

Main Ideas, Key Points, Questions:

After watching the video segment, write down key points, main ideas, and big questions.

Objective(s):

- *Define the law of conservation of momentum and apply this to different types of collisions.*
- *Understand how Newton's third law determines that momentum is conserved in all collisions.*

Notes:

During the video segment, use words, phrases, or drawings to take notes.

Summary:

After watching the video segment, write at least three sentences explaining what you learned. You may ask yourself: "If I was going to explain this to someone else, what would I say?"

Answer the following.

1. Define the law of conservation of momentum in your own words.

2. Which of Newton's laws explains how momentum is conserved in all interactions between objects?

3. What do you know about the forces involved in an interaction between two objects?

4. Is momentum a vector or a scalar quantity? Based on your answer, which other value is important besides the numerical value of momentum?

5. How do you find the total momentum of objects in a system?

6. If objects are traveling in opposite directions, what do you know about the signs of their momenta?

Answer the following.

7. What characteristics are required for a system to be considered closed and isolated?

8. What forces are considered when we examine interactions between two objects in a closed, isolated system?

9. If two objects begin at rest, what is the total momentum of the system before they push off from one another? What is the momentum of the system after they push off from one another?

10. If two objects are moving but the total momentum of the system is zero, what do you know about the momentum of the two objects?
