

Great
Science
Share
for SCHOOLS

Great Computing Share 7-11 years Teaching Slides

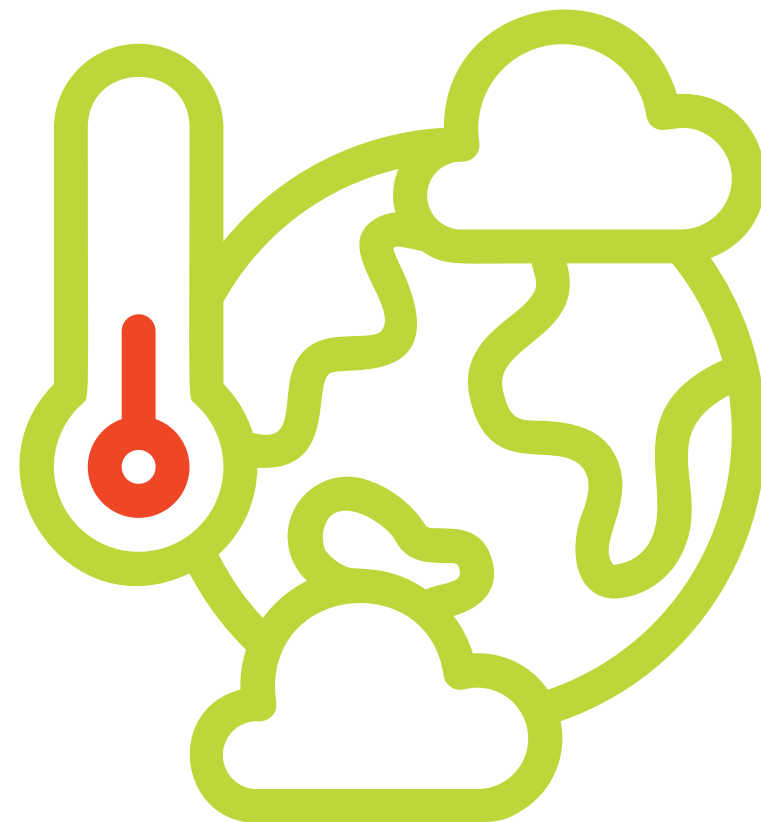
True or false?

The Earth's average temperature has increased by 1 degree Celcius in the last 100 years.

The warming of the planet is harming plants and animals.

When we use energy, carbon dioxide is emitted into the Earth's atmosphere.

Carbon dioxide is a greenhouse gas which contributes to the warming of the Earth.



One school cannot do anything to combat climate change.

