Reactions and Rates 2 Clicker Questions

Activity 2: Introduction to reaction kinetics

Trish Loeblein

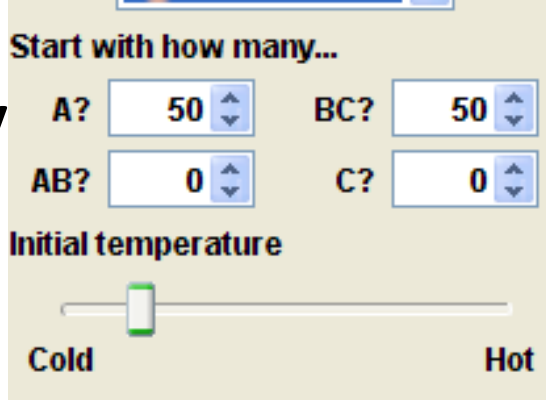
PhET

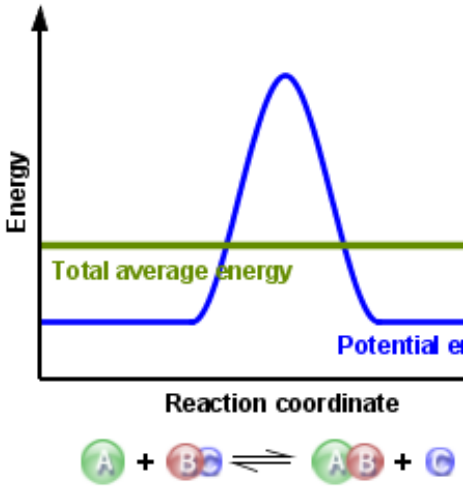
Learning Goals

Students will be able to:

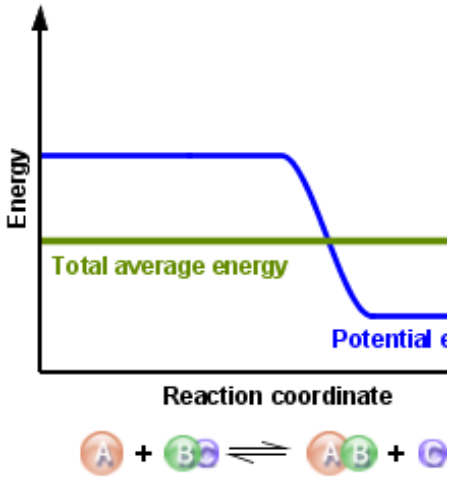
- Describe how the **reaction coordinate** can be used to predict whether a reaction will proceed including how the potential energy of the system changes.
- Describe what affects the potential energy of the particles and how that relates to the energy graph.
- Describe how the reaction coordinate can be used to predict whether a reaction will proceed **slowly, quickly or not at all**.
- Use the potential energy diagram to determine:
  - The *approximate* activation energy for the forward and reverse reactions.
  - The *sign* difference in energy between reactants and products.
- Draw a potential energy diagram from the energies of reactants and products and activation energy.

Which reaction would probably appear to be quickest?





A



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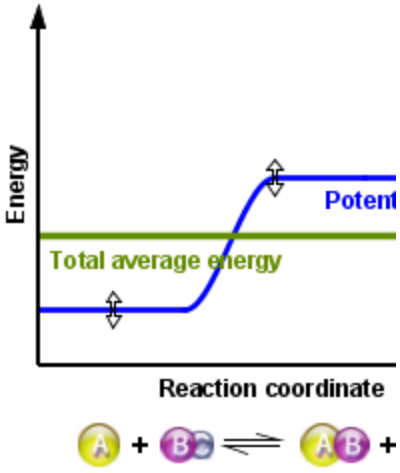

