

# EARTHQUAKES



## WHAT IS THIS?

This activity pack will help you discover the topic of earthquakes and seismic waves. You will find out what causes an earthquake, the dramatic effects they have and what they can tell us about the Earth's deep interior.

These activities have been designed for Years 9 – 11 but they also include challenging activities that would be suitable for Years 12 – 13. Younger students are encouraged to use these activities and skip any tasks that are too challenging.

The activities all build from each other and we recommend that you follow them in order. This will give you a detailed insight into the world of seismology (that's the study of seismic waves). However, if you'd like to attempt any one of the activities on its own – go ahead! Just be aware that you might need to look back at previous worksheets to find out the answers to some of the questions. We have also included challenging optional activities (1b and 2b) if you want to put your geophysics skills to the test!

## WHAT DO I NEED?

You will need a pen, pencil and ideally you will also need access to a printer. If you do not have a printer many of our activities can be completed on your computer using PDF annotation software such as Notability, Foxit, PDF Annotate & Fill plus many more.

The experiments and building challenges will require items from your home. We will give alternatives to make them as accessible as possible but if you don't have access to the correct equipment don't be afraid to be creative – as long as it is safe and you have checked with an adult first. If you have an idea for alternatives to any of our experiments or if you think your creation is particularly nifty we'd love it if you'd share it with us on Twitter @GeoBus\_UCL but make sure you check with a parent or guardian first.

You may also need to use your school notes, books and the internet to help you complete the activities and challenges, but if you're really stuck, you'll also find answer packs on the GeoBus website (but no peeking until you've had a go first).

## WHAT ARE THE ACTIVITIES?

Activity	Equipment	Time	Difficulty
<b>1. Seismic Waves and Seismographs</b>	Pen, paper, box, scissors, string, cup, coins	60 - 90 minutes	Medium
1b. The Epicentre of an Earthquake.	Pen, paper, scissors, string, Blu-Tac, sticky tape, ruler	45 - 60 minutes	Challenging
<b>2. The Structure of the Earth</b>	Pen, pencil, ruler	60 - 90 minutes	Medium
2b. Trace the Seismic Waves	Pen or pencil	15 - 30 minutes	Challenging
<b>3. Building a shake-proof home</b>	Scissors, box, marbles/pens, building materials	45 - 60 minutes	Easy