



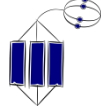




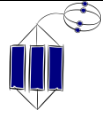




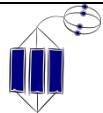




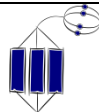






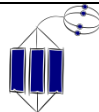
HookED SOLO Taxonomy and the Nature of Science (NoS) Criteria





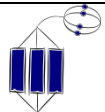
CO-CONSTRUCTED SELF ASSESSMENT RUBRIC					
	Prestructural	Unistructural	Multistructural	Relational	Extended Abstract
	Learning outcomes show unconnected information, no organisation. <i>E.g. "I need help or direction"</i>	Learning outcomes show simple connections but importance not noted. <i>E.g. "I will have a tilt at it"</i>	Learning outcomes show connections are made, but significance to overall meaning is missing. <i>E.g. I will use trial and error to find a solution"</i>	Learning