Lesson 5
Work, Energy and Power in Automobile Racing

Michigan High School Content Expectations

Physics

P2.3a
Describe and compare the motion of an object using different reference frames.

P3.4f
Calculate the changes in velocity of a thrown or hit object during and after the time it is acted on by the force.

P3.4g
Explain how the time of impact can affect the net force (e.g., air bags in cars, catching a ball).

P3.5a
Apply conservation of momentum to solve simple collision problems.

P4.1c
Explain why work has a more precise scientific meaning than the meaning of work in everyday language.

P4.1d
Calculate the amount of work done on an object that is moved from one position to another.

P4.2A
Account for and represent energy transfer and transformation in complex processes (interactions).

P4.2B
Name devices that transform specific types of energy into other types of energy (e.g., a device that transformed electricity into motion).

P4.2D
Explain why all the stored energy in gasoline does not transform to mechanical energy of a vehicle.

Field Trip
Learning Enhancements

Classes are encouraged to take the following field trips to learn about physics, engineering, technology and automobile racing:

The Henry Ford
20900 Oakwood Blvd
Dearborn, MI 48124-4088
thehenryford.org

Detroit Science Center
5020 John R St.
Detroit, MI 48202-4045
detroitsciencecenter.org

Roush Fenway Racing Museum
4600 Roush Place NW
Concord, NC 28027
roushfenwaycorporate.com/Museum

Chaparral Gallery of the Permian Basin Petroleum Museum
1500 Interstate 20 West
Midland, TX 79701
petroleummuseum.org

NASCAR Hall of Fame
400 East Martin Luther King Blvd.
Charlotte, NC 28202
nascarhall.com

Daytona International Speedway
1801 W. International Speedway Blvd.
Daytona Beach, FL 32114
daytonainternationalspeedway.com

Michigan International Speedway
12626 U.S. Highway 12
Brooklyn, MI 49230
mispeedway.com