

U3C1A3 Addendum

Add to supply list battery powered puck.

Explore Your Ideas Section (25 min)

The goal of this section is for students to observe that an object has constant motion when there is no friction. It is important to show students side by side the difference between an object experiencing a lot of friction and one with little friction. Friction makes an object slow down. As friction is reduced the object slows down less and less. When there is no friction (an idealized situation) then the object moves with constant speed.

- Try to obtain the Magic School Bus video from your district or your local library. Follow the procedures listed in the teacher edition on page 500. This video shows what a baseball game would be like on a frictionless field. If you can obtain this video, it is well worth showing.
- If you cannot obtain the Magic School Bus video do the battery powered air puck demonstration and/or the dry ice demonstration.
- For the battery powered air puck demonstration you will need a long, flat, smooth, clear area to push the puck on such as a counter top or a smooth floor. Ask students to describe the motion of the puck as it moves over the surface. Have students push the puck. Have students walk with the puck to mimic the constant motion. Ask students what type of motion the powered air puck has as it is moving –is it speeding up, slowing down, moving with a constant speed? They should observe that it is moving with basically a constant speed. Push the battery powered puck and another object (like a book) simultaneously. Ask students what is the difference between the motion of these two objects. They should state that the other object slows down and infer it is due to more friction.
- For the dry ice demonstration, you will need a long, flat, smooth, clear area to push the dry ice on, such as a counter top or a smooth floor. Read the information listed on page 500 of the teacher edition. Ask students to describe the motion of the dry ice as it moves over the surface. Have students push the dry ice (make sure protective gloves are worn). Have students walk with the dry ice to mimic the constant motion. Ask students what type of motion the dry ice has as it is moving – is it speeding up, slowing down, moving with basically a constant speed. They should observe that it is moving with a constant speed. Push the dry ice and another object simultaneously. Ask students what is the difference between the motion of these two objects. They should state that the other object slows down and infer it is due to more friction.