Potential and Kinetic Energy

PE & KE with Angry Birds

Watch the angry bird segment and determine…

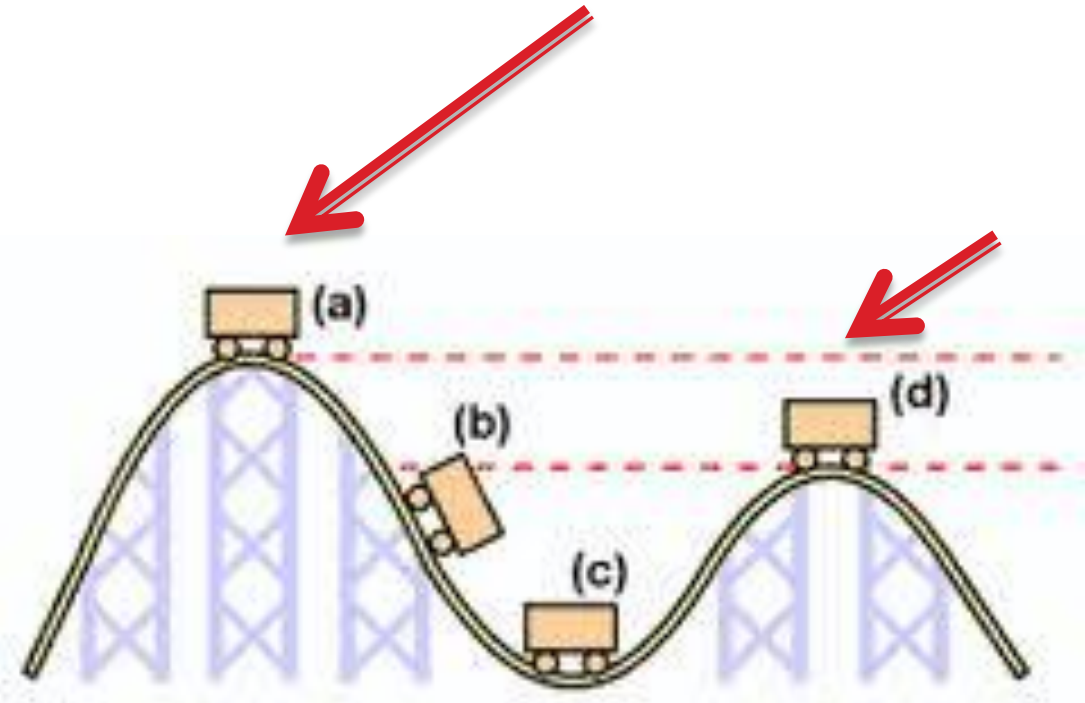
- **Where did the angry bird have the most potential energy?**
- **Where did the angry bird have the most kinetic energy?**
- **Is it possible to have BOTH?**

http://www.youtube.com/watch?v=bNNzRyd1xz0

Now watch the Volkswagon commercial and determine where the ball has the greatest potential and kinetic energy.

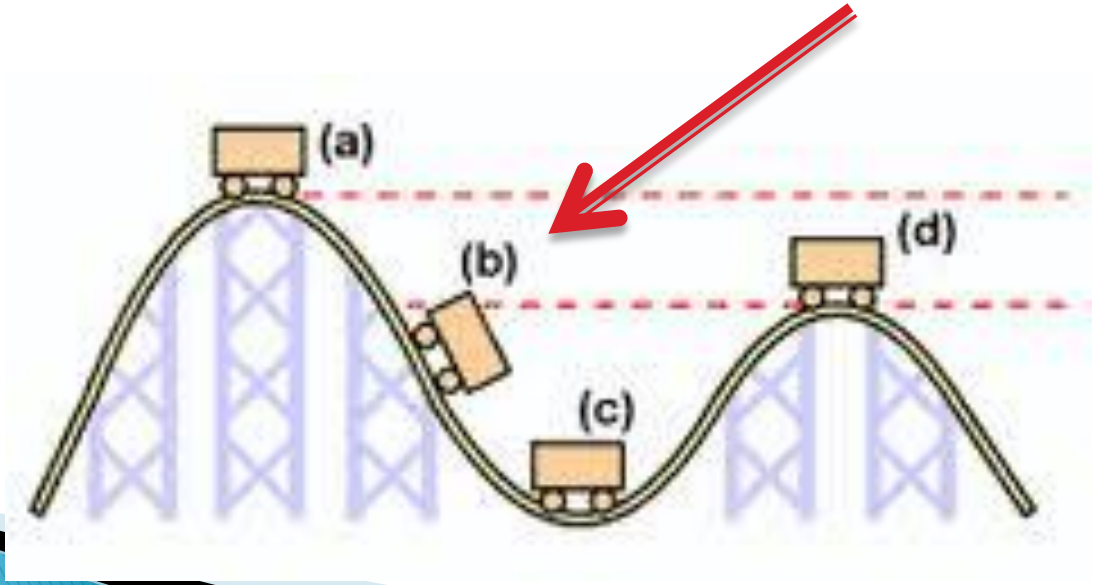
- http://www.youtube.com/watch?v=FjTQV6CjAPE

Potential Energy- why do these examples represent PE?