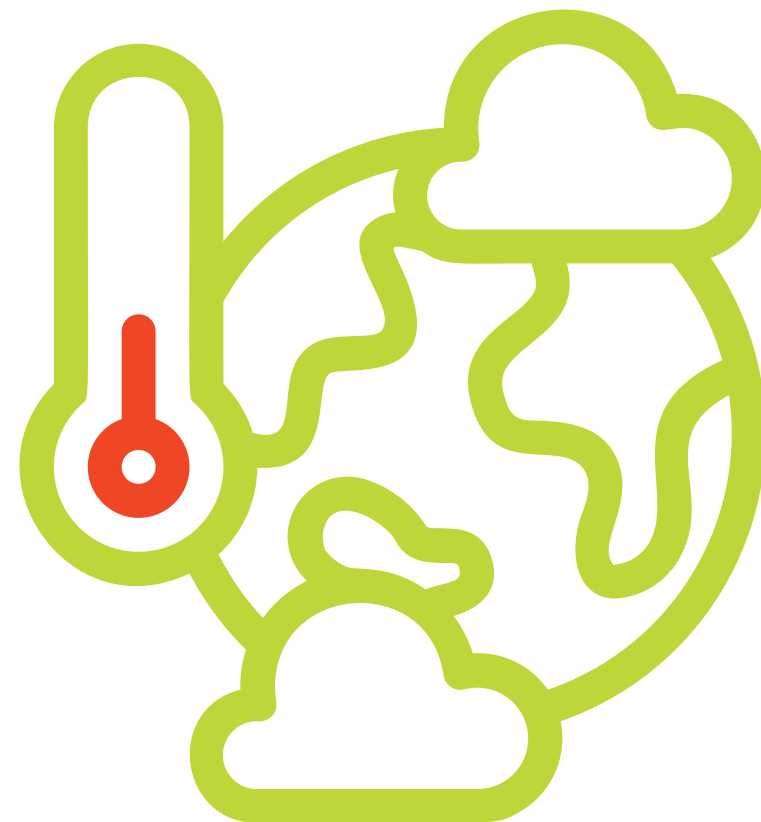
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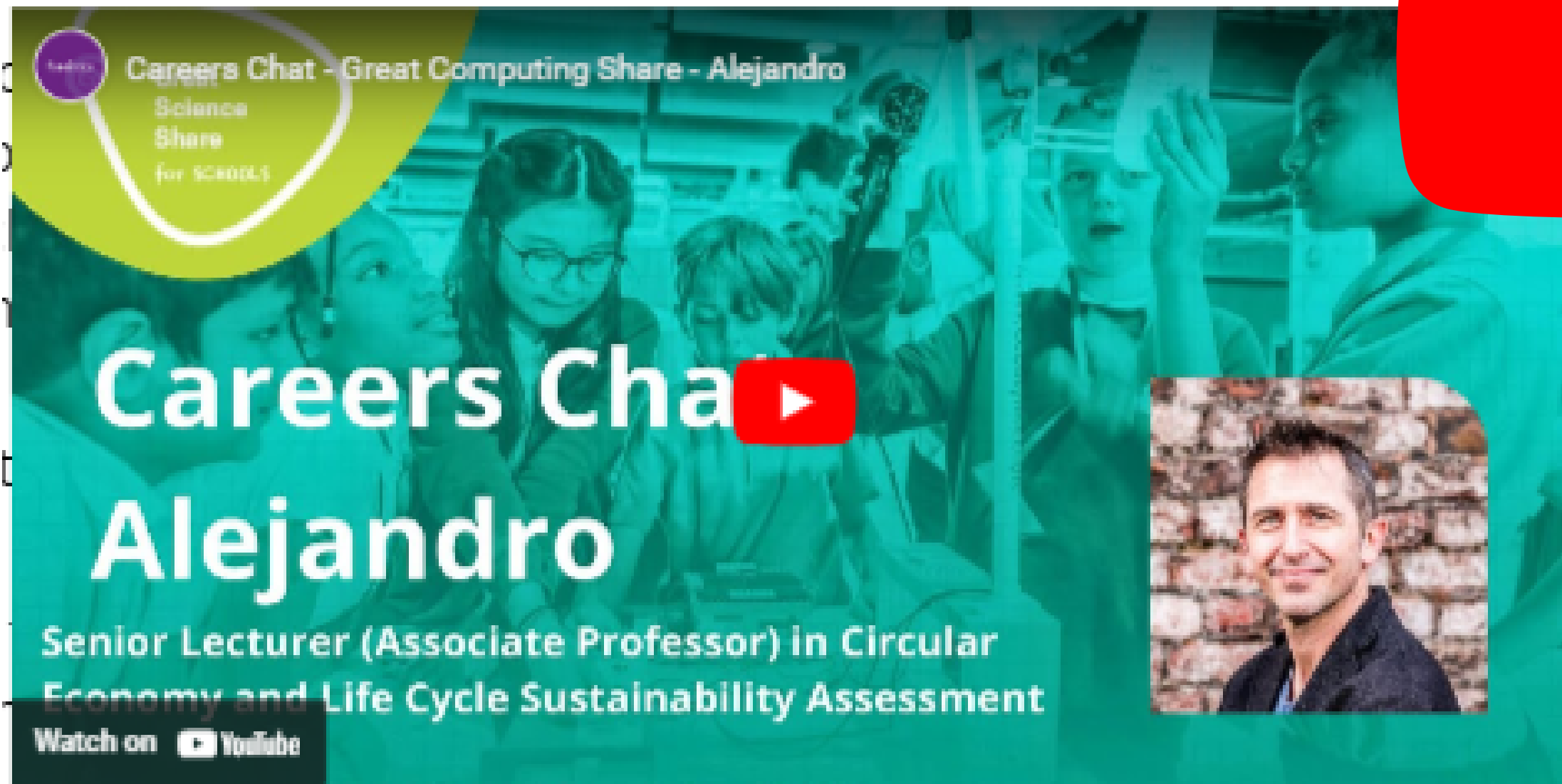


~~One school cannot do anything to combat climate change.~~

Which types of machines and technologies in our school contribute to climate change?



What is the role of scientists in climate change?




