

Physical Science

**How These Activities Support
the NGSS Science Standards**

How These Activities Support the Next Generation 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
Introductory Activities																
Intro Activity 1 - Exploring Roles Used in POGIL Teams																
Intro Activity 2 - Inferring Experimental Design from Data Tables																
Chemistry Activities																
PS Activity 1 – Building Blocks of the Stuff Around Us	MS-PS1-1	X	X		X				X	X	X			X	X	
PS Activity 2 - How Are Particles Arranged in Solids, Liquids, and Gases?	MS-PS1-4	X	X		X	X			X	X	X			X		
PS Activity 3 – How Do Particles Move in Solids, Liquids, and Gases at Different Temperatures?	MS-PS1-4	X	X		X				X	X	X			X		
PS Activity 4 – How Does the Temperature Change as Thermal Energy Is Added to Pure Water?	MS-PS1-4	X	X		X				X	X	X	X		X		X
PS Activity 5 – What Kind of Change Is Happening Here?	MS-PS1-2	X	X		X		X	X	X	X	X	X		X		X
PS Activity 6 – How Much Matter Is Present After a Chemical Reaction?	MS-PS1-5	X	X		X	X			X	X	X	X	X	X		X
Astronomy Activities																
PS Activity 7 – Gravitational Interactions Between Objects in Space	MS-PS2-4	X	X		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		X		X
Motion and Energy Activities																
PS Activity 9 – What Happens When Marbles Collide?	MS-PS2-1	X	X		X	X			X	X	X	X		X		X
PS Activity 10 – Energy of Motion: The Effect of Mass and Speed	MS-PS2-2	X	X		X	X	X	X	X	X	X	X		X		X
PS Activity 11 – Potential Energy: Three Examples	MS-PS3-2	X	X	X	X		X	X	X	X	X	X		X	X	X
PS Activity 12- When Potential Energy Is Transformed	MS-PS3-5	X	X		X		X	X	X	X	X	X		X	X	X

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	Performance Expectations	Science and Engineering Practices								NGSS Crosscutting Concepts						
		1	2	3	4	5	6	7	8	1	2	3	4	5	6	7
Wave Activities																
PS Activity 13 - Exploring Predictable, Repeating Patterns	MS-PS4-1	X	X		X	X		X	X	X		X		X		
PS Activity 14 – Why Are Some Waves More Damaging Than Others?	MS-PS4-1	X	X		X		X	X	X	X	X	X			X	
PS Activity 15 -More Properties of Waves	MS-PS4-1	X	X		X	X		X	X	X	X		X			
PS Activity 16 – Waves Everywhere! Water, Sound, and Light	MS-PS4-2	X	X		X		X	X	X	X	X	X	X			
PS Activity 17 – What Happens When Waves Hit Different Kinds of Materials?	MS-PS4-2	X	X		X		X	X	X	X	X	X	X		X	

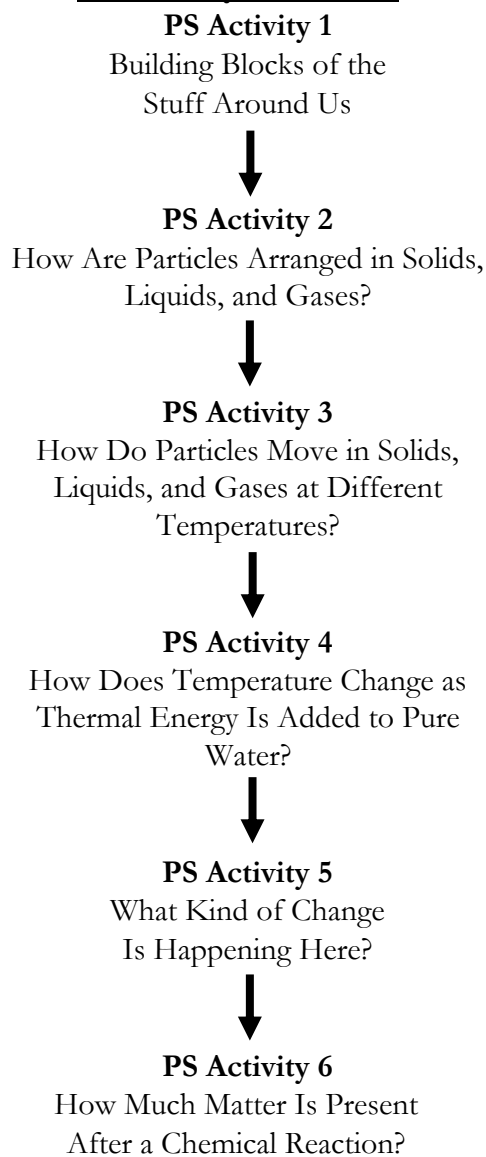
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Science and Engineering Practices	
1	Asking questions (for science) and defining problems (for engineering)
2	Developing and using models
3	Planning and carrying out investigations
4	Analyzing and interpreting data
5	Using mathematics and computational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

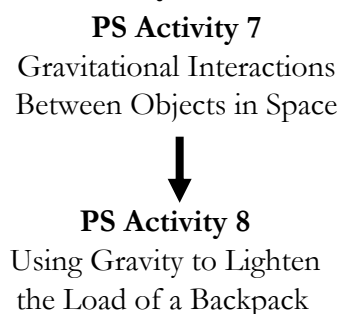
Crosscutting Concepts	
1	Patterns
2	Cause and effect
3	Scale, proportion, and quantity
4	Systems and system models
5	Energy and matter
6	Structure and function
7	Stability and change

Recommended Sequences: POGIL Physical Science Activities

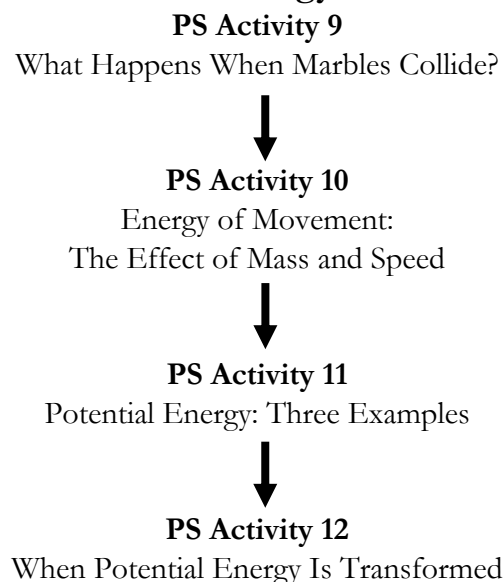
Chemistry Activities



Astronomy Activities



Motion and Energy Activities



Wave Activities

