

PRACTICE

Activity 5: What is Transferred?

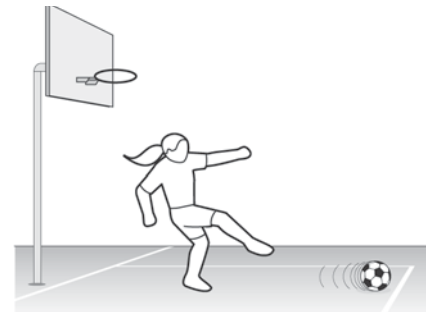
Name _____

Date _____

Class _____

Part 1

1. A soccer ball was kicked by a student and rolled across the pavement of a playground. Two students, Rebecca and Otis, had the following discussion about whether a force is transferred to the soccer ball when the player kicks it. Read what they have to say below.



The force from the kick stays with the ball. The force that is now in the ball keeps pushing the ball forward, causing it to keep rolling along.



Rebecca

The force from the kick is transferred to the ball, but gradually dies out as the ball rolls along. As the force dies out, the ball slows down.



Otis

- a) Do you agree with Rebecca that the force from the kick continues to push the ball forward after the ball has rolled away from the player? Write your reasons and include evidence from Activity 5.

b) Do you agree with Otis that the ball eventually slows down because the kick from the player dies out? Write your reasons and include evidence from the activity.

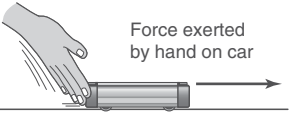

c) Why do you think the ball keeps rolling? Write your reasons and include evidence from the activity.

(Questions 2-3) Complete the three charts as follows:


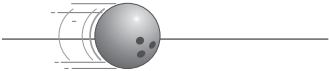
- Draw and label the force arrows on the object (or label “no forces”). Remember when labeling the force arrows you should state, “*Force exerted by _____ on _____ .*”
- Name the interaction (or “no interaction”), and the effect on the motion energy (*increases, decreases, or stays the same*).
- Indicate whether the object is *speeding up, slowing down, or has a constant speed*.

In these examples, friction and drag are so tiny that they can be ignored. The first part of Question 2 is done for you.

2. A hand exerts a quick push on a low-friction car.



	a) During contact	b) After contact
Draw and label force arrows on the object (or label "no forces").		
Name the interaction (or "no interaction"), and the effect on the motion energy (<i>increases, decreases, or stays the same</i>).	There is an <u>applied</u> interaction that causes an <u>increase</u> in motion energy of the car.	
Is the object <i>speeding up, slowing down, or does it have constant speed</i> ?	Speeding up	

3. A bowler exerts a push on a bowling ball.

	a) During contact	b) After contact
Draw and label force arrows on the object (or label "no forces").		
Name the interaction (or "no interaction"), and the effect on the motion energy (<i>increases, decreases, or stays the same</i>).		
Is the object <i>speeding up, slowing down, or does it have constant speed</i> ?		

Part 2

1. A hockey stick exerts a push on a puck.

	a) During contact	b) After contact
Draw and label force arrows on the object (or label "no forces").		
Name the interaction (or "no interaction"), and the effect on the motion energy (<i>increases, decreases, or stays the same</i>).		
Is the object <i>speeding up, slowing down, or does it have constant speed</i> ?		