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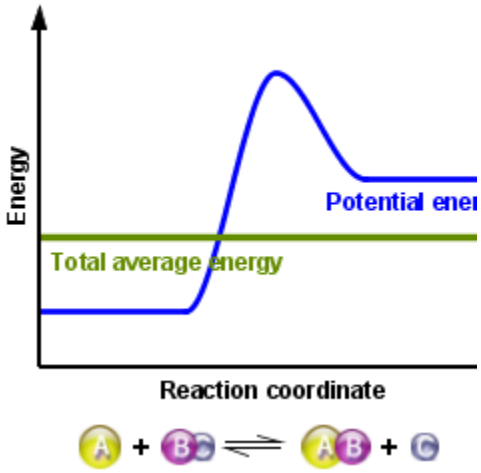
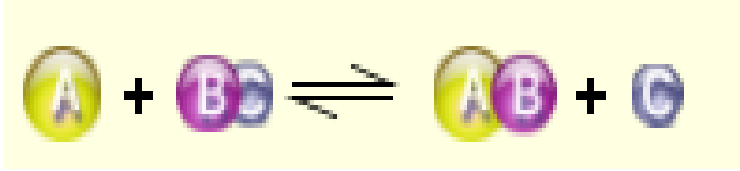
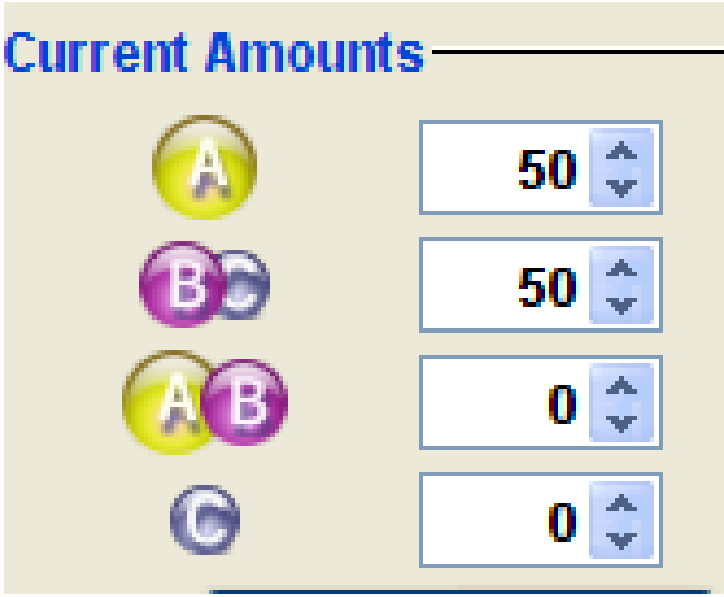
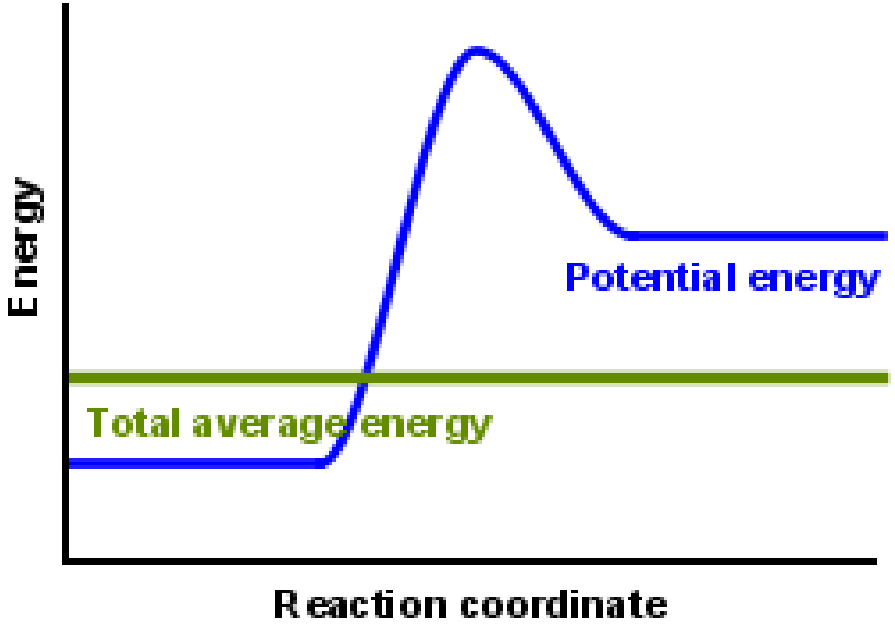