What happens to the energy if the rollercoaster goes down the track?

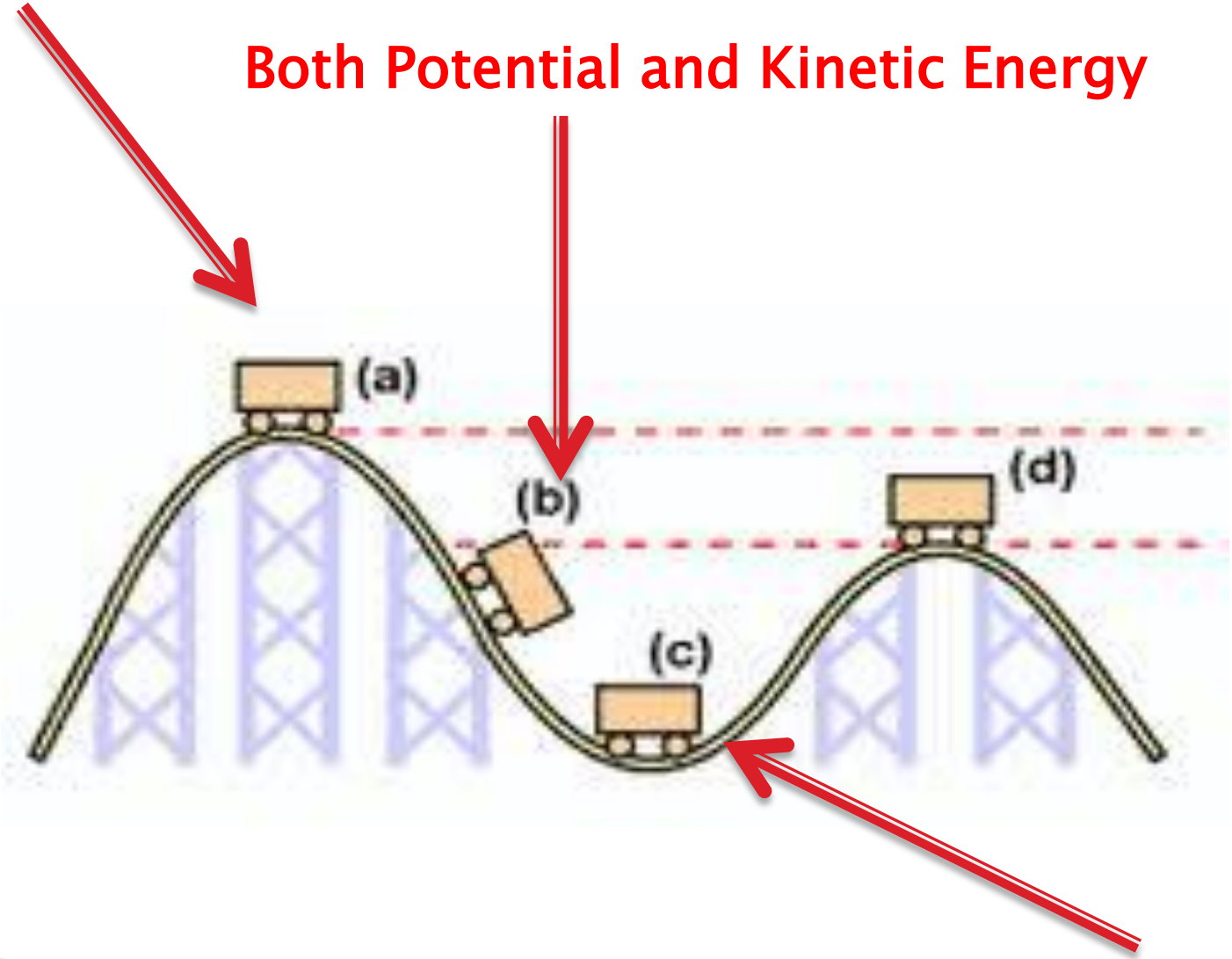
- Is there still potential energy if you are midway down the track?
- Is it possible to have potential and kinetic energy at the same time ?



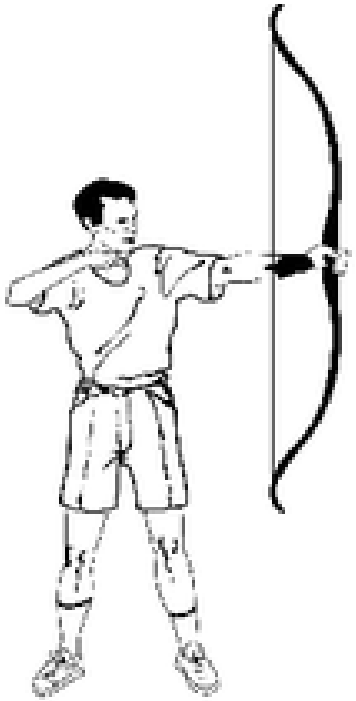
- 100% potential energy is always at the **top** or when something is **fully stretched**
- 100% kinetic energy is always at the **bottom** or when it is **fully released**
- The middle is a combination of **both**

