



## Carbon Capture & Storage - Resources

Thank you for downloading this Carbon Capture & Storage resource from the *GeoBus* website.

This resource pack was developed in partnership with [The Crown Estate](#), with support from [The Global CCS Institute](#), [Royal Dutch Shell](#) and [SCCS](#). Special thanks are due to Megan O'Donnell and Katy Relp for their involvement. These resources, and further carbon capture and storage education materials can be found on the [CO<sub>2</sub> degrees challenge](#) website.

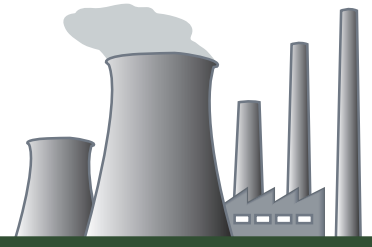
The development of this resource would not have been possible without the generous support of the *GeoBus* sponsors, which we gratefully acknowledge.



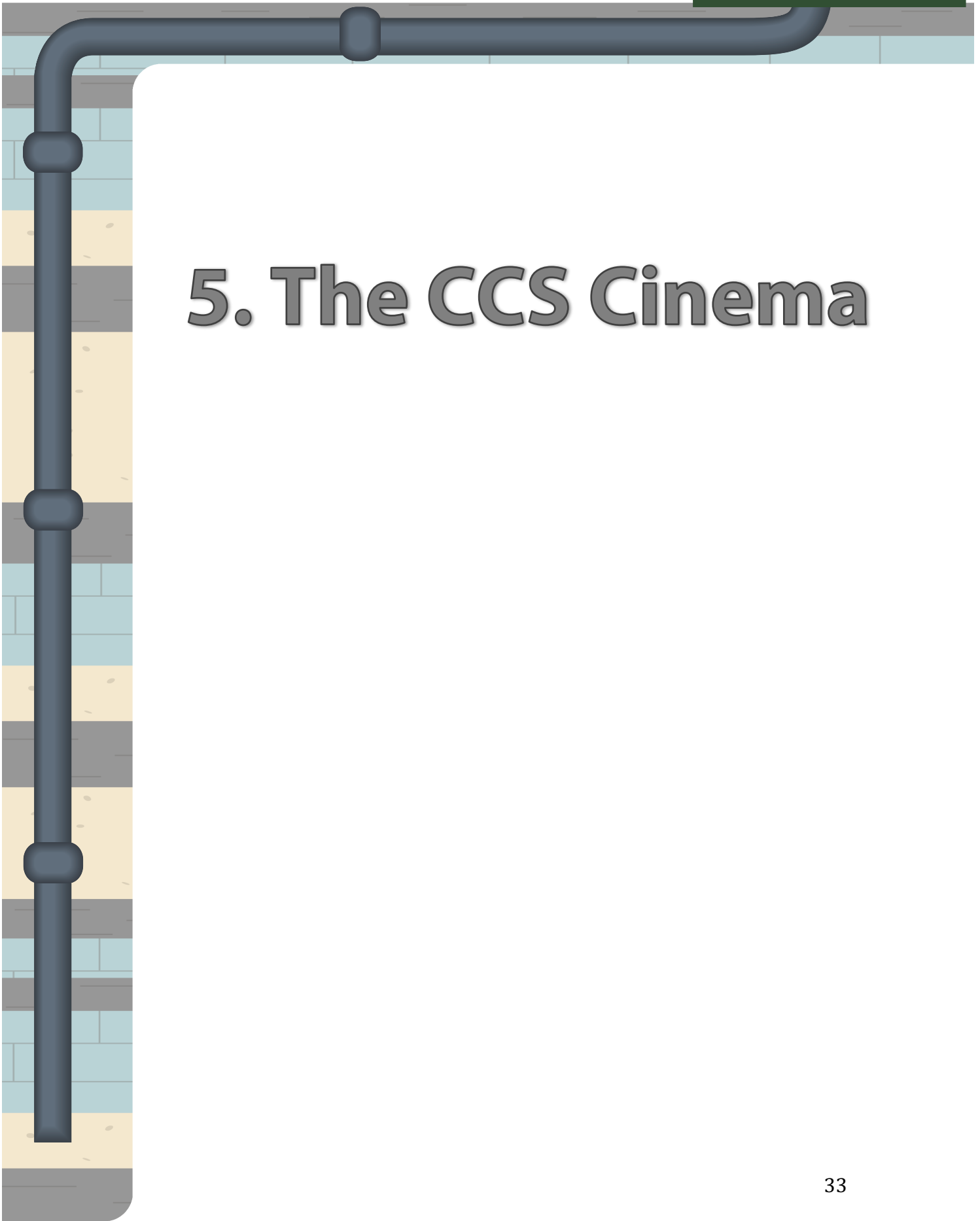
Earth & Environmental Sciences



# Chapter 1

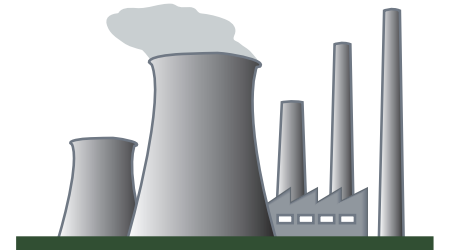


## 5. The CCS Cinema



# The CCS Cinema

## Teacher Notes

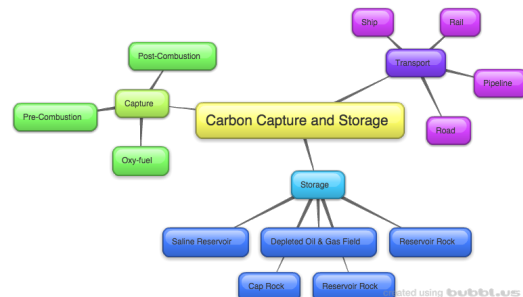
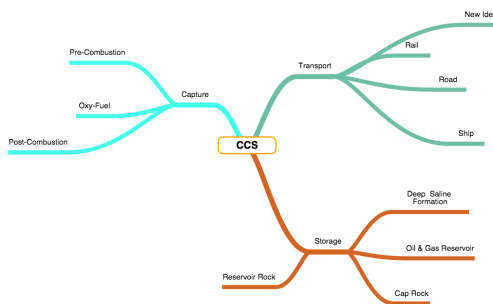


Activity Description	The students learn about the basic principles and terminology of the carbon cycle, CO <sub>2</sub> emissions, and carbon capture and storage technology through a series of videos. They learn to create mind maps to retain information from these videos.
Time	1 hour
Learning Outcomes	<ul style="list-style-type: none"><li>To understand what CO<sub>2</sub> is, where it comes from and why it is a problem</li><li>To create a Mind Map</li><li>To understand the basics of the carbon cycle</li><li>To understand basic carbon capture and storage terminology</li></ul>
