurities	SO <sub>2</sub>	
particulates	global dimming		by incomplete combustion of the fuel	C <sub>x</sub> H <sub>y</sub>	
carbon monoxide		poisons by stopping oxygen transport	by incomplete combustion of the fuel	CO	

### Gridlock 1

Each row, column and 2 x 2 box contains information about carbon dioxide, sulfur dioxide, particulates and carbon monoxide. Use your problem solving skills and the answers in the table above to fill in the blank boxes.

pollutant		problem caused	
carbon dioxide			poisoning
	carbon monoxide	climate change	
	global dimming		
		when fuel burnt contains sulfur impurities	
Problem caused		when it's formed	

Gridlock 2

# gridlocks – can you unlock the grid?

Each row, column and 2 x 2 box contains information about sulfur dioxide, nitrogen oxides, particulates and carbon monoxide.

pollutant		problem caused	
sulfur dioxide			acid rain
		by incomplete combustion of the fuel	by incomplete combustion of the fuel
$C_xH_y$			
formula		when its formed	

## Gridlock 3

You will need to identify which four pollutants are in this puzzle.

pollutant		problem caused	
	carbon dioxide		poisoning
			climate change
dissolves in water to form acid			$C_xH_y$
details		formula	

## Pollutants in the air (14–16) – answers

Before you answer the puzzles below fill in the table of pollutants using:

	reflect sunlight in the atmosphere	poisoning	carbon dioxide	NO <sub>x</sub>	CO <sub>2</sub>
pollutant	problem caused	details	when it's formed	formula	
nitrogen oxides	acid rain	dissolves in water to form acid	nitrogen combines with oxygen at high temperatures	NO <sub>x</sub>	
carbon dioxide	climate change	is a greenhouse gas	when any fuel containing carbon is burnt	CO <sub>2</sub>	
sulfur dioxide	acid rain	dissolves in water to form acid	when fuel burnt contains sulfur impurities	SO <sub>2</sub>	
particulates	global dimming	reflect sunlight in the atmosphere	by incomplete combustion of the fuel	C <sub>x</sub> H <sub>y</sub>	
carbon monoxide	poisoning	poisons by stopping oxygen transport	by incomplete combustion of the fuel	CO	

### Puzzle 1 – answers

Each row, column and 2 x 2 box contains information about carbon dioxide, sulfur dioxide, particulates and carbon monoxide. Use your problem solving skills and the answers in the table above to fill in the blank boxes.

pollutant		problem caused	
carbon dioxide	sulfur dioxide	global dimming	poisoning
particulates	carbon monoxide	climate change	acid rain
acid rain	global dimming	by incomplete combustion of the fuel	when any fuel containing carbon is burnt
poisoning	climate change	when fuel burnt contains sulfur impurities	by incomplete combustion of the fuel
Problem caused		when it's formed	

### Puzzle 2 – answers

# gridlocks – can you unlock the grid?

Contains the pollutants: sulfur dioxide, nitrogen oxides, particulates and carbon monoxide.

pollutant		problem caused	
sulfur dioxide	particulates	poisoning	acid rain
carbon monoxide	nitrogen oxides	acid rain	global dimming
NO <sub>x</sub>	SO <sub>2</sub>	by incomplete combustion of the fuel	by incomplete combustion of the fuel
C <sub>x</sub> H <sub>y</sub>	CO	nitrogen combines with oxygen at high temperatures	when fuel burnt contains sulfur impurities
formula		when it's formed	

## Puzzle 3 – answers

You will need to identify which four pollutants are in this puzzle.

pollutant		problem caused	
particulates	carbon dioxide	acid rain	poisoning
carbon monoxide	nitrogen oxides	global dimming	climate change
is a greenhouse gas	reflect sunlight in the atmosphere	CO	NO <sub>x</sub>
dissolves in water to form acid	poisons by stopping oxygen transport	CO <sub>2</sub>	C <sub>x</sub> H <sub>y</sub>
details		formula	