



eden  
geothermal

# Eden Geothermal Project

## Key Stage 2 workbook



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geothermal



European Union  
European Regional  
Development Fund



HM Government



CORNWALL  
COUNCIL  
*one and all - even hag all*



Using the video you have just watched, try to answer these questions! Use the keywords on the back sheet to help you.

**Lesson Objectives:**

- 1. Understand why we need to move to renewable energy sources**
- 2. Learn what geothermal energy is**
- 3. Gain knowledge about geothermal energy at the Eden Project in Cornwall**
- 4. Find out about the rocks and geology needed for geothermal energy production**

I get it!	Not quite	I need help
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

How much of the energy used in the UK is heat (%)?

\_\_\_\_\_

Can you explain why fossil fuels are non-renewable?

\_\_\_\_\_

\_\_\_\_\_

What is the name of the gas that is released when we burn fossil fuels and what does it contribute to?

\_\_\_\_\_

\_\_\_\_\_

What is meant by a 'renewable' energy?

\_\_\_\_\_

How many renewable energy sources can you name?

\_\_\_\_\_

\_\_\_\_\_

Geothermal energy is a renewable energy - where does it come from and what does the word mean?

Geo = \_\_\_\_\_

Thermal = \_\_\_\_\_

How long has electricity made from geothermal energy been used?

\_\_\_\_\_

How many countries already use geothermal energy?

\_\_\_\_\_

Geothermal is often produced in areas with volcanoes. Why is this?

\_\_\_\_\_

Name TWO benefits of geothermal energy.

1. \_\_\_\_\_

2. \_\_\_\_\_

Cornwall doesn't have volcanoes but it does have a lot of a special type of rock that produces heat. Can you name the rock?

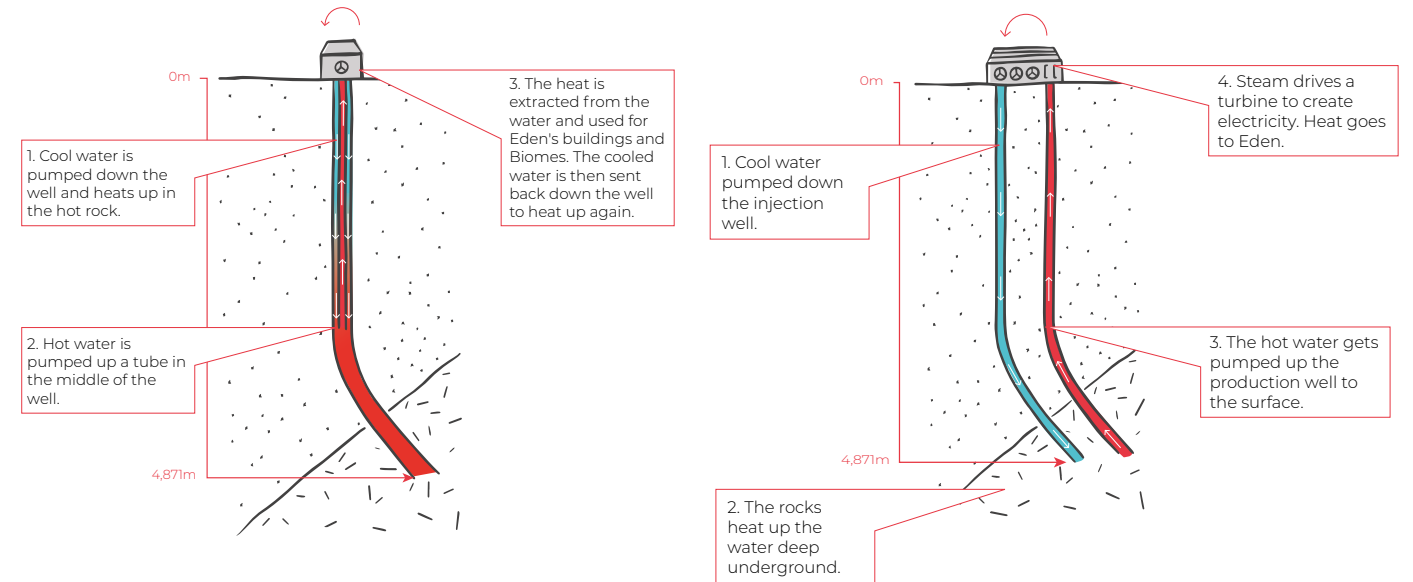
\_\_\_\_\_

Eden Geothermal have **2 phases** for their project; the first phase is **heat** for the Eden Project's Biomes and buildings, the second phase is to produce **heat AND electricity**.

Can you name each diagram below as either phase 1 or phase 2? Can you also name which diagram shows **heat** and which shows **heat and electricity**?

