

Activities Indexed by National Science Education Standards: Grades 9–12

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Science as Inquiry—Abilities Necessary to Do Scientific Inquiry																									
Identify questions that can be answered through scientific investigations.				•				•	•			•	•												
Design and conduct a scientific investigation.	•	•	•		•	•	•		•				•		•	•	•	•		•	•			•	
Use technology and mathematics to improve investigations and communications.	•		•				•	•								•	•	•				•			
Formulate and revise scientific explanations and models using logic and evidence.	•	•		•	•	•	•			•	•	•		•	•	•		•	•	•	•	•	•	•	•
Recognize and analyze alternative explanations and models.								•															•		
Communicate and defend a scientific argument.			•				•						•			•				•			•		
Understandings about scientific inquiry	•	•	•		•	•									•		•	•		•	•				
Physical Science																									
Structure of atoms												•	•												•
Structure and properties of matter	•	•	•	•	•		•	•	•	•	•	•	•	•	•		•	•	•	•					•
Chemical reactions						•					•					•		•	•	•	•	•	•		•
Motions and forces																						•			
Conservation of energy and the increase in disorder							•	•	•								•								•
Interactions of energy and matter	•															•		•							•
Science and Technology—Abilities of Technological Design																									
Identify appropriate problems for technological design.	•																			•					
Evaluate the solution and its consequences.		•					•					•										•			
History and Nature of Science																									
Historical perspectives						•																			