

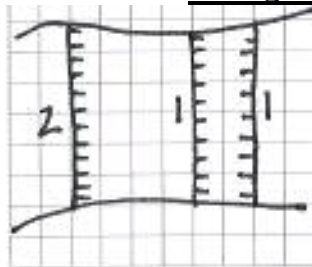
Mapping Underground!

Being able to show what the surface of our planet is like on a piece of paper has been one of the most important tools humans have. Imagine going to a new town or city without a map! Drawing these maps is a complex business. Mapmakers, called cartographers, use many techniques, even the data from satellites, to make sure they are producing accurate maps.

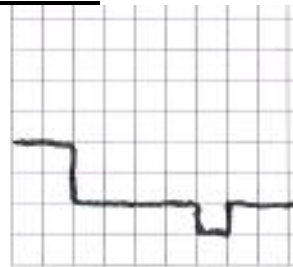
Creating a map underground in the dark with little light is a very difficult task. Not only do you have to be able to show the shape of the walls, but also what is happening to the floor and the roof of the cave.

A cave map uses different symbols to show on a *map view* (what the cave looks if seen from above) how the roof and floor are shaped. There are a few different symbols cave mappers use. This is one method that uses lines with small lines to represent floor changes and lines with dots to represent roof changes.

Changes to the floor

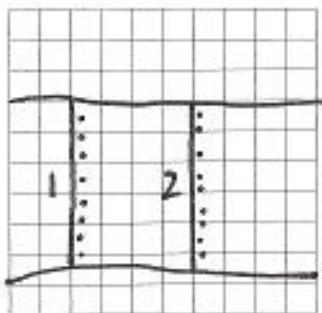


Map View

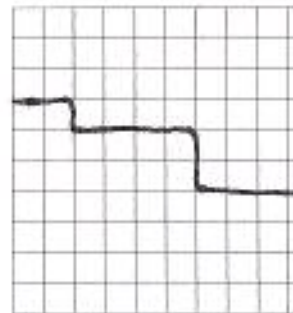


Side View

Changes to the roof

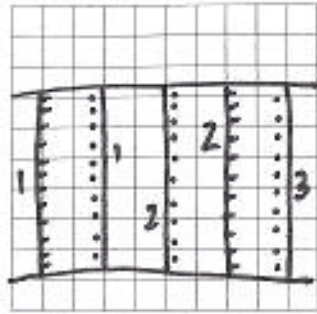


Map View

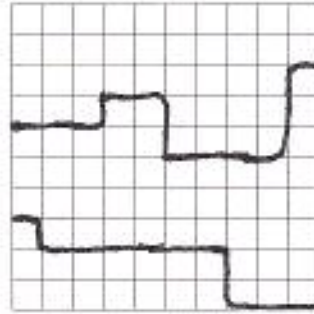


Side View

If both floor and roof changes are shown in a map it looks like this :



Map View

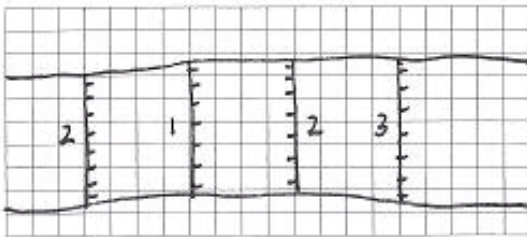


Side View

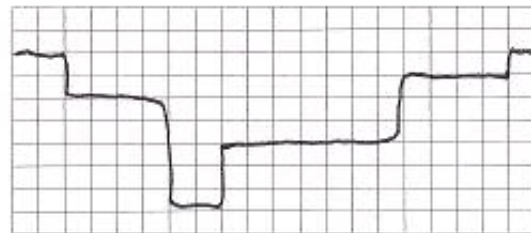
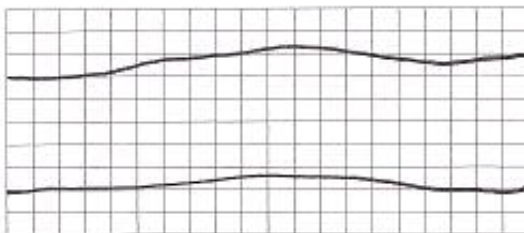
Complete the following maps and side views

Changes in the floor

Complete the side view using the information on the map to the left. Start at the mark.