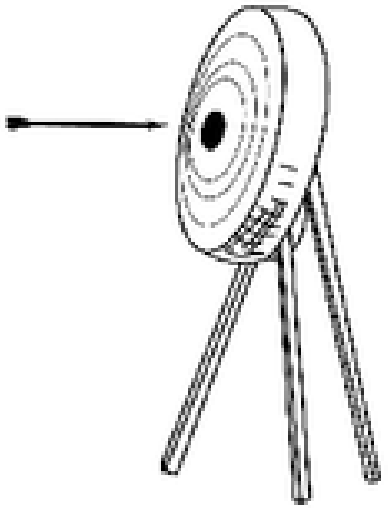
100% Potential Energy

Both Potential and Kinetic Energy

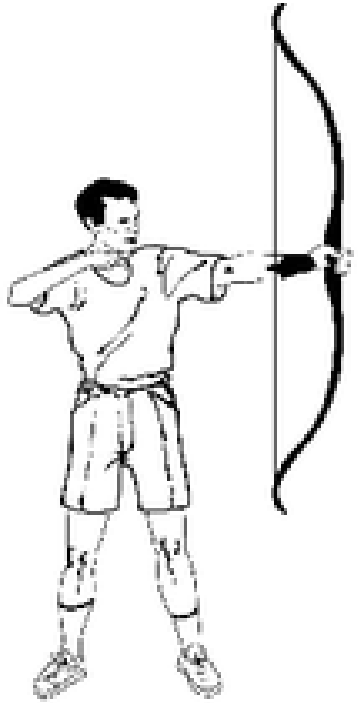


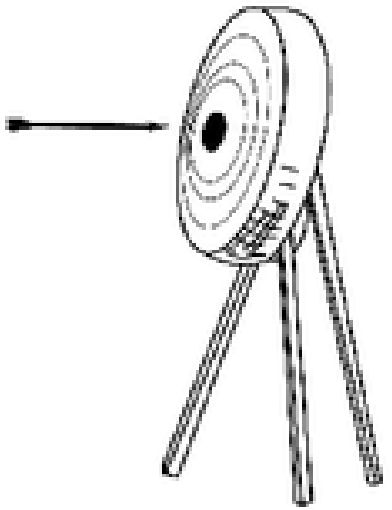
100% Kinetic Energy



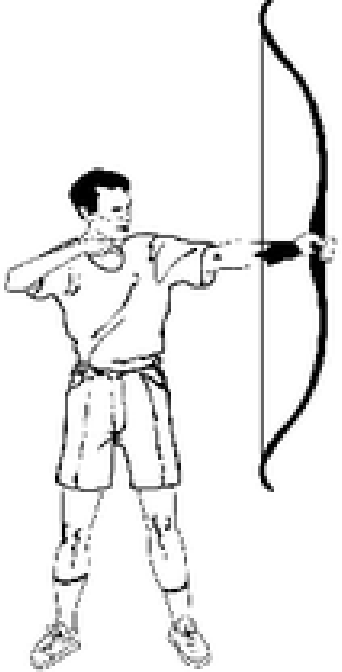


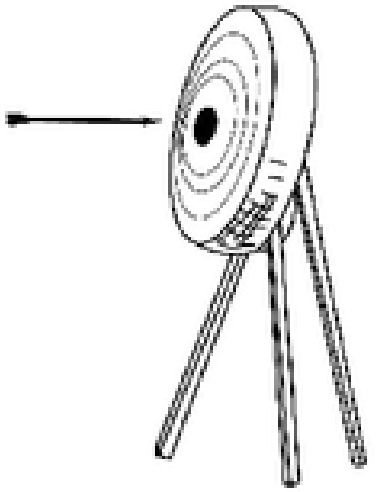
- **Where is the most POTENTIAL energy?**
  - The most potential energy is when the bow is fully stretched. I know this because you store energy by stretching it- he will have the most elastic potential energy when the bow is fully stretched.





- **Where is the most KINETIC energy?**
  - The most kinetic energy is when the arrow is close to the target. I know this because you have the most kinetic energy when an object is fully released and has used all of its stored potential energy.





- **Where will there be BOTH potential and kinetic energy?**
- There will be both potential and kinetic energy when the arrow is in the middle of the air. I know this because the arrow is moving (kinetic energy) but it still has energy stored up with the potential to move further.

PE & KE with Wile E. Coyote

- Where does an object have the MOST PE?
- Where does an object have the MOST KE?
- Where does an object have both PE and KE?

http://www.youtube.com/watch?v=Gq_bjaI0NTo

- When a rubberband is stretched out fully, its POTENTAL energy is the greatest.

Now I shoot my rubberband…

- Is there still potential energy when my rubberband is flying through the air?
- Is it possible to have potential and kinetic energy at the same time?