

Work Sheet 6b - Roller coaster

Follow up activities

In the Roller coaster Investigation on the CD-ROM you will study the energy transformations that take place as a roller coaster speeds down the track. As the coaster car accelerates, the gravitational potential energy which it had at the top of the track is transformed into kinetic energy.

Use your knowledge of different energy forms, together with the principle of the conservation of energy, to describe the energy transformations that take place in the following examples.

1. A diver bounces on a spring board, rises into the air and dives into the pool.
2. An archer draws a bow and fires an arrow over the top of a tall tree.
3. A bungee jumper leaps from a high bridge, falls towards the river below, then bounces up and down at the end of the bungee rope.
4. A pole vaulter sprints along the runway and plants the flexible pole in the ground. The pole bends, then straightens again as the vaulter clears the high bar and falls into the safety mats.