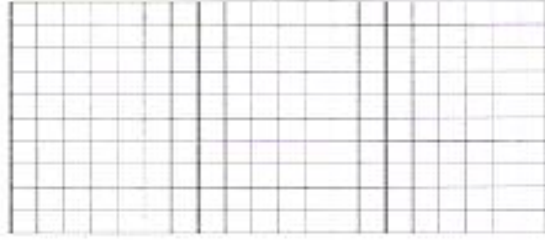


Complete the map using the side view information

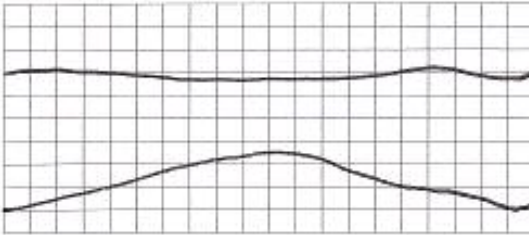


Changes to the roof

Complete the side view using the information on the map to the left.

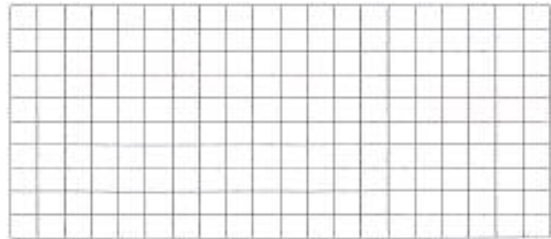
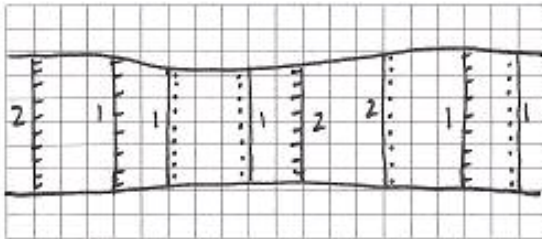


Complete the map using the side view information

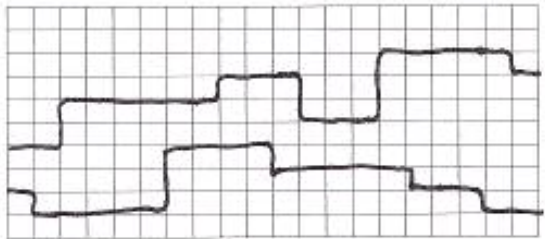
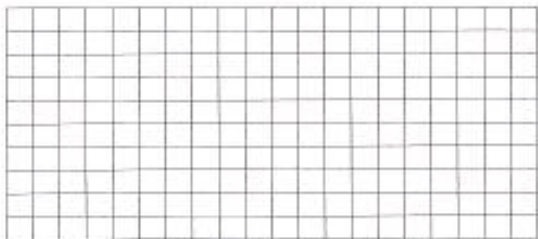


