

Conceptual Physics Part 1

**How These Activities Support the NGSS
Motion and Forces Science Standards**

	Performance Expectations	Science and Engineering Practices								NGSS Crosscutting Concepts						
		1	2	3	4	5	6	7	8	1	2	3	4	5	6	7
Intro Activity - Exploring Roles Used in POGIL Teams																
CP Activity 0 - Making Sense of the Math Used with Rate Problems	HS-PS2-1	X	X		X	X	X	X	X	X						
CP Activity 1 - Where Is an Object and Where Is It Going?	HS-PS2-1	X	X		X	X	X	X	X	X						
CP Activity 2 - How Fast Is That Object Moving?	HS-PS2-1	X	X		X	X	X	X	X	X						
CP Activity 3 - More Ways to Explore Velocity	HS-PS2-1	X	X		X	X	X	X	X	X						
CP Activity 4 - What's Happening When Speed Changes?	HS-PS2-1	X	X		X	X	X	X	X	X						X
CP Activity 5 - Pushing and Pulling Objects	HS-PS2-1	X	X		X	X	X	X	X	X			X			
CP Activity 6 - How Are Force, Mass, and Acceleration Related?	HS-PS2-1	X	X		X	X	X	X	X	X						X
PS Activity 9 – What Happens When Marbles Collide?	MS-PS2-1	X	X		X	X		X	X				X			X
CP Activity 7 - Mass and Velocity: How Do They Affect a Moving Object?	HS-PS2-2	X	X		X	X	X	X	X	X						
CP Activity 8 - Momentum in Systems of Colliding Objects	HS-PS2-2	X	X		X	X	X	X	X	X			X	X		
CP Activity 9 - Kinetic Energy in Systems of Colliding Objects	HS-PS3-1 HS-PS3-2	X	X		X	X	X	X	X	X			X	X		
PS Activity 7 – Gravitational Interactions Between Objects in Space	MS-PS2-4	X	X		X			X	X				X			
PS Activity 8 – Using Gravity to Lighten the Load of a Backpack	MS-PS2-4	X	X		X	X		X	X				X			X
CP Activity 12 - Gravitational Forces	HS-PS2-4	X	X		X	X	X	X	X	X			X			
CP Activity 13 - Electrostatic Forces	HS-PS2-4	X	X		X	X	X	X	X	X			X			
CP Activity 14 - Energy Transformations in Gravitational and Electric Fields	HS-PS3-5	X	X		X	X	X	X	X	X			X			X

Science and Engineering Practices

1	Asking questions (for science) and defining problems (for engineering)
2	Developing and using models
3	Planning and carrying out investigations
4	Analyzing and interpreting data
5	Using mathematics and computational thinking
6	Constructing explanations (for science) and designing solutions (for engineering)
7	Engaging in argument from evidence
8	Obtaining, evaluating, and communicating information

Crosscutting Concepts

1	Patterns
2	Cause and effect
3	Scale, proportion, and quantity
4	Systems and system models
5	Energy and matter
6	Structure and function
7	Stability and change