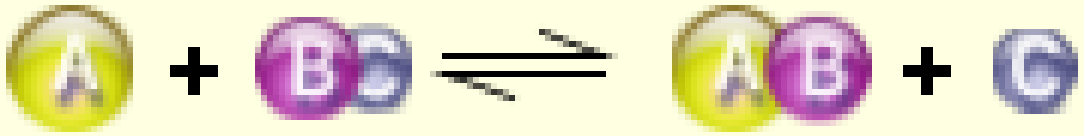
D

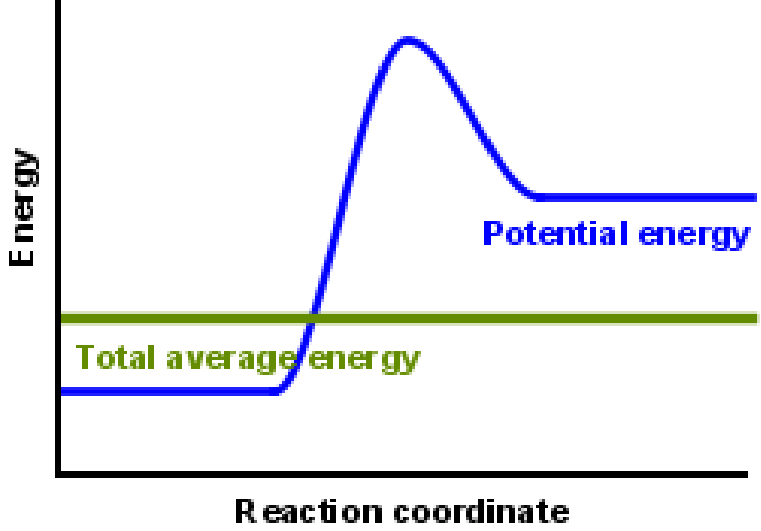
What would best describe what is in the container after several minutes have passed ?











