

What's Important About the Energy Tracking Lens?



The *Energy Tracking Lens* is a framework that helps students think about the flow of energy through a system. It includes a set of questions that guide students through the process of “Telling the energy story”, something they are asked to do throughout this unit. The Energy Tracking Lens is applicable to all systems simple and complex and will be used throughout the Investigations in this sequence. A copy of the Energy Tracking Lens is included on the first page of each Student Notebook. You should also hang a copy of the Energy Tracking Lens on the wall where it is visible to all.

The Energy Tracking Lens is formally introduced to students in Motion 3B, but understanding it yourself in Motion 2 will allow you to ask key questions that help students “Tell the energy story.”

The Energy Tracking Lens

Part 1. Describe what you observe.

Part 2. Tell the energy story.

- System components?
- Form(s) of energy?
- Energy gains and losses?
- Energy transfers?
- Energy transformations?
- Where does the energy come from and where does the energy go?

Use observations to support your energy story.

The very first step when using the Energy Tracking Lens is to describe what was observed in an event, since the indicators of changes of energy (e.g., motion) are observable while energy itself is not.

Each time students are asked to “Tell the energy story,” remind them that it involves looking for answers to each of the questions in the Energy Tracking Lens.

In the case of the colliding balls, the key ideas include the system components (the two balls), the form of energy (motion energy), the gains and losses of motion energy as the balls collide and change speed, and the transfer of energy from one ball to the next. Energy transformation (motion energy transformed into thermal energy via friction as the balls roll to a stop) is not addressed in this Investigation, although students may ask about it.

