

Introductory Physical Science (7th and 8th editions) & Force, Motion, and Energy – Alignment with Wisconsin Model Academic Standards for Science
Grade 8 – February, 2008

Standard	Facts and Principles	IPS7	IPS7	IPS7	IPS7	IPS7	IPS7	IPS7	IPS7	IPS7	IPS7	IPS7	IPS7	FM	FM	FM	FM	FM	FM	FM
		IPS8	IPS8	IPS8	IPS8	IPS8	IPS8	IPS8	IPS8	IPS8	IPS8	IPS8	IPS8	Ch.	Ch.	Ch.	Ch.	Ch.	Ch.	Ch.
		Ch. 1	Ch. 2	Ch. 3	Ch. 4	Ch. 5	Ch. 6	Ch. 7	Ch. 8	Ch. 9	Ch. 10	Ch. 11	Ch. 12	Ch. 1	Ch. 2	Ch. 3	Ch. 4	Ch. 5	Ch. 6	Ch. 7
Standard A: Science Connections	A.8.3 Defend explanations and models by collecting and organizing evidence that supports them, and critique explanations and models by collecting and organizing evidence that conflicts with them	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	A.8.4 Collect evidence to show that models developed as explanations for events were (and are) based on the evidence available to scientists at the time	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	A.8.5 Show how models and explanations, based on systems, were changed as new evidence accumulated (the effects of constancy, evolution, change, and measurement should all be part of these explanations)		X				X	X	X	X	X	X	X	X	X	X	X	X	X	X
	A.8.6 Use models and explanations to predict actions and events in the natural world		X						X	X	X	X	X	X	X	X	X	X	X	X
	A.8.7 Design real or thought investigations to test the usefulness and limitations of a model								X	X										
	A.8.8 Use the themes of evolution, equilibrium, and energy to predict future events or changes in the natural world																			

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Standard B: Nature of Science	B.8.1 Describe how scientific knowledge and concepts have changed over time in the earth and space, life and environmental, and physical sciences						X X	X X	X X		X									
	B.8.2 Identify and describe major changes that have occurred over time in conceptual models and explanations in the earth and space, life and environmental, and physical sciences and identify the people, cultures, and conditions that led to these developments						X X	X X	X X		X									
	B.8.3 Explain how the general rules of science apply to the development and use of evidence in science investigations, model-making, and applications	X X	X X	X X	X X	X X	X X	X X	X X	X X	X X	X	X	X	X	X	X	X	X	X
	B.8.5 Explain ways in which science knowledge is shared, checked, and extended, and show how these processes change over time																			
Standard C: Inquiry	C.8.1 Identify questions they can investigate using resources and equipment they have available	X X	X X	X X	X X	X X	X X	X X	X X	X X	X X	X	X	X	X	X	X	X	X	X
	C.8.2 Identify data and locate sources of information including their own records to answer the questions being investigated	X X	X X	X X	X X	X X	X X	X X	X X	X X	X X	X	X	X	X	X	X	X	X	X
	C.8.3 Design and safely conduct investigations that provide reliable quantitative or qualitative data, as appropriate, to answer their questions	X X	X X	X X	X X	X X	X X	X X	X X	X X	X X	X	X	X	X	X	X	X	X	X
	C.8.4 Use inferences to help decide possible results of their investigations, and use observations to check their inferences	X X	X X	X X	X X	X X	X X	X X	X X	X X	X X	X	X	X	X	X	X	X	X	X
	C.8.5 Use accepted scientific knowledge, models, and theories to explain their results and to raise further questions about their investigations	X X	X X	X X	X X	X X	X X	X X	X X	X X	X X	X	X	X	X	X	X	X	X	X

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Standard C: Inquiry (continued)	C.8.6 State what they have learned from investigations, relating their inferences to scientific knowledge and to data they have collected	X X	X X	X X	X X	X X	X X	X X	X X	X X	X X	X	X	X	X	X	X	X	X	X
	C.8.7 Explain their data and conclusions in ways that allow an audience to understand the questions they selected for investigation and the answers they have developed	X X	X X	X X	X X	X X	X X	X X	X X	X X	X X	X	X	X	X	X	X	X	X	X
	C.8.8 Use computer software and other technologies to organize, process, and present their data		X X	X X			X X	X X									X			
	C.8.9 Evaluate, explain, and defend the validity of questions, hypotheses, and conclusions to their investigations	X X	X X	X X	X X	X X	X X	X X	X X	X X	X X	X	X	X	X	X	X	X	X	X
	C.8.10 Discuss the importance of their results and implications of their work with peers, teachers, and other adults	X X	X X	X X	X X	X X	X X	X X	X X	X X	X X	X	X	X	X	X	X	X	X	X
	C.8.11 Raise further questions which still need to be answered	X X	X X	X X	X X	X X	X X	X X	X X	X X										
Standard D: Physical Science	D.8.1 Observe, describe, and measure physical and chemical properties of elements and other substances to identify and group them according to properties such as density, melting points, boiling points, conductivity, magnetic attraction, solubility, and reactions to common physical and chemical tests	X X	X X	X X	X X	X X	X X	X X	X X	X X	X X	X	X							
	D.8.2 Use the major ideas of atomic theory and molecular theory to describe physical and chemical interactions among substances, including solids, liquids, and gases								X X	X X	X X									

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Standard D: Physical Science (continued)	D.8.3 Understand how chemical interactions and behaviors lead to new substances with different properties					X X	X X		X X											
	D.8.4 While conducting investigations, use the science themes to develop explanations of physical and chemical interactions and energy exchanges	X X	X X	X X	X X	X X	X X	X X	X X	X X	X X	X	X	X	X	X	X	X	X	X
	D.8.5 While conducting investigations, explain the motion of objects by describing the forces acting on them													X	X	X				
	D.8.6 While conducting investigations, explain the motion of objects using concepts of speed, velocity, acceleration, friction, momentum, and changes over time, among others, and apply these concepts and explanations to real-life situations outside the classroom																X			
	D.8.7 While conducting investigations of common physical and chemical interactions occurring in the laboratory and the outside world, use commonly accepted definitions of energy and the idea of energy conservation																		X	X
	D.8.8 Describe and investigate the properties of light, heat, gravity, radio waves, magnetic fields, electrical fields, and sound waves as they interact with material objects in common situations																	X	X	X
	D.8.9 Explain the behaviors of various forms of energy by using the models of energy transmission, both in the laboratory and in real-life situations in the outside world																		X	X
	D.8.10 Explain how models of the atomic structure of matter have changed over time, including historical models and modern atomic theory																			