Stalagmite Growth

During the building of an access way for Cabin Cave a stalagmite was removed and cut down the middle to expose its internal structure. Scientists then collected four samples containing soot from wild fires that had blown into the cave and coated the formation as it was growing. Using the soot, they could work out the age for each of these layers.

Sample	Age
A	2 650
B	3 890
C	35 000
D	39 200

Using these ages calculate the growth rate of the stalagmite over different periods of time. To do this, follow these steps.

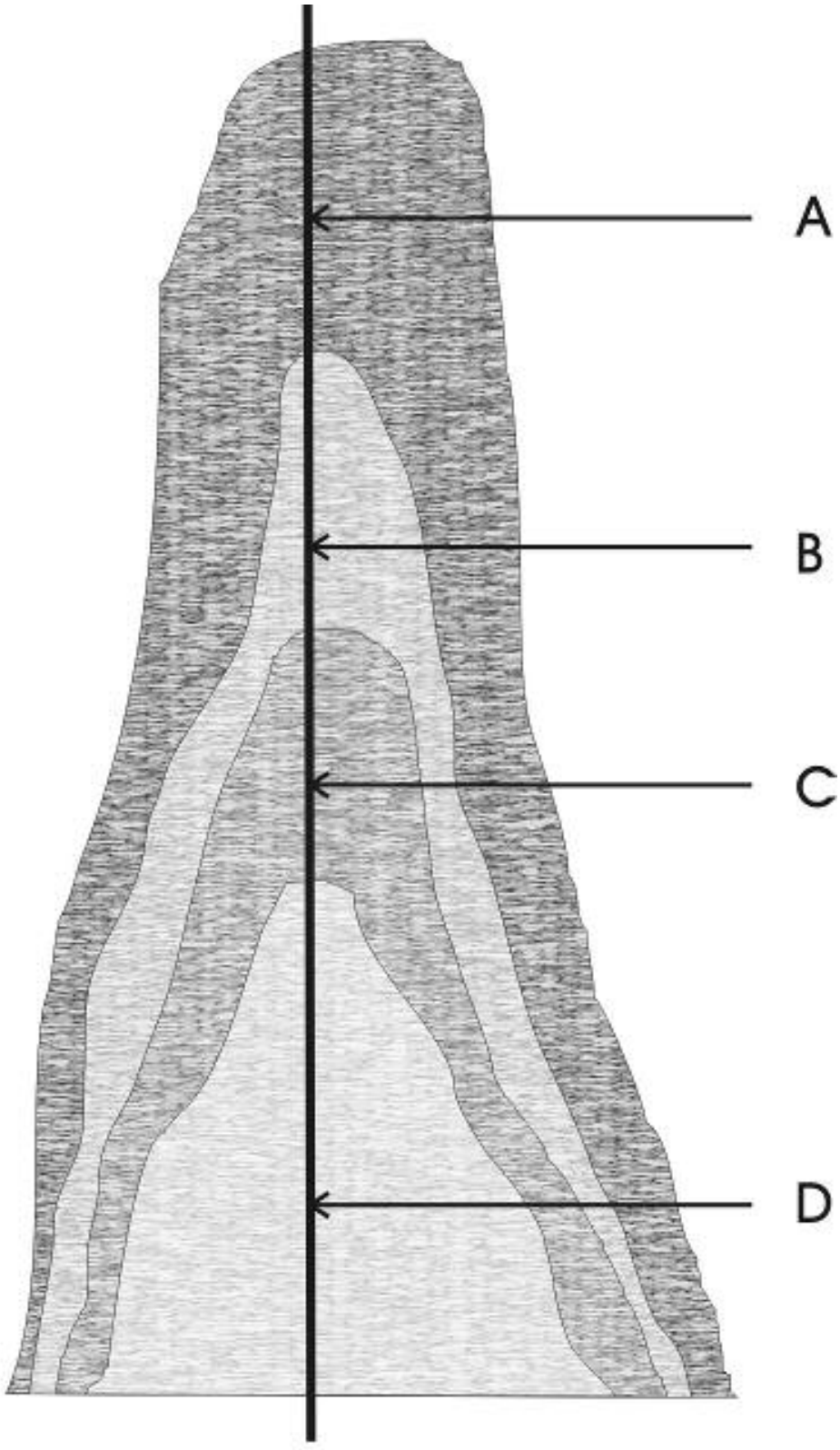
Step 1.
On the diagram, measure the distance between each sample site in millimeters and record the distance in the table below.

Step 2.
Calculate the difference in age between the sample sites and record on the table.

Step 3
Calculate the growth rates of the stalagmite by dividing the distance between the sites by the difference in age, and record the results in the table.

Sample Location Time Period	Distance (mm)	Difference in age (yr)	Growth rate (mm/yr)
A-B			
B-C			
C-D			
A-D (average)			

Questions
1. Between which dates did the stalagmite grow the fastest?
2. Between which two dates did the stalagmite grow the slowest?
3. How long would it take for this stalagmite to grow an additional one meter in height, based on your average rate of growth?
4. What environmental factors may have changed to affect the growth rate of this stalagmite?



Stalagmite taken from Cabin Cave