

Name: \_\_\_\_\_

1. What is Momentum?

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2. How can momentum be transferred?

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3. How is the momentum of an object calculated?

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4. What is the law of conservation of momentum?

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5. What is the total momentum of a rocket before and after the launch?

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Formula for momentum: \_\_\_\_\_

Practice problems: Calculate the momentum

6) mass = 0.15 kg & velocity = 6 m/s

7. mass = 0.15 kg & velocity = 8 m/s



**Investigation # 1 Questions Page F85**

1. What two factors contribute to the momentum of a moving object?

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2. If two baseball bats are swung at the same velocity, how will the momentum of a 1 kg bat compare to a 1.5 kg bat?

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3. A cue ball strikes a rack of 15 stationary pool balls and comes to a complete stop. The pool balls, however, scatter in all directions. Explain what takes place in terms of conservation of momentum.

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4. If the total momentum of a rocket and its fuel remains at zero after being launched, why does the rocket still move upward?

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Page 3

8. What is Newton's third law of motion?

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9. What are the two important ideas to remember about Newton's third law of motion?

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10. How can you jump higher on a trampoline than on a hard floor?

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Page 4

Investigation # 2 Questions F93

1. What happens when you blow up a balloon and let it go? Explain in terms of Newton's third law.

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2. A girl wearing in-line skates stands facing a wall. She pushes as hard as she can against the wall. Explain what happens in terms of actions and reactions.

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3. If you are standing in the back of a rowboat. You try to jump from the boat to a dock about one meter away, but you find yourself in the water instead. What happened?

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4. Can you jump as high on a sandy beach as you can on a basketball floor? Explain why or why not.

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