

The table below shows the results of an experiment to investigate how the length of a spring changes as different masses are hung from it.

Mass (grams)	Length of Spring (cm)
0	5
10	7
20	9
30	11
40	12
50	13
60	13

Describe how the length of the spring changed as different masses were hung from it.

Note: To receive credit, responses must address two basic regions in the table to describe the trend in spring length as a function of the mass added:

- (i) initially, the spring increases in length (at a constant rate) as more mass is added.
- (ii) after a point (40 grams), the spring length starts to level off and then remains constant as more mass is added.

Responses may be quantitative or qualitative in nature. [No credit is lost for using wrong or no units in describing length or mass.]

Code	Response	Item: S022286
	Correct Response	
10	<p>Response includes both regions (i) and (ii).</p> <p><i>Examples: At low mass, it grew 2 for every 10 grams. Then it changed by 1 at 40g. Then at 50g, it did not grow any more.</i></p> <p><i>It increases by 2's until 30, increases by 1's until 50, and increases by 0 at 60.</i></p> <p><i>The length increased steadily up to 40g, and then it increased just a little bit more until it was 13cm at 50 and 60 grams.</i></p> <p><i>At first it got longer every time you added a mass, but then after a while, it did not get any longer.</i></p>	
19	Other correct	
	Incorrect Response	
70	<p>Includes only region (i). Response references only an increase in length as more mass is added but discussion of leveling off is inadequate or missing.</p> <p><i>Examples: The length increased as more mass was added.</i></p> <p><i>The spring length got 2cm longer with each mass.</i></p> <p><i>It increased by 2cm each time until 40 grams.</i></p>	
71	<p>Refers only to leveling off of spring length or decreasing increments at higher masses. [Description of change in region (i) is inadequate or missing.]</p> <p><i>Examples: It stretches but only up to 13 cm.</i></p> <p><i>After 50 grams it did not change.</i></p> <p><i>It stretches less at higher masses.</i></p>	
79	Other incorrect (including crossed out/erased, stray marks, illegible, or off task)	
	Nonresponse	
99	Blank	