

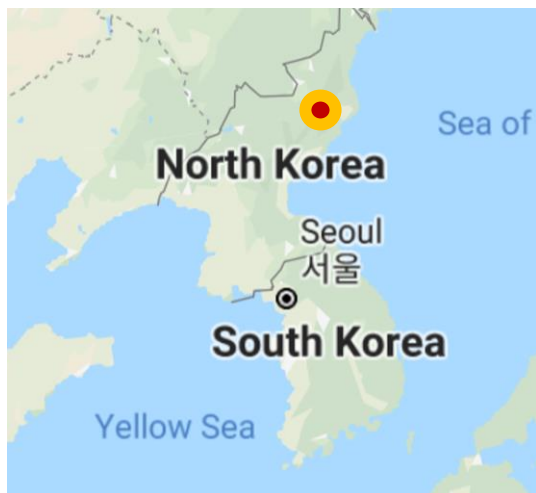
## Instructions

This exercise can be done in pairs. Students can keep working through stations for a set amount of time, after which results will be shared so that they can add all the information to their map.

Each student has their own worksheet. In their pairs they can read off the seismograms, use the graph to find distances (1 copy per pair) and add to their map (1 copy per pair). The students should measure the scale bar on the map and decide how to convert their value to be drawn on the map. You may need to initially check they can read the seismograms correctly.

## Answer sheet

The explosion was in North Korea. This is a real nuclear test site.



Station	Location	Distance from epicentre to station/ km	(S arrival time – P arrival time) /s
A	Beijing	1029	100
B	Taipei	1851	180
C	Sapporo, Japan	1029	100
D	Seoul	391	38
E	Siberian outpost	1337	130

(Students may not get exactly these answers as it is quite difficult to read very accurately off the seismograms. Even if the circles don't perfectly overlap the location should still be

- Extension 1: What are some assumptions we made for this calculation?

Could be ideas about how the speed of the wave through the Earth is not constant or the geometry being simplified.

- Extension 2: Draw the situation as a distance-time graph