Phase \_\_\_\_ : \_\_\_\_\_

Phase \_\_\_\_ : \_\_\_\_\_



What type of rock is granite and how was it formed?

\_\_\_\_\_

What other minerals have been found during the drilling at Eden Geothermal?

\_\_\_\_\_

What is it called when rocks allow water to flow through them?

\_\_\_\_\_

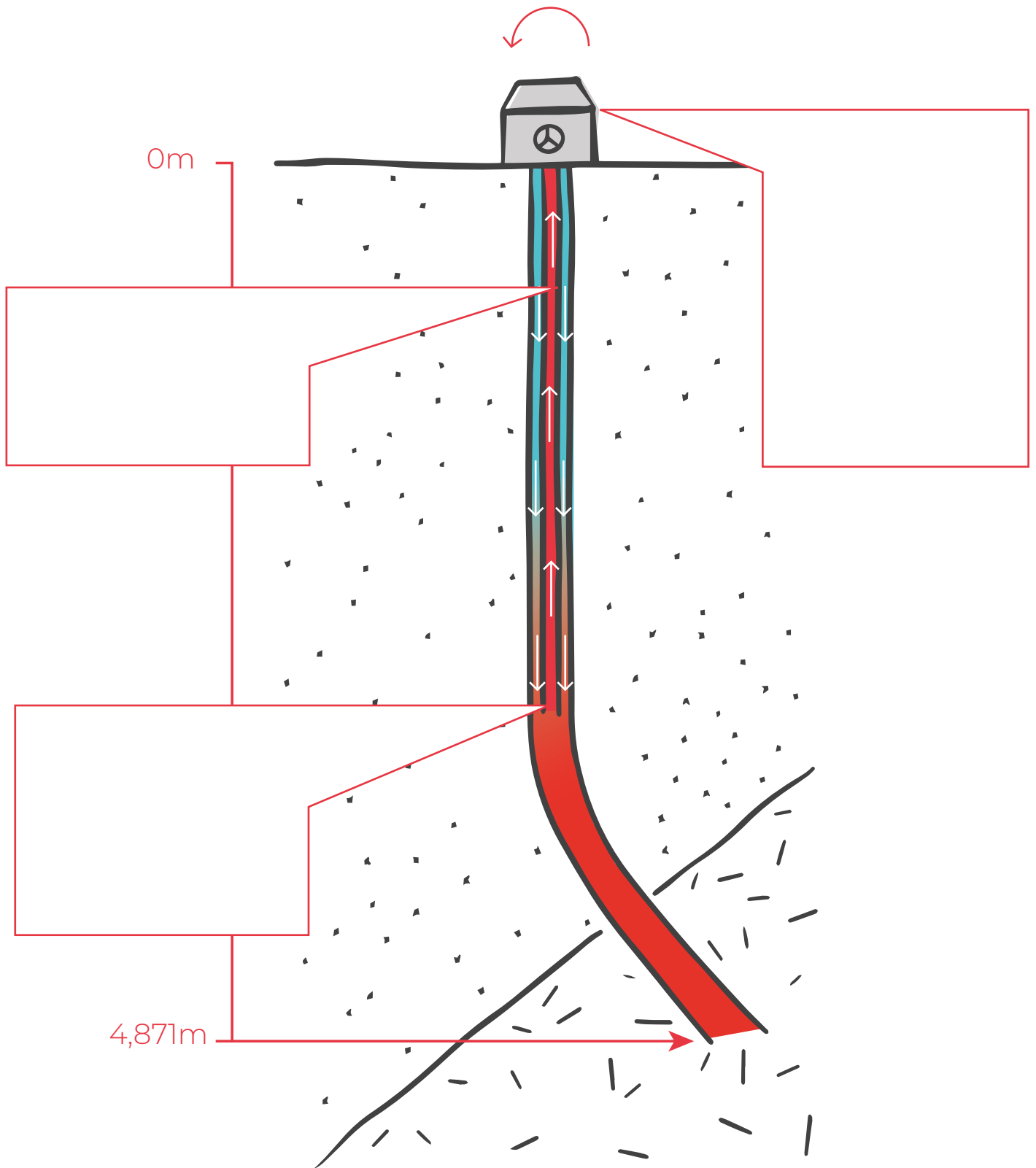
Can you explain how the heat is carried to the surface from the rock deep underground? (Clue: water is important!)