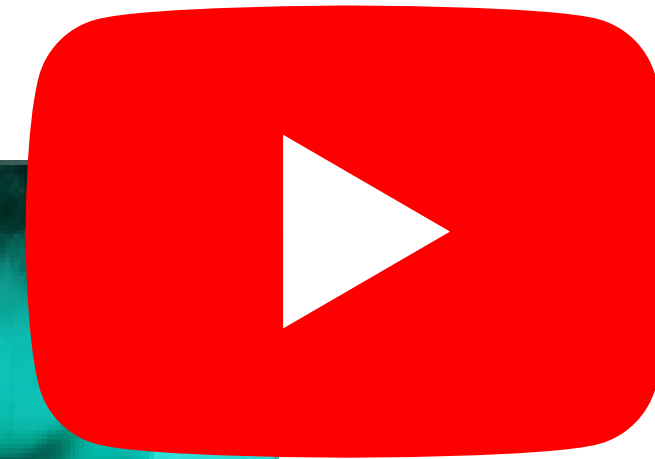
Leaders
Careers Chat - Great Computing Share - Alejandro
Science Share
for SCHOOLS

Careers Chat

Alejandro

Senior Lecturer (Associate Professor) in Circular Economy and Life Cycle Sustainability Assessment

Watch on  YouTube



Great Science Share for SCHOOLS

Careers Chat



MY JOURNEY INTO SCIENCE
As a child, I knew I wanted to be someone that takes care of the environment. My favourite subjects at school were biology, chemistry and music. I was not so keen on art and drawing though. At university, I studied Environmental Science and then went into Environmental Engineering because that was my passion. When I finished my studies, I didn't really know what I wanted to do next. It was my flatmate who persuaded me to explore the world of research and apply for a PhD. It was the best decision I ever made - I discovered that I love research and teaching. I worked in industry but that was not for me so I came back to research.

MY JOB
Part of my job is to be a lecturer at a university. I teach about sustainability, climate change, impact and different sources of energy. I use maths in my job to put different environmental impacts into numbers so that they can be compared and improved. As the Head of Sustainability at the School of Engineering where I work, I am responsible for improving the sustainability of the university itself. I am very lucky to work with an amazing team of people who all have the same goals as me. It's important to me to know that that my work is meaningful and will have an impact on the world - that's what motivates me to get up every morning! My days are full of variety and I get to meet lots of very interesting people.

MY HOBBIES
Recently, I took on a running challenge and ran 70km in 11 hours - it was very tough but I am proud that I completed it! In my spare time I like reading true crime and mystery books. I also enjoy cooking and I make quite a good paella. I have been collecting stamps for over 30 years and I'm very proud of my collection!

A QUESTION I WANT TO ASK
What one action would make the biggest impact on making our world more sustainable?

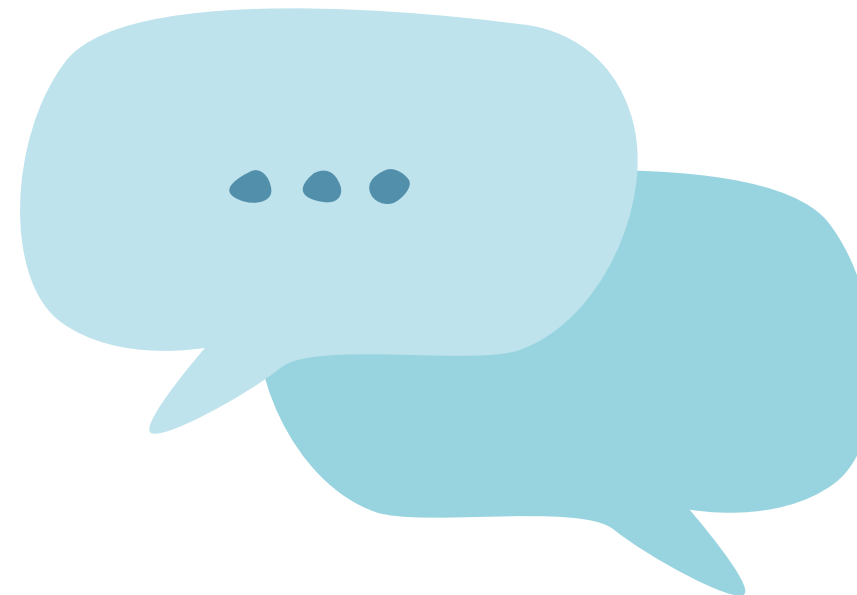
ABOUT ALEJANDRO GALLEGO SCHMID
SENIOR LECTURER (ASSOCIATE PROFESSOR) IN CIRCULAR ECONOMY AND LIFE CYCLE SUSTAINABILITY ASSESSMENT
UNIVERSITY OF MANCHESTER
ENGINEERING FOR SUSTAINABILITY

Which types of machines and technologies in our school contributes to climate change?

Type of technology
Desktop computer
Laptop
Tablet device
Interactive screen
Tumble dryer
Washing machine
Dishwasher

Do they produce carbon dioxide a little or a lot?


We think...



because...



