# ***Understanding Car Crashes Video guide***

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Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Describe why the dummy was left behind when the truck moved.
2. Describe what happens to the dummy inside the car as it crashes into the wall.
3. How did Newton write his second law?
4. Define momentum. How can you calculate momentum?
5. What is impulse? Give an example.
6. What is meant by experiencing “G” forces?
7. Differentiate between the effect on a driver if the car crushes 1 ft with uniform deceleration and a car crushes 2 ft with uniform deceleration.
8. Why can one Nascar driver survive a crash whereas another can’t?
9. What is the Law of the conservation of Momentum?
10. Is momentum a vector or a scalar? Defend your answer.
11. Describe what happens to a passenger in collision involving a heavy car. How does this compare to a passenger in a collision involving a light car?
12. Weight is an advantage in what type of situation?
13. Size is an advantage in what type of situation?
14. Define Energy and list several forms of energy.
15. What type of energy is involved in car crashes?
16. Stored energy is called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
17. What happens to kinetic energy when you double the speed? Why?
18. What is the major cause of crash injuries?
19. Why is crash worthiness a difficult concept? Give several examples of vehicles with good crash worthiness.
20. Why do we use airbags in cars?