Student Organisation	Individual or groups
Materials Needed	A4 paper and coloured pencils <b>or</b> computer and internet access CCS Cinema Student Worksheet

### Classroom Task

The students use computers to access and watch the four videos listed below. They then generate mind maps to summarise the important information from each video. The students can watch each video as many times as is required.

Mind maps can be drawn by hand or using an online mind mapping tool such as [bubbl.us](http://bubbl.us) **or** [drichard.org/mindmaps/#](http://drichard.org/mindmaps/#) illustrated in the examples below.



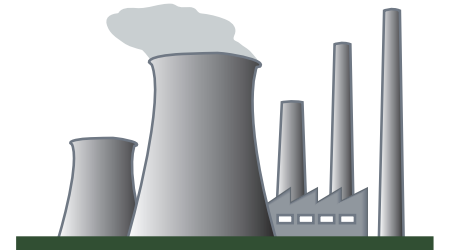
The students should complete the questions on the CCS Cinema Student Worksheet once they are happy their mind maps contain all the relevant information.

### Video Links:

- [More Energy, Less CO<sub>2</sub>. Shell.](https://www.youtube.com/watch?v=mQ8yfVV9i0U)  
<https://www.youtube.com/watch?v=mQ8yfVV9i0U>
- [Climate 101, with Bill Nye.](https://www.youtube.com/watch?v=3v-w8Cyfoq8)  
<https://www.youtube.com/watch?v=3v-w8Cyfoq8>
- [Capturing Carbon to Store it Underground, Shell.](https://www.youtube.com/watch?v=f3T9B83rZss)  
<https://www.youtube.com/watch?v=f3T9B83rZss>
- [What to do with CO<sub>2</sub>?](http://www.wonderville.ca/asset/whattodowithCO2)  
<http://www.wonderville.ca/asset/whattodowithCO2>

