## **Topic**

#### Force, Motion, Energy

## **Goals/Objectives**

- 4.2a-d The student will investigate and understand characteristics and interactions of moving objects. Key concepts include;
- a.) motion is described by an objects direction and speed;
- b.) changes in motion are related to force and mass;
- c.)friction is a force that opposes motion; and
- d.)moving objects have kinetic energy.

#### **Theme**

Improving a ride in a theme park.

## **Scenario**

One of the rides at a popular theme park has been proven to be unsafe to patrons due to force and motion. They are looking for new ideas to redesign this ride. Your class has been commissioned to design this new improved ride for the theme park.

# **Culminating Activity**

Create a new ride for the theme park. Present it to the theme park panel.

## **Problem Question**

What are the characteristics and interactions of a roller-coaster?

#### **Student Role**

Student will serve as engineers in creating a new roller-coaster for the theme park.

