

AAAS Science Benchmarks

Marvelous Martian Mineralogy										
Designing a Spectroscopy Mission										
Designing an Open Spectrograph										
A Spectral Mystery										
Using a Fancy Spectrograph										
Building a Fancy Spectrograph										
Goldilocks and the Three Planets										
Using Spectral Data to Explore Saturn & Titan										
Graphing the Rainbow										
Patterns & Fingerprints										
The Nature of Science										
The Scientific Worldview				X						X
Scientific Inquiry			X	X	X	X	X			X
The Nature of Mathematics										
Mathematics, Science, and Technology				X				X	X	
Mathematical Inquiry				X				X	X	
Patterns and Relationships	X	X			X	X	X			X
The Nature of Technology										
Design and Systems					X	X	X	X	X	
Technology and Science				X				X	X	X
The Physical Setting										
The Earth			X	X						
Energy Transformations			X							X
Structure of Matter					X	X	X			X
Motion		X			X	X	X	X		

Marvelous Martian Mineralogy											
Designing a Spectroscopy Mission											
Designing an Open Spectrograph											
A Spectral Mystery											
Using a Fancy Spectrograph											
Building a Fancy Spectrograph											
Goldilocks and the Three Planets											
Using Spectral Data to Explore Saturn & Titan											
Graphing the Rainbow											
Patterns & Fingerprints											
The Mathematical World											
Symbolic Relationships							X				X
Shapes									X	X	X
Habits of Mind											
Communication Skills											X
Computation and Estimation											X
Manipulation and Observation											X

NRC National Science Education Standards (NSES)

Marvelous Martian Mineralogy										
Designing a Spectroscopy Mission										
Designing an Open Spectrograph										
A Spectral Mystery										
Using a Fancy Spectrograph										
Building a Fancy Spectrograph										
Goldilocks and the Three Planets										
Using Spectral Data to Explore Saturn & Titan										
Graphing the Rainbow										
Patterns & Fingerprints										
Content Standard A: Science as Inquiry										
Abilities Necessary to do Scientific Inquiry			X		X	X	X			X
Understandings About Scientific Inquiry				X						
Content Standard B: Physical Science										
Transfer of Energy		X	X		X	X	X			
Interactions of Energy and Matter										X
Content Standard C: Life Science										
Structure & Function in Living Systems	X									
Content Standard D: Earth & Space Science										
Earth in the Solar System			X							
Structure of the Earth System			X							
Energy in the Earth System				X						
Content Standard E: Science and Technology										
Abilities of Technological Design					X	X	X			
Unifying Concepts & Processes										
Evidence, Models, & Explanations			X							
Understandings About Science & Technology								X	X	X

NCTM Principals and Standards for School Mathematics

Marvelous Martian Mineralogy										
Designing a Spectroscopy Mission										
Designing an Open Spectrograph										
A Spectral Mystery										
Using a Fancy Spectrograph										
Building a Fancy Spectrograph										
Goldilocks and the Three Planets										
Using Spectral Data to Explore Saturn & Titan										
Graphing the Rainbow										
Patterns & Fingerprints										
Algebra	X	X		X	X	X	X	X	X	
Geometry	X	X						X	X	
Data Analysis & Probability			X							X