Carbon dioxide emissions from different types of machines and technologies

Type of technology	Carbon dioxide emissions (g)
Desktop computer	492 g per school day
Laptop	42 g per school day
Tablet device	78 g per school day
Interactive screen	78 g per school day
Tumble dryer	1400 g per use 
Washing machine	700 g per use
Dishwasher	800 g per use

Scratch program part 1 - Sprite Pupil 1

The image shows a Scratch script for a sprite named "Pupil 1". The script is composed of several blocks connected in a sequence:

- when green flag clicked** (orange block)
- switch backdrop to Green planet** (purple block)
- Say We have been investigating how much carbon dioxide is emitted by different types of technology. for 6 seconds** (purple block)
- wait 3 seconds** (orange block)
- switch backdrop to factory** (purple block)
- say It is a gas that is produced when we burn fossil fuels to make energy. for 5 seconds** (purple block)
- wait 4 seconds** (orange block)
- switch backdrop to climate change** (purple block)
- say Yes it is a greenhouse gas. These might be making our planet warmer. for 5 seconds** (purple block)
- wait 3 seconds** (orange block)
- switch backdrop to storm** (purple block)
- say Yes it can lead to more violent storms for 6 seconds** (purple block)

Scratch program part 2 - Sprite pupil 2

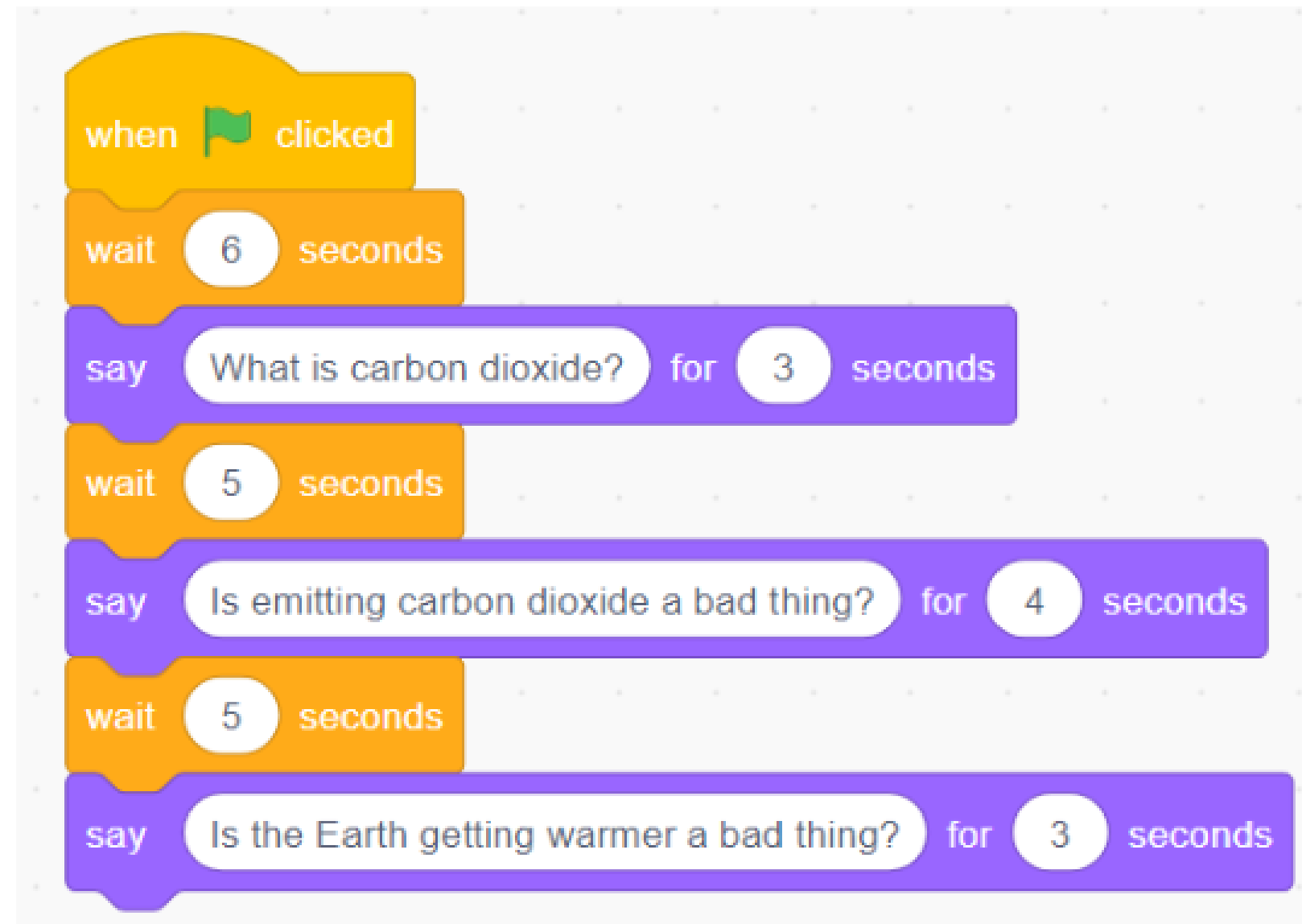
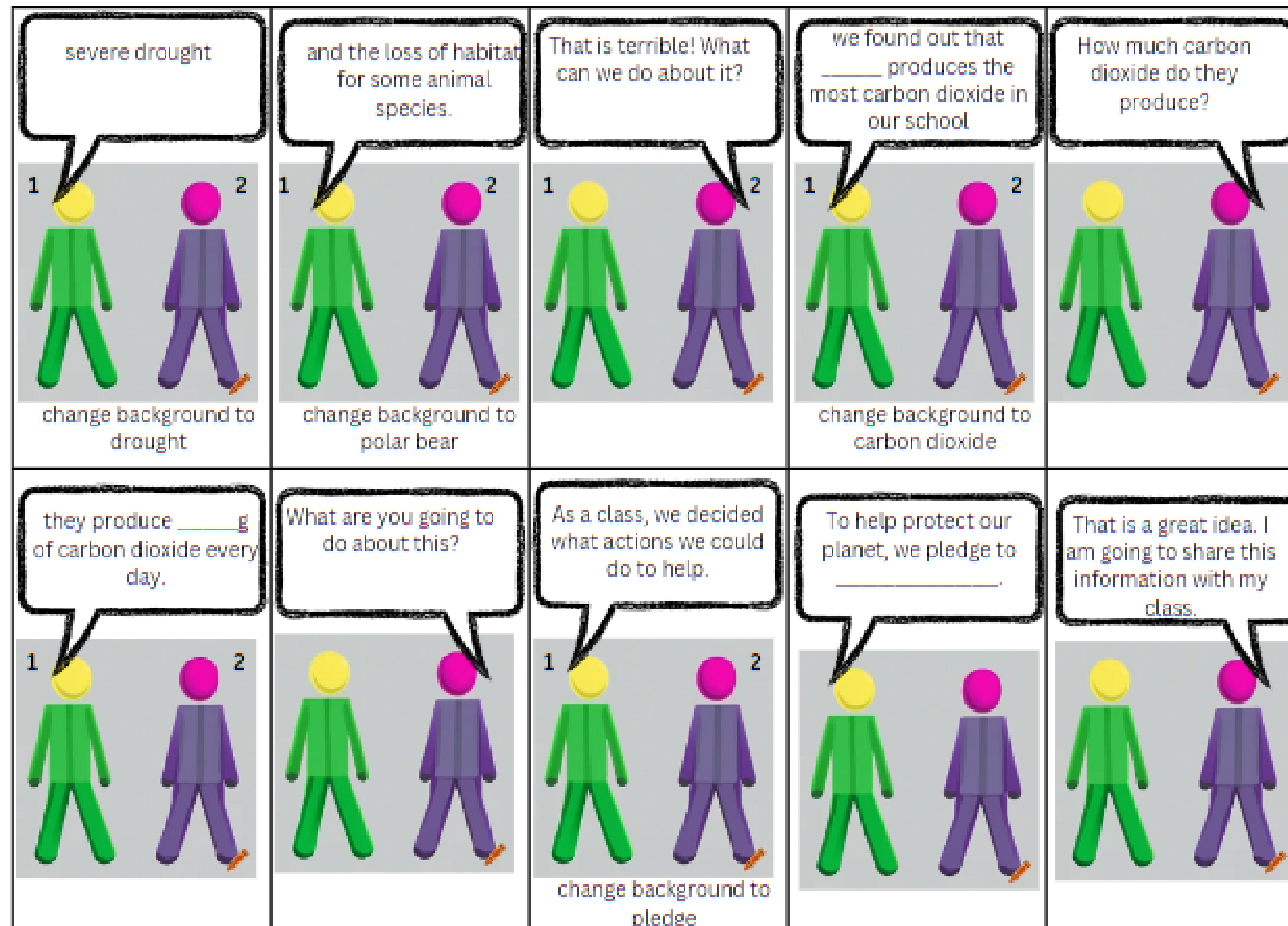




image source: <https://scratch.mit.edu/projects/929855970>

Storyboard to continue the animation



In partnership with

