

## High Impact Instructional Strategies for Science and Engineering Practices

	Science and Engineering Practices							
High Impact Instructional Strategies	Asking questions and defining problems	Developing and using models	Planning and carrying out investigations	Analyzing and interpreting data	Using mathematics and computational thinking	Constructing explanations and designing solutions	Engaging in argument from evidence	Obtaining, evaluating, and communicating information
<a href="#">Develop &amp; ask disciplinary focused questions</a>	X	X	X		X			
<a href="#">Case Studies</a>	X	X	X	X			X	X
<a href="#">Compare &amp; Contrast</a>		X				X	X	
<a href="#">Concept Attainment</a>	X	X	X	X	X	X	X	X
<a href="#">Cooperative Learning</a>	X	X	X	X	X			X
<a href="#">Direct Instruction ("mini lesson")</a>								
<a href="#">Discussion</a>	X	X	X	X			X	X
<a href="#">Document Based Questions</a>	X	X	X	X	X		X	X
<a href="#">Interactive/online Simulations</a>	X	X		X				X
<a href="#">Investigation/Inquiry</a>	X	X	X	X	X		X	X
<a href="#">Problem/Project Based Learning</a>	X	X	X	X	X	X	X	X
<a href="#">Role Play/Simulations</a>	X		X	X				
<a href="#">Socratic Seminar</a>	X	X	X	X	X		X	X
<a href="#">Structured Academic Controversy</a>	X	X	X	X	X		X	X
<a href="#">Virtual Fieldtrips</a>	X	X				X		X
<a href="#">Virtual Museum</a>	X	X	X	X	X	X	X	X
<a href="#">WebQuests</a>	X	X		X	X	X		X