

## Energy Storage and Transfer Model Worksheet 1b: Qualitative Analysis - Pie Charts

Use pie charts to analyze the energy changes in each situation given.

Designate your choice of system with a dotted line. Choose your system so that the energies involved are internal (within the system).

Carefully label the pies to correspond with the positions of the objects given. (A, B,C, etc.)

The pies should be accurately divided and labeled with the energy storage mechanisms involved.

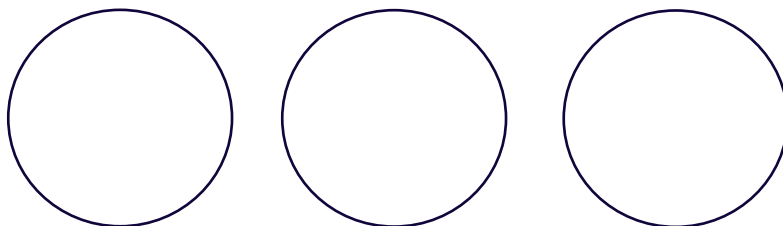
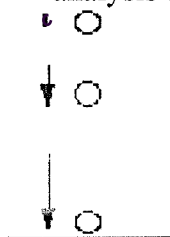
Remember the 3 energy questions in deciding about the energy changes:

1. Where does the energy come from? (What's the source of the energy?)

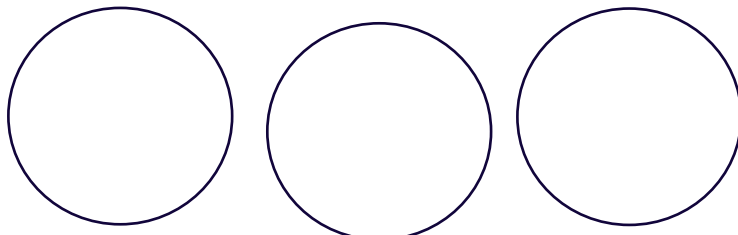
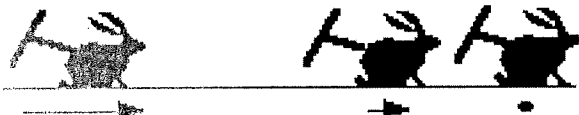
2. What does the energy do?

3. Where does the energy go?

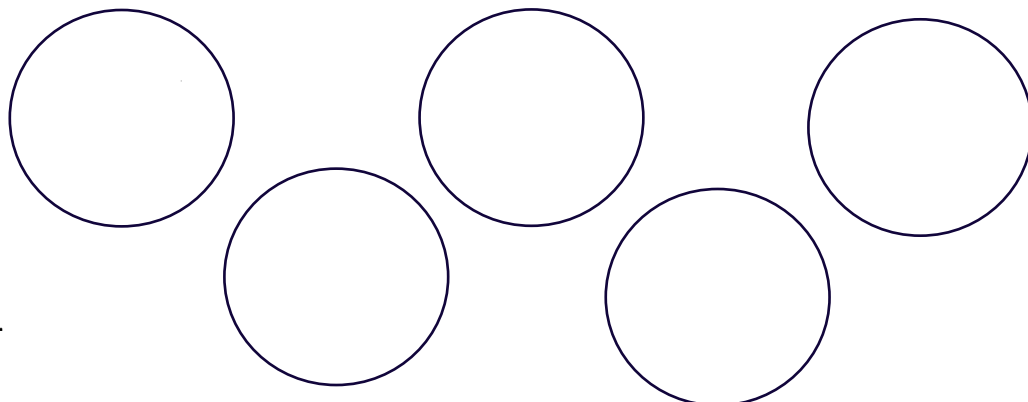
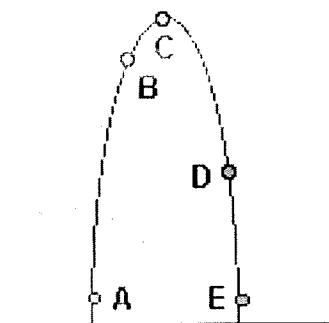
1. A ball is held above the ground, and then is dropped so it falls straight down. (Restrict your analysis to the ball being in the air, BEFORE it hits the ground.)