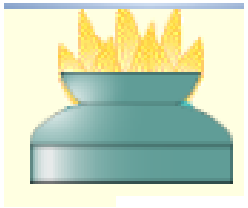
Answer choices

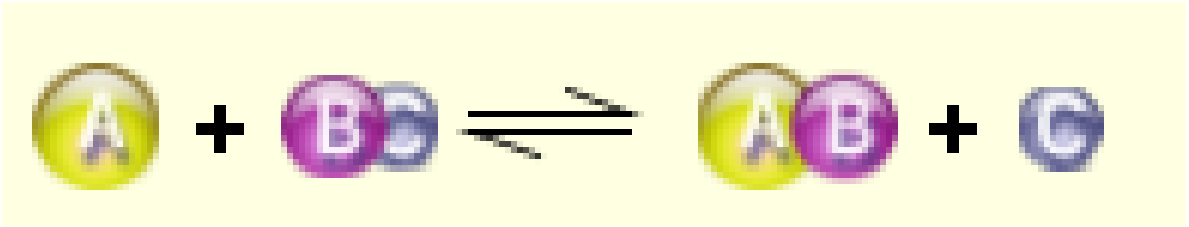
A. Container will have only  & 

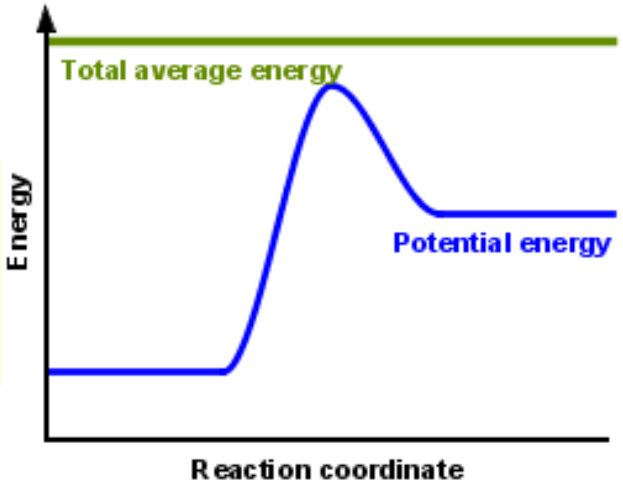
B. Container will have only  & 

C. Container will have a mixture of all four with more  & 

D. Container will have a mixture of all four with more  & 

Using the heater  would



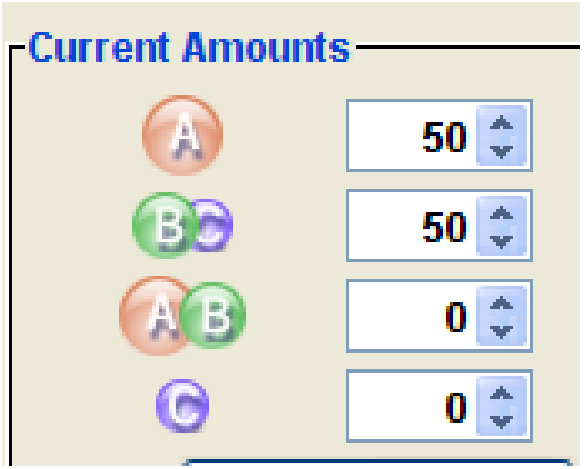


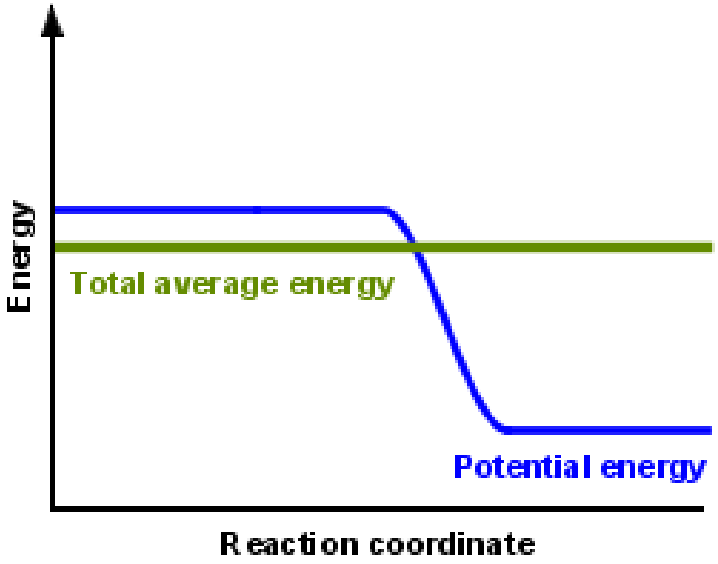
A. Increase the number of  & 

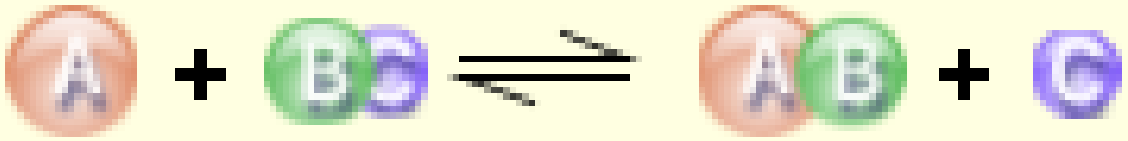
B. Increase the number of  & 

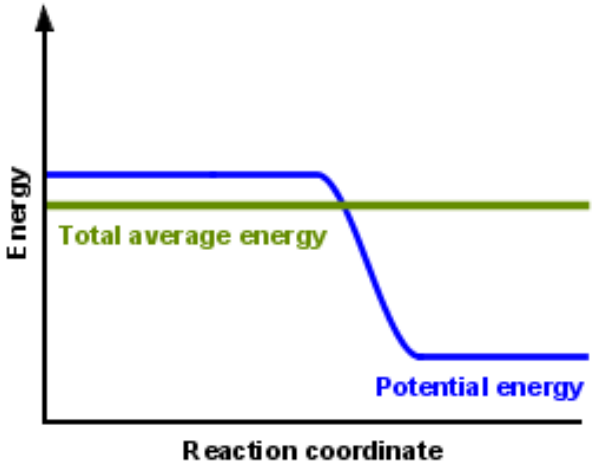
C. Have no effect

What would best describe what is in the container after several minutes have passed ?