Changes to the floor and roof

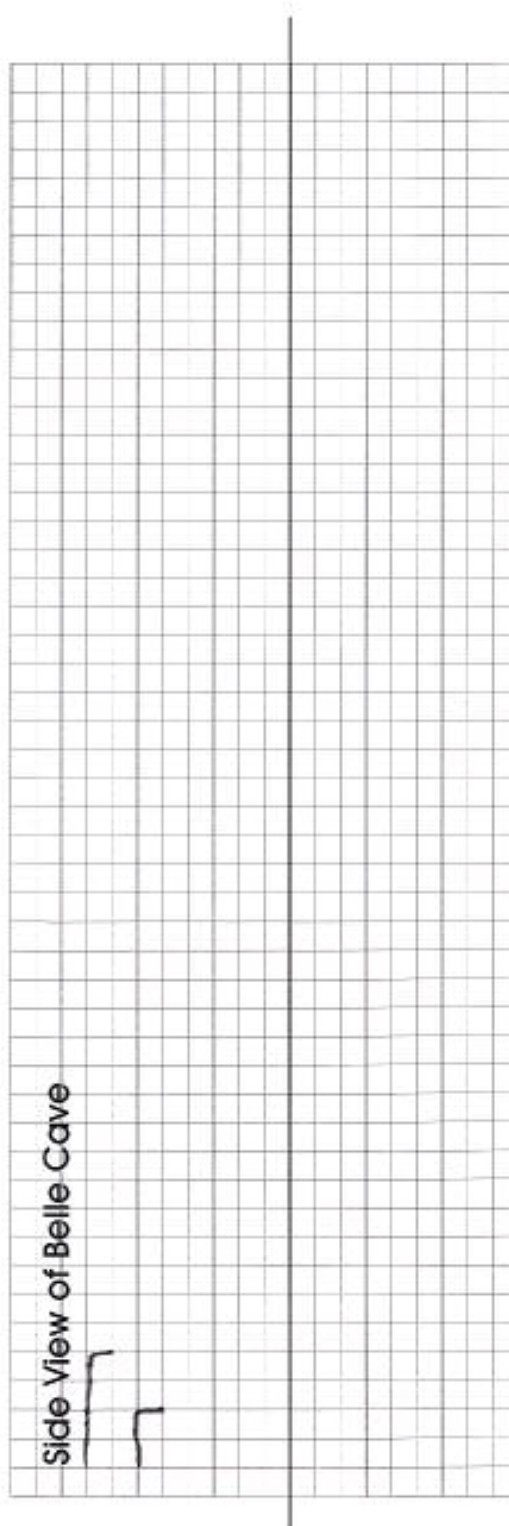
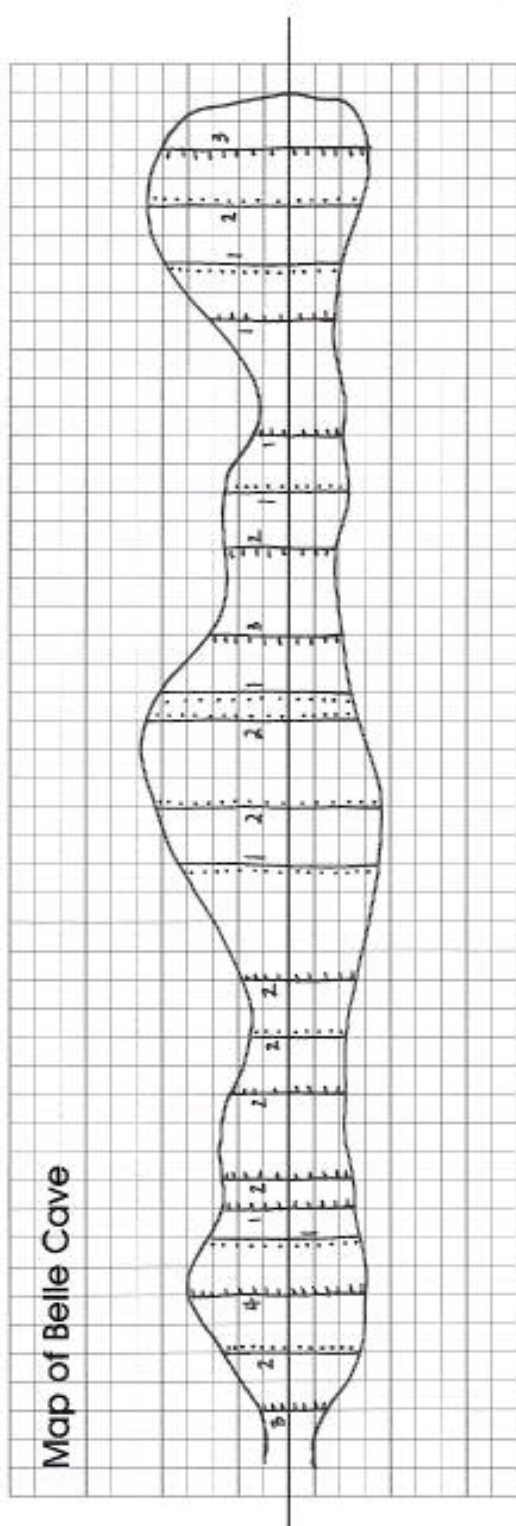
Complete the side view using the information on the map to the left