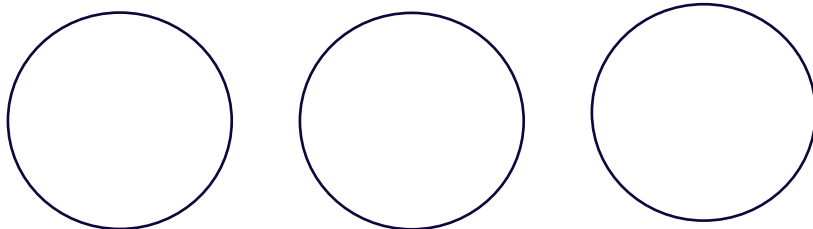
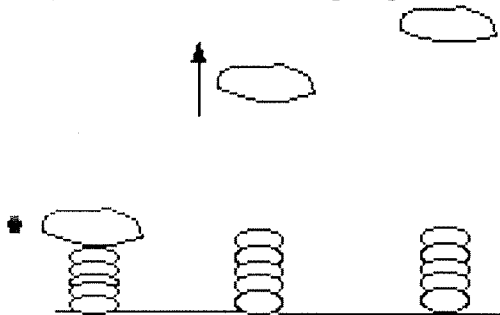
2. A wind-up toy is wound up, then "walks" across a table and comes to a stop.



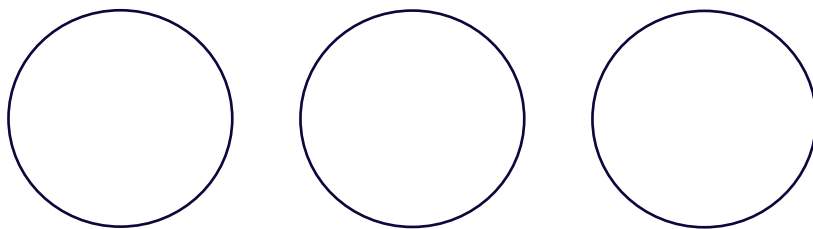
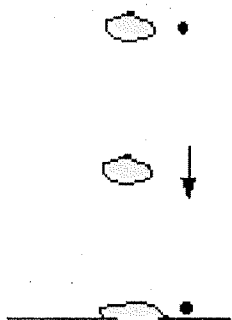
3. A baseball is thrown up in the air and then falls back down. Place velocity vectors beside each corresponding baseball in the drawing, and draw an energy storage pie for each lettered position.



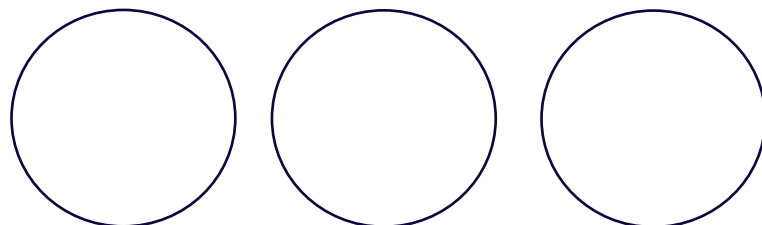
4. An object rests on a coiled spring, and is then launched upwards.



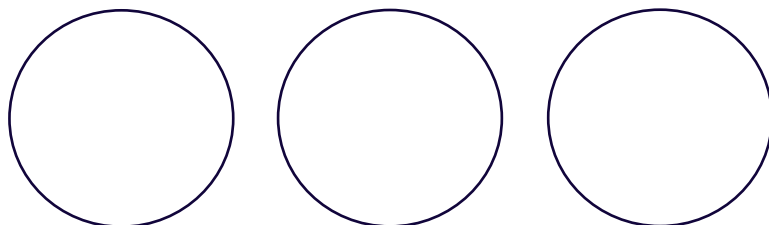
5. A piece of clay is dropped to the floor.



6. A ball rolls to a stop on the floor.



7. A truck being driven down the street.



8. A superball is dropped and bounces up and down. Draw a pie chart for each position of the ball shown. Why does the ball not bounce as high each time? Where does the energy "go"?

