

Name: .....

Grade: .....

School: .....

Date: .....

## WithOnePlanet

- > Module 1:  
Carbon
- > Level:  
Years 3 to 4
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Introduce
- > Lesson 1:  
Carbon confidential
- > Student worksheet



# Introduce carbon

Lesson 1  
Class worksheets  
Carbon confidential

# Years 3 to 4



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INQuIRY     

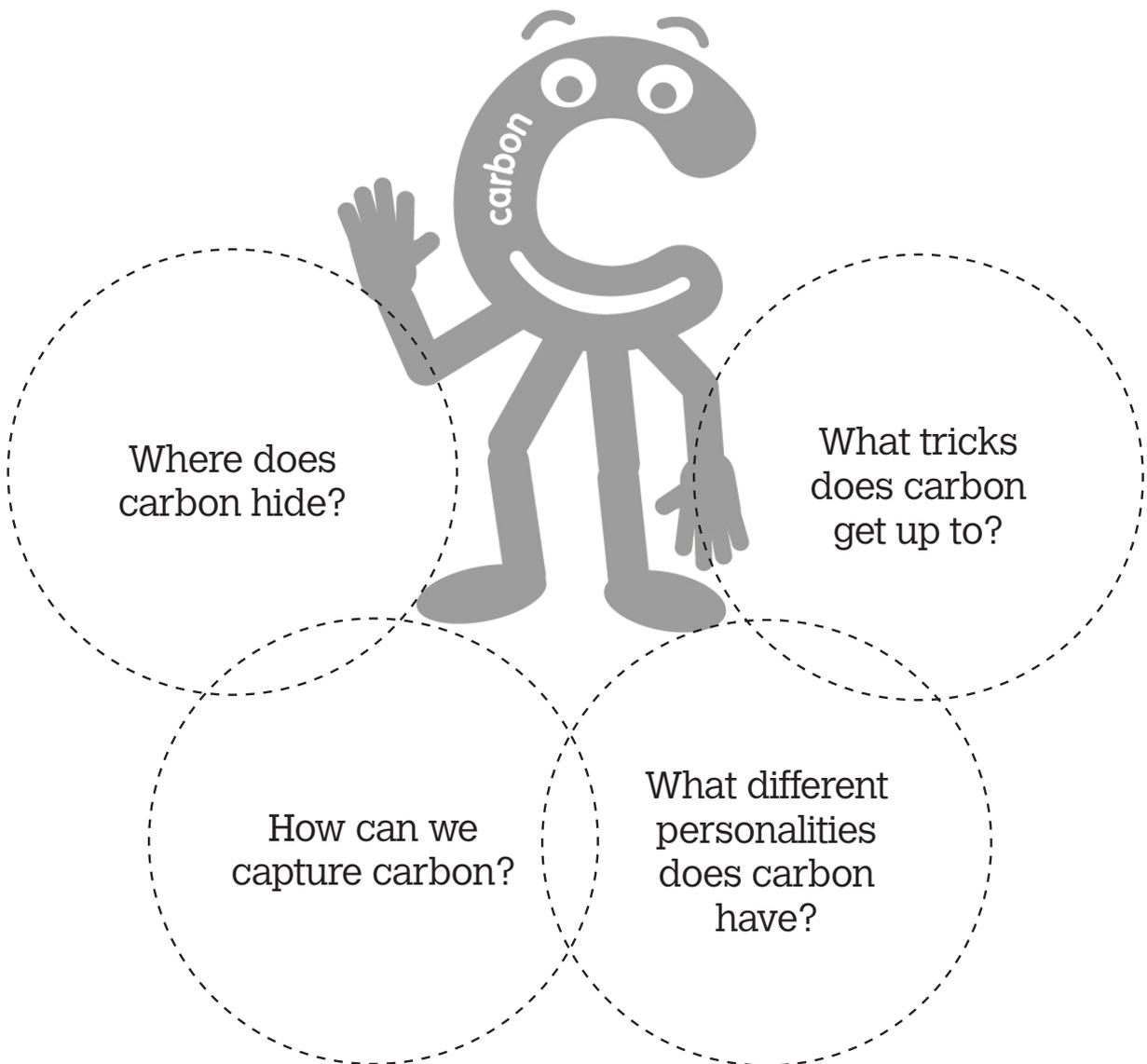
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Open education  
An xpend Foundation initiative

# Carbon confidential

## Group worksheets

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Where does carbon hide?