# The CCS Cinema

## Student Worksheet



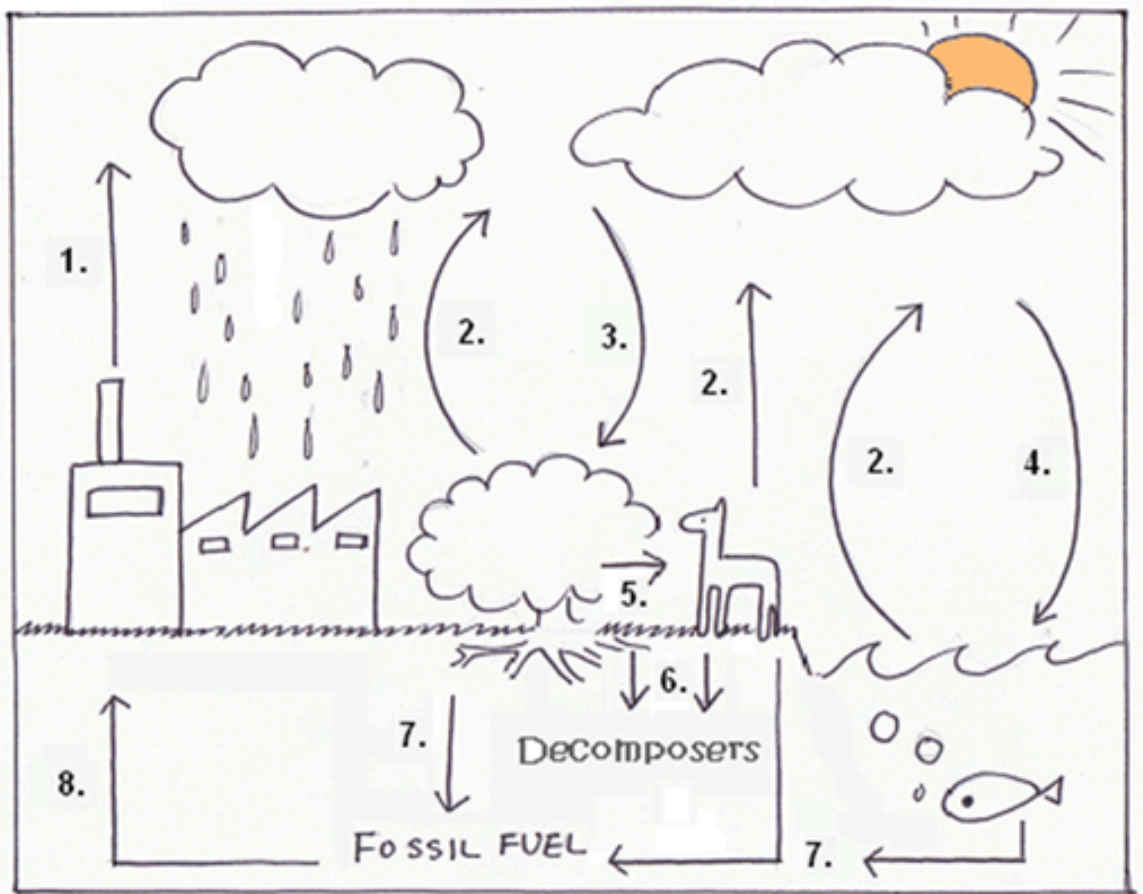
Mind maps are a good way of presenting information you need to remember. They use colours and connected lines to help your brain to link and recall tricky concepts.

Watch the following videos and make an A4 mind map for each one.

- [More Energy, Less CO<sub>2</sub>, Shell.](#)
- [Climate 101, with Bill Nye.](#)
- [Capturing Carbon to Store it Underground, Shell.](#)
- [What to do with CO<sub>2</sub>?](#)

Use your mind maps to help you answer the following questions:

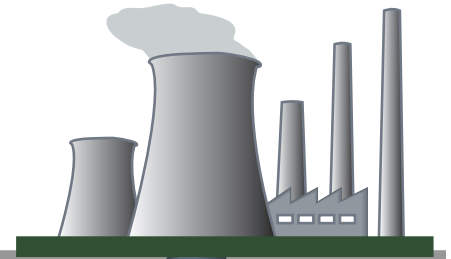
1. Where can you find carbon?



Artwork by Julie Han

# The CCS Cinema

## Student Worksheet



2. Can you match the numbers to the processes of the carbon cycle illustrated on the previous page?

- |   |                  |
|---|------------------|
| 1 | decomposition    |
| 2 | respiration      |
| 3 | extraction       |
| 4 | fossilisation    |
| 5 | oceanic exchange |
| 6 | photosynthesis   |
| 7 | consumption      |
| 8 | combustion       |

3. What is the problem with CO<sub>2</sub>?

4. Can you draw a molecule of CO<sub>2</sub>?

5. Can you name three types of fossil fuel?

6. Can you describe carbon capture and storage in three sentences?