

Green Mobility. Energy: Activities

(Write the answers in your notebook or file)

The subway is a very efficient mean of transportation, but it is also a great consumer of electrical energy:

- What is the icon that tells us that it works with this type of energy?
- We know that energy is not created or destroyed, it is only transformed. The Metro needs to consume electricity to transform it into "movement" (kinetic energy). Remember the formula of kinetic energy:

$E_c = \frac{1}{2}mv^2$ and its unit: J (joule) (E_c =Kinetic energy; m=mass expressed in kg;
v=speed expressed in m/s)

- If a Metro of 5 empty wagons of passengers has an approximate mass of 4.5 tonnes. Calculate its kinetic energy at a speed of 36 km/h.
- Explain how this value of kinetic energy would change if the wagons were full of travelers.