Answer choices

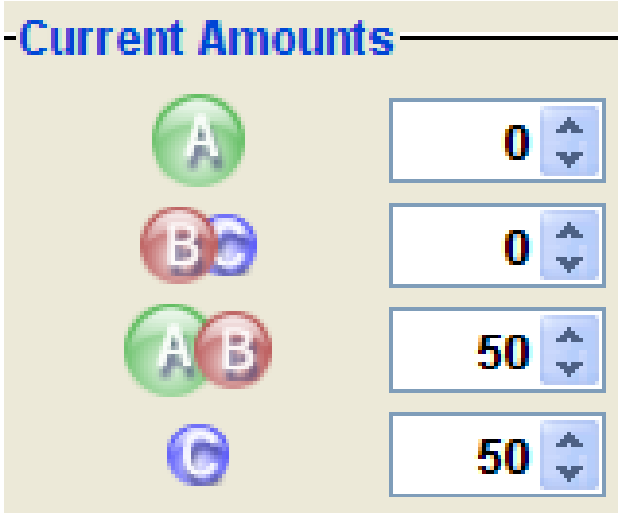
A. Container will have only  & 

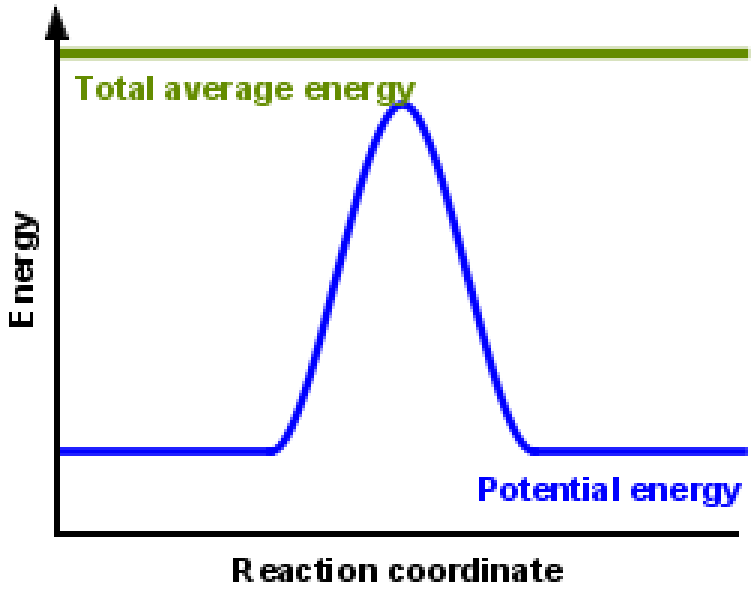
B. Container will have only  & 

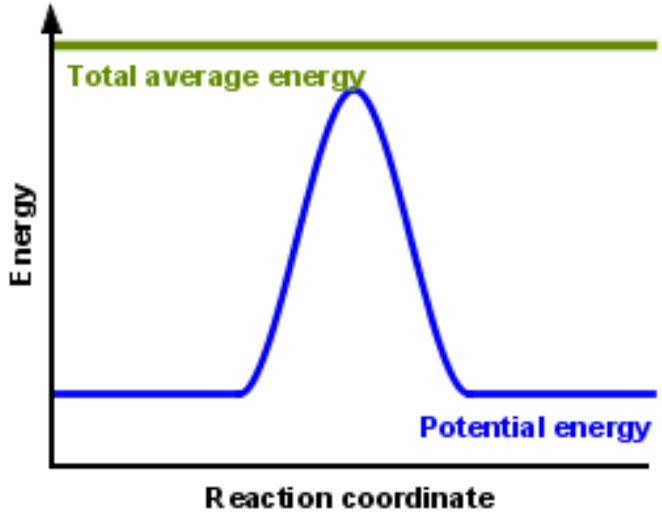
C. Container will have a mixture of all four with more  & 

D. Container will have a mixture of all four with more  & 

What would best describe what is in the container after several minutes have passed ?







Answer choices

A. Container will have mostly  &
B. Container will have mostly  &
C. Container will have a mixture of all four with nearly equal amounts
D. No reaction will occur since the products and reactants have the same energy