\_\_\_\_\_

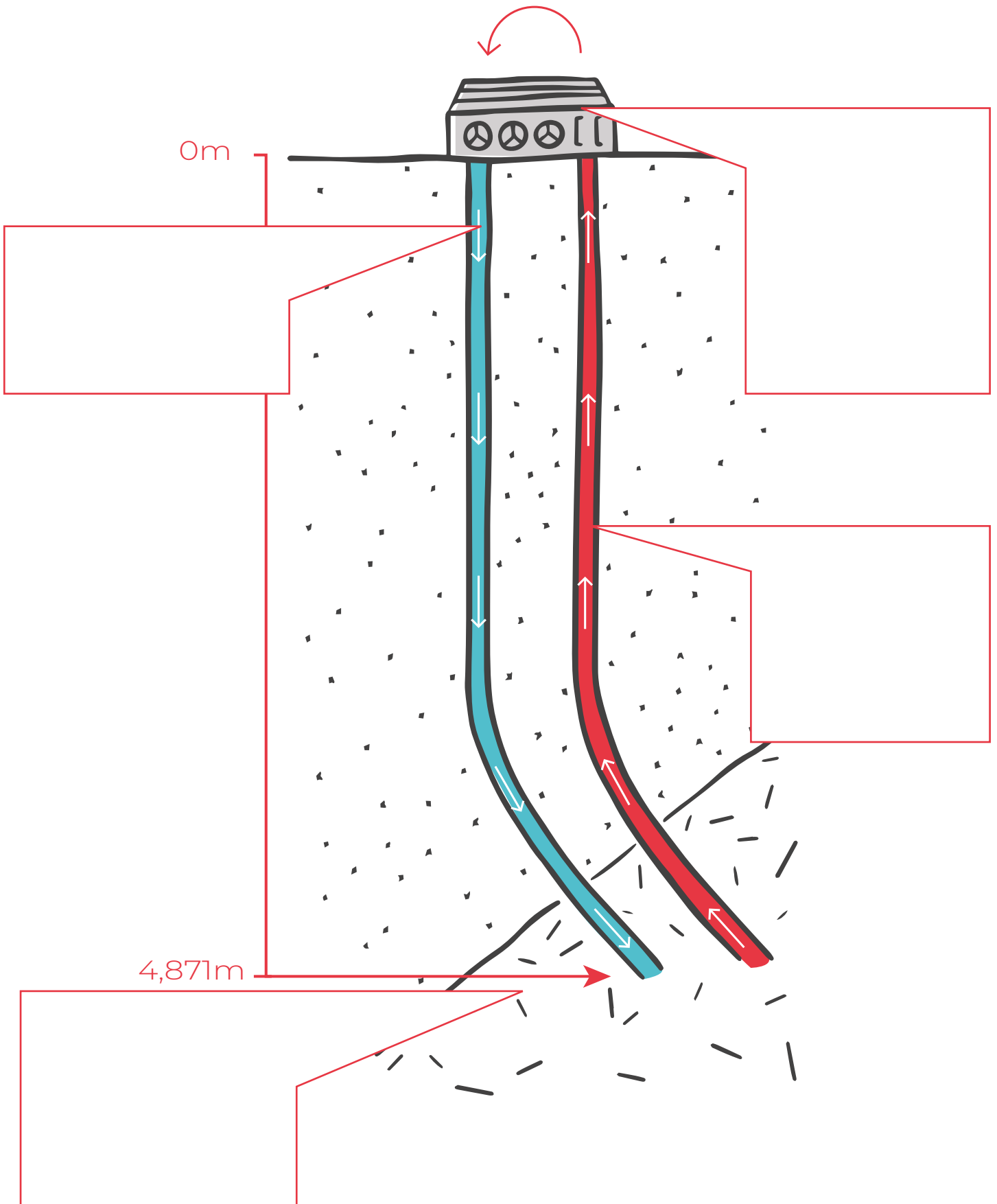
\_\_\_\_\_



# PHASE ONE \_ HEAT



# PHASE TWO \_ HEAT & ELECTRICITY



## Extra Activities

Some of these suggestions could be extra activities in the classroom, or set as homework.

You can use the information you have learnt about today, as well as doing your own research.

- **Use your graphic design skills**

Create a poster all about geothermal energy - imagine you are selling the idea of geothermal to an audience

- **Be a journalist**

Write an article about geothermal energy and what's happened at Eden Geothermal

- **Produce a masterpiece**

In a team, design and make a collage about geothermal for a school wall display

- **Speak your mind**

Share your knowledge about geothermal by presenting to a group, individually or in a team

### KEY WORDS

Oil	Steam
Carbon dioxide or CO <sub>2</sub>	Granite
Wind	Gas
Solar	Coal
Igneous	Carbon
Tin	Renewable energy
Copper	Fossil fuels
Pyrite (Fool's gold)	Earth
Tide	Heat
Wave	Magma
Geothermal	Climate change
Biomass	Permeability
Hydropower	Electricity
Water	Wells

If your school would like to share some of the work you have produced around Eden Geothermal and geothermal energy, please feel free to tag us on social media (Twitter/Facebook) @edengeothermal, or use the hashtag #edengeothermalschools.

Thanks!

