

Momentum
Formative Assessment

Name _____
Date _____ Block _____

Answer completely in the space provided. You may do any work on the back.

1. Which has more momentum: a parked car or a squirrel running across the hood of the car?
2. Momentum is simply _____ in motion.
3. How fast is a 1000 kg car traveling if it has a momentum of 20,000 kg·m/s?
4. A 2-kg ball is thrown at 3 m/s. What is the ball's momentum?
5. When you jump off a step, you usually bend your knees as you reach the ground. By doing this, the time of the impact is about 10 times more what it would be in a stiff-legged landing. What happens to the average force on your body due to bending your legs?
6. What impulse is provided to a 5 kg box if 10 N of net force pushes it for 2 seconds?
7. If two objects bounce off each other they have had a(n) _____ collision
8. A 5 kg box is traveling at 10 m/s just before it hits a pillow. It takes 2 s for the box to stop. What is the force of impact provided by the pillow?
9. Yet another unfortunate bug hits the windshield of a moving car. Which had a greater impulse: car, bug, or were they the same?
10. A 3 kg cart is rolling down a track at a speed of 2 m/s and strikes another 3 kg cart at rest. After the collision, the two carts stick together and roll away together. What is their speed after the collision?
11. In a game of pool, the cue ball rolls across the table and strikes the 8-ball that is at rest. After the collision, the cue ball is at rest and the 8-ball is rolling towards the corner pocket. What happened to the cue ball's momentum?
12. Superman is holding an extremely massive asteroid out in space. Neither is moving. Superman then throws the asteroid to save Earth, again. Does Superman or the asteroid move faster as a result of the throw?

Circle the questions you answered incorrectly. Remove this strip and turn in to your teacher.

C6

Momentum	Impulse	Conserve
1	5	7
2	6	10
3	8	11
4	9	12

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