

Energy Storage Category	What properties or indicators can help you identify whether or not energy is stored in this category?	How can you tell the relative amount of energy stored between two objects or systems (i.e. If two objects have energy stored this way, which has more)?
Kinetic Energy (E_K)		
Gravitational Energy (E_{GRAV})		
Thermal Energy (E_Q)		
Elastic Energy (E_{ELA})		
Radiant Energy (E_{RAD})		
Electrical Energy (E_{EL})		
Chemical Energy (E_{CHEM})		

- Communicating the object of focus is important for clarity of communication. Always communicate what the object (system) is that you are focusing on. 'System' is a good word choice because these objects can be simple or complex but it will undoubtedly be made up of smaller components that in some fashion work or interact together. Everything outside of this 'system' boundary is considered to be a part of the surroundings.
- Often the presence of energy in one category may not be revealed until it gets transferred to a different storage category. For example, energy stored as E_{grav} or E_{ela} may not be noticed until something happens to allow the energy in our system to be transferred to E_k as the system moves. The ability for change was always present but it just wasn't overtly noticeable because the change wasn't actively taking place. This, in some ways, is the traditional distinction between KE and PE. We will not use the word "potential" because it can send the wrong message that PE and KE are actually different. They aren't. Change is change. Energy is energy. It's all the same; it, "change" that is, just happens in different ways. While some may call these different "forms" of energy they really aren't all that different from each other. We prefer to say they are the same thing (change/energy) "stored" or placed in different categories. It places more emphasis on their similarity and less on their difference. There should be no confusion about one category like E_k being a different substance than E_{grav} . They are not. Why bother with even having different energy storage categories if it's all the same? It's easier to see how they can 'become' each other during an energy transfer. In our world (and beyond) changes do take place in a variety of ways and these changes have a tendency to cause other changes to take place which cause even more additional changes to occur. To follow and account for all the different ways these changes happen, we use 'energy storage categories'. Again these categories are not really fundamentally different from each other as much as they are different ways to express the same concept...(change/energy). Change or its ability (energy) is viewed almost like an actual substance that is always present but constantly moving and being 'stored' in these containers we call 'storage categories'.
- Go back and see if you can identify that category or categories of energy present during the initial and final states of each picture series...

Energy Storage Category	What properties or indicators can help you identify whether or not energy is stored in this category?	How can you tell the relative amount of energy stored between two objects or systems (i.e. If two objects have energy stored this way, which has more)?
Kinetic Energy (E_K)	<ul style="list-style-type: none"> • Movement of objects. • Changes in position and/or velocity 	↕ speed, distance, time of movement
Gravitational Energy (E_{GRAV})	<ul style="list-style-type: none"> • Changes due to an object's position and size in relationship to other objects. • In our F.O.R. the 'other' object is always earth. Specifically this indicator is in regards to an object's separation (or height) above the earth. 	↕ height above the earth's surface, mass
Thermal Energy (E_Q)	<ul style="list-style-type: none"> • Changes in temperature. • Measure of the motion of molecules. 	↕ temperature or "hotness"
Elastic Energy (E_{ELA})	<ul style="list-style-type: none"> • Changes in the "stretch" or "compression" of a material. • Its tendency is to return to its original state. • Sounds can be included here as a wave stretch/compresses the medium it moves through. 	↕ resistance, " stretch" , volume or pitch of sound.
Radiant Energy (E_{RAD})	<ul style="list-style-type: none"> • Presence or absence of light (not always visible). • "Light" is a "wave" that causes changes to the electromagnetic fields that surround us. (Electromagnetic waves/spectrum) 	↕ brightness or intensity
Electrical Energy (E_{EL})	<ul style="list-style-type: none"> • Changes due to the movement of electrically charged particles (electrons) • ("+" or "-"); opposites attract; likes repel 	↕ voltage, amperage
Chemical Energy (E_{CHEM})	<ul style="list-style-type: none"> • Changes due to the rearrangement of atoms. -Sometimes substances are broken down. (<i>combustion/burning</i>) -Sometimes substances are built up. (<i>photosynthesis</i>) 	↕ calories, mass/volume FUELS!

