Potential Energy v Kinetic Energy Worksheet NAME:_____DATE_____

1) A skate boarder is standing at the top of a vert ramp preparing for his next big trick. Does he have potential energy or kinetic energy? How do you know? Once the skater drops into the ramp, at what point will he have zero potential energy. At zero potential energy, what has all of the potential energy been converted into?

2) A group of students roll a boulder down Pikes Peak in hopes it will crush North Middle School therefore closing the school for the remainder of the year. The first boulder had a mass of 500kg, but the second boulder had a mass of 1000kg, which one had more kinetic energy? If the 500kg boulder rolled at 1000m/s while the 1000kg rolled at 10m/s which one had more kinetic energy?

3) A ball is dropped from the second floor of North Middle School down to the first. What kind of potential energy is utilized to propel the ball downwards towards the second floor? A student on the first floor caries the ball back up to the second floor restoring the ball's potential energy. What did the student have to do to the ball to restore its potential energy? The ball is dropped a second time, but this time the student throws the ball towards the ground instead of simply dropping it. Does the have more, or less potential energy when it is thrown to the ground? Why?

4) The Red Bull Stratos team took a sky diver to the border between earth's atmosphere and space to complete a jump of over 100km. Recalling our knowledge of terminal velocity, will the sky diver ever completely convert his potential energy into kinetic energy? Why?