What tricks does carbon get up to?

How can we capture carbon?

What different personalities does carbon have?

# Suspect #1!





Carbon is the magic element for everything on Earth. All life on Earth depends on carbon (C).

Carbon is in nearly every substance that makes up our bodies, systems, organs, tissues and cells. When you breathe out, there is a lot of carbon dioxide (CO<sub>2</sub>).

Carbon has been known and used for thousands of years. It was never really discovered. Ancient people knew of the black soot left over after a fire. That was carbon.

## What is carbon?

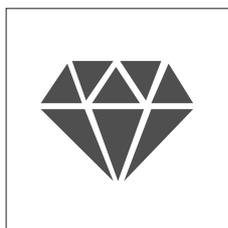
Carbon is an element on the Periodic Table, located between boron and nitrogen. It is a very stable element. Because it is stable, it can be found both by itself and also combined with other naturally occurring elements, like oxygen and hydrogen. Scientists describe the three states of carbon as diamond, amorphous, and graphite. It is the same graphite you find in pencils.

## Where else has carbon been found lurking around?



### 1. Plants and animals

All plants and animals have carbon as their most important element. Without carbon no living things would exist. Every living thing on Earth needs carbon to survive. We can't just eat carbon on its own - it needs to be in plants before humans can do anything with it.



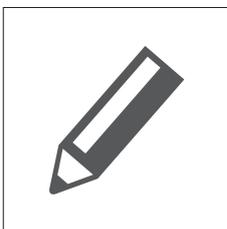
### 2. Diamonds

When you see a diamond it is one big chunk of carbon. After a very long time when carbon is left in a very high pressure area, all of the atoms are pushed together to form a crystal. That crystal is called a diamond.



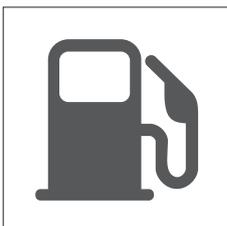
### 3. Charcoal

If your barbecue is a charcoal burning one, you may be surprised to know that charcoal is actually carbon. Carbon compounds such as charcoal store lots of energy and are very good at holding onto heat. That's why it can be used to cook your food.



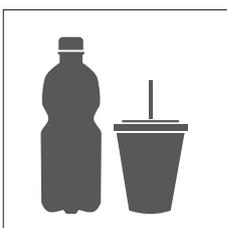
### 4. Graphite

Next time you take a look at your pencil, have a closer look at the black stuff in the middle that you write with. That is a special type of carbon called graphite.



### 5. Petrol and Oil

Next time you're at the petrol station you can tell everyone that carbon is the most important part of the petrol filling up the car. Petrol is made up of oil and oil is created from fossilised animals and plants, which died millions of years ago. You now know there is carbon in plants and animals ... that means there is carbon in oil and petrol too!



### 6. Plastics

Everything that is made of plastic has carbon in it. Like petrol, plastic things are made from oil. That means carbon is also the most important element in plastic.

So you see ... carbon is a pretty slippery customer!

Good luck in catching carbon, detectives ... you're gonna need it!

*Anonymous*

Source:

Rader's Chem4Kids 2013, *Carbon: Say It*, viewed 2 January 2014, <[http://www.chem4kids.com/files/elements/006\\_speak.html](http://www.chem4kids.com/files/elements/006_speak.html)>