

Flight-Testing Newton's Laws			
2006 Science			
Grade Level and High School Content Expectations			
Michigan Science			
Grades 9-12			
Activity/Lesson	State	Standards	
Session-10 (1-5)	MI	SCI.9-12.P2.1C	Create line graphs using measured values of position and elapsed time.
Session-10 (1-5)	MI	SCI.9-12.P2.1h	Identify the changes in speed and direction in everyday examples of circular (rotation and revolution), periodic, and projectile motions.
Session-10 (1-5)	MI	SCI.9-12.P2.2A	Distinguish between the variables of distance, displacement, speed, velocity, and acceleration.
Session-10 (1-5)	MI	SCI.9-12.P2.2f	Describe the relationship between changes in position, velocity, and acceleration during periodic motion.
Session-10 (1-5)	MI	SCI.9-12.P2.2g	Apply the independence of the vertical and horizontal initial velocities to solve projectile motion problems.
Session-10 (1-5)	MI	SCI.9-12.P3.4A	Predict the change in motion of an object acted on by several forces.
Session-10 (1-5)	MI	SCI.9-12.P3.4C	Solve problems involving force, mass, and acceleration in linear motion (Newton's second law).
Session-1 (1-17)	MI	SCI.9-12.P2.2A	Distinguish between the variables of distance, displacement, speed, velocity, and acceleration.
Session-1 (1-17)	MI	SCI.9-12.P2.2B	Use the change of speed and elapsed time to calculate the average acceleration for linear motion.
Session-1 (1-17)	MI	SCI.9-12.P2.2f	Describe the relationship between changes in position, velocity, and acceleration during periodic motion.
Session-1 (1-17)	MI	SCI.9-12.P2.2g	Apply the independence of the vertical and horizontal initial velocities to solve projectile motion problems.
Session-1 (1-17)	MI	SCI.9-12.P3.4A	Predict the change in motion of an object acted on by several forces.
Session-1 (1-17)	MI	SCI.9-12.P3.4C	Solve problems involving force, mass, and acceleration in linear motion (Newton's second law).
Session-2 (1-10)	MI	SCI.9-12.P2.1C	Create line graphs using measured values of position and elapsed time.
Session-2 (1-10)	MI	SCI.9-12.P2.2f	Describe the relationship between changes in position, velocity, and acceleration during periodic motion.
Session-2 (1-10)	MI	SCI.9-12.P3.3A	Identify the action and reaction force from examples of forces in everyday situations (e.g., book on a table, walking across the floor, pushing open a door).
Session-2 (1-10)	MI	SCI.9-12.P3.4A	Predict the change in motion of an object acted on by several forces.

Session-2 (1-10)	MI	SCI.9-12.P3.4B	Identify forces acting on objects moving with constant velocity (e.g., cars on a highway).
Session-2 (1-10)	MI	SCI.9-12.P3.4C	Solve problems involving force, mass, and acceleration in linear motion (Newton's second law).
Session-3 (1-6)	MI	SCI.9-12.P2.2A	Distinguish between the variables of distance, displacement, speed, velocity, and acceleration.
Session-3 (1-6)	MI	SCI.9-12.P2.2B	Use the change of speed and elapsed time to calculate the average acceleration for linear motion.
Session-3 (1-6)	MI	SCI.9-12.P2.2D	State that uniform circular motion involves acceleration without a change in speed.
Session-3 (1-6)	MI	SCI.9-12.P2.2f	Describe the relationship between changes in position, velocity, and acceleration during periodic motion.
Session-3 (1-6)	MI	SCI.9-12.P2.2g	Apply the independence of the vertical and horizontal initial velocities to solve projectile motion problems.
Session-3 (1-6)	MI	SCI.9-12.P3.3A	Identify the action and reaction force from examples of forces in everyday situations (e.g., book on a table, walking across the floor, pushing open a door).
Session-3 (1-6)	MI	SCI.9-12.P3.4C	Solve problems involving force, mass, and acceleration in linear motion (Newton's second law).
Session-3 (1-6)	MI	SCI.9-12.P3.4e	Solve problems involving force, mass, and acceleration in two-dimensional projectile motion restricted to an initial horizontal velocity with no initial vertical velocity (e.g., ball rolling off a table).
Session-4 (1-11)	MI	SCI.9-12.P2.2f	Describe the relationship between changes in position, velocity, and acceleration during periodic motion.
Session-4 (1-11)	MI	SCI.9-12.P3.4A	Predict the change in motion of an object acted on by several forces.
Session-5 (1-6)	MI	SCI.9-12.P2.2f	Describe the relationship between changes in position, velocity, and acceleration during periodic motion.
Session-5 (1-6)	MI	SCI.9-12.P2.2g	Apply the independence of the vertical and horizontal initial velocities to solve projectile motion problems.
Session-5 (1-6)	MI	SCI.9-12.P3.4C	Solve problems involving force, mass, and acceleration in linear motion (Newton's second law).
Session-6 (1-8)	MI	SCI.9-12.P2.1C	Create line graphs using measured values of position and elapsed time.
Session-6 (1-8)	MI	SCI.9-12.P2.1h	Identify the changes in speed and direction in everyday examples of circular (rotation and revolution), periodic, and projectile motions.
Session-6 (1-8)	MI	SCI.9-12.P2.2A	Distinguish between the variables of distance, displacement, speed, velocity, and acceleration.

Session-6 (1-8)	MI	SCI.9-12.P2.2f	Describe the relationship between changes in position, velocity, and acceleration during periodic motion.
Session-6 (1-8)	MI	SCI.9-12.P2.2g	Apply the independence of the vertical and horizontal initial velocities to solve projectile motion problems.
Session-6 (1-8)	MI	SCI.9-12.P3.4C	Solve problems involving force, mass, and acceleration in linear motion (Newton's second law).
Session-7 (1-5)	MI	SCI.9-12.P2.2g	Apply the independence of the vertical and horizontal initial velocities to solve projectile motion problems.
Session-7 (1-5)	MI	SCI.9-12.P3.4A	Predict the change in motion of an object acted on by several forces.
Session-7 (1-5)	MI	SCI.9-12.P3.4C	Solve problems involving force, mass, and acceleration in linear motion (Newton's second law).
Session-8 (1-9)	MI	SCI.9-12.P2.2A	Distinguish between the variables of distance, displacement, speed, velocity, and acceleration.
Session-8 (1-9)	MI	SCI.9-12.P2.2B	Use the change of speed and elapsed time to calculate the average acceleration for linear motion.
Session-8 (1-9)	MI	SCI.9-12.P2.2g	Apply the independence of the vertical and horizontal initial velocities to solve projectile motion problems.
Session-8 (1-9)	MI	SCI.9-12.P3.3A	Identify the action and reaction force from examples of forces in everyday situations (e.g., book on a table, walking across the floor, pushing open a door).
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Session-9 (1-7)	MI	SCI.9-12.P2.2B	Use the change of speed and elapsed time to calculate the average acceleration for linear motion.
Session-9 (1-7)	MI	SCI.9-12.P2.2f	Describe the relationship between changes in position, velocity, and acceleration during periodic motion.
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Session-9 (1-7)	MI	SCI.9-12.P3.4C	Solve problems involving force, mass, and acceleration in linear motion (Newton's second law).
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