

GEOENGINEERING AND CLIMATE MODELLING WITH DR BEN KRAVITZ

TALKING POINTS

KNOWLEDGE

1. What is a climate model?
2. What are some geoengineering techniques that are being widely researched today?

COMPREHENSION

3. How could aerosols be used to cool Earth's climate?
4. What natural process does adding aerosols to the stratosphere aim to mimic?

APPLICATION

5. Why are climate scientists so cautious about geoengineering?
6. How can climate models be used to assess whether or not geoengineering techniques should be used?

ANALYSIS

7. Why is geoengineering not a permanent solution to climate change?
8. Why is it better to ask, 'Can geoengineering achieve certain goals?' rather than, 'What will happen if we do geoengineering?'?

SYNTHESIS

9. If geoengineering is ever carried out, how do you think it would affect our efforts to tackle climate change?

EVALUATION

10. Do you believe that geoengineering should ever be carried out? Why/why not?

ACTIVITIES YOU CAN DO AT HOME OR IN THE CLASSROOM

1. Choose a geoengineering technique from *Britannica's* website: www.britannica.com/science/geoengineering

Research the technique in more depth, and create a poster explaining how the technique works, as well as its potential pros and cons.

2. Make your own predictions of climate change with this Climate Change Modelling in the Classroom resource: www.scienceinschool.org/wp-content/uploads/2014/11/issue9_climate.pdf
3. Use the climate modelling software Educational Global Climate Modeling Suite (EdGCM) to visualise how temperature and snow coverage might change over the next 100 years: serc.carleton.edu/eet/envisioningclimatechange/index.html

MORE RESOURCES

Check out some articles Ben has written about his research:

- Climate engineering research is essential to a just transition and sustainable future: thehill.com/opinion/energy-environment/559859-climate-engineering-research-is-essential-to-a-just-transition-and
- Ten years of GeoMIP: geoengineering.environment.harvard.edu/blog/ten-years-geomip
- Can solar geoengineering be tailored to reduce inequality? www.c2g2.net/can-solar-geoengineering-be-tailored-to-reduce-inequality/
- Designer climates? <https://geoengineering.environment.harvard.edu/blog/designer-climates>

And a few more about Ben's research, which he did not write:

- The problem with playing God to fix the climate: It might not work: www.politico.eu/article/climate-change-global-warming-ipcc-geoengineering-technology/
- Is it too late? <https://sciencenode.org/feature/Is%20it%20too%20late%20122920.php>
- What is geoengineering—and why should you care? www.technologyreview.com/2019/08/09/615/what-is-geoengineering-and-why-should-you-care-climate-change-harvard/