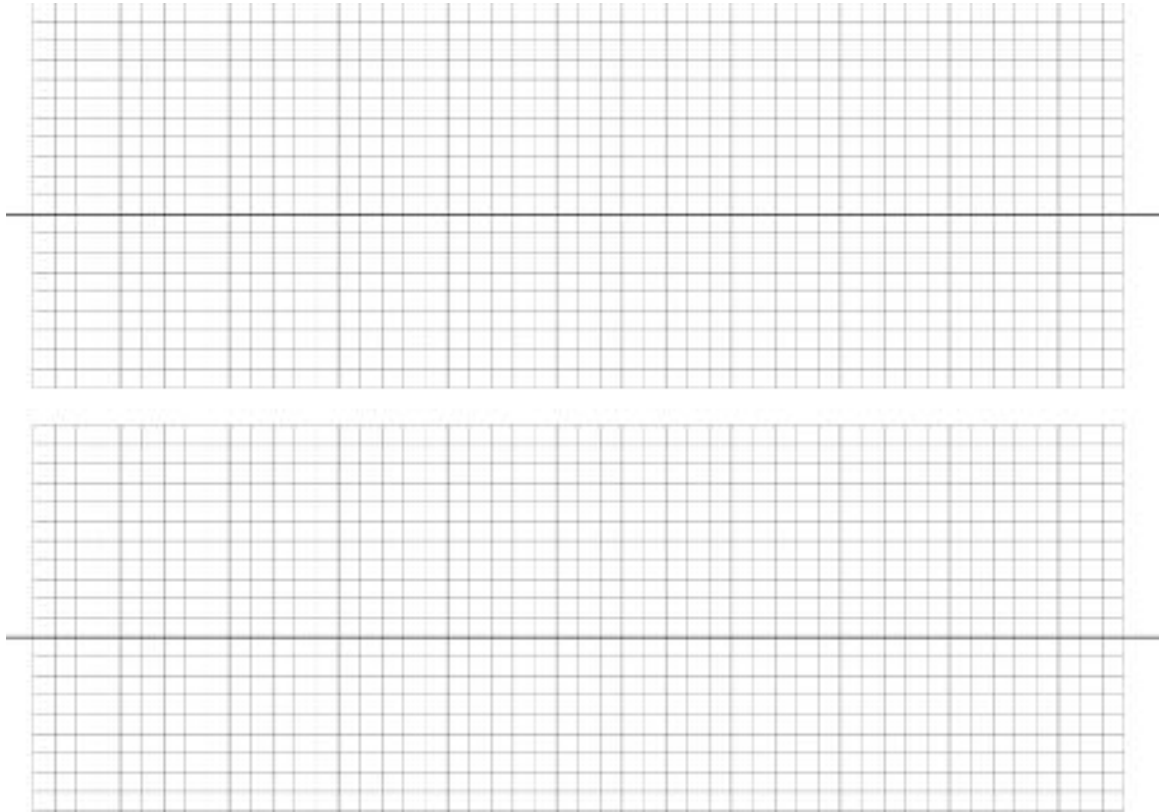
Complete the map using the side view information



Try to draw a side view section of Belle cave. The entrance to the cave has been drawn.



Now draw your own cave and see if a friend can do the side view section! Be careful that your floor and roof do not touch each other.



Symbols are used on these cave maps to show stalactites, stalagmites, columns, flowstones, rock falls, bat colonies and other cave features. Design some simple symbols for these features that you could use on your map.

Stalactites	Stalagmites	Columns	Rockfall
Bat colony	flowstone	water	bridge