

Producing a Potential Energy Graph

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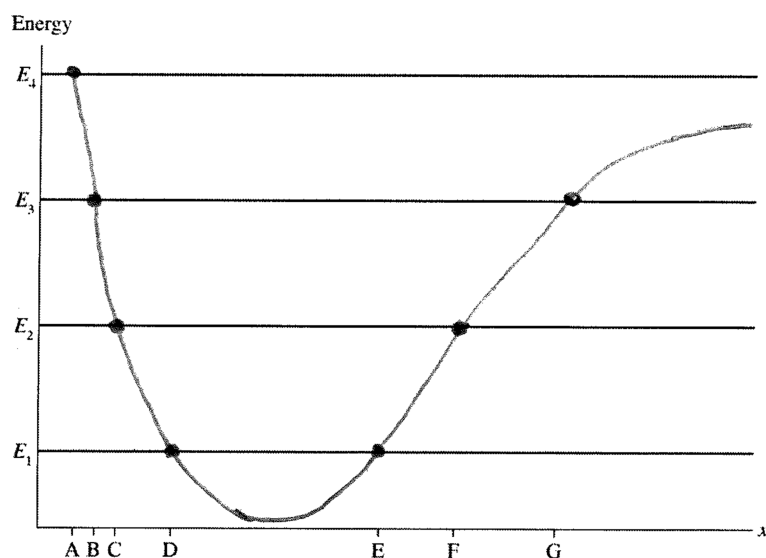
This material is borrowed/adapted from Chapter 10 of the *Student Workbook for Physics for Scientists and Engineers*.

XX-1: Producing a Potential Energy Graph

Below is a set of axes on which you are going to draw a potential energy curve. By doing experiments, you find the following information:

- A particle with energy E_1 oscillates between positions D and E.
- A particle with energy E_2 oscillates between positions C and F.
- A particle with energy E_3 oscillates between positions B and G.
- A particle with energy E_4 enters from the right, bounces at A, then never returns.

Draw a potential energy curve that is consistent with this information.



This is just one realization of the graph. Other solutions are possible with extra wiggles. Wherever you are at on the graph, as long as the wiggle you add does not cross above the next energy level above and create new turning points, the graph will still be correct. You may even create wiggles that cross energy levels lower than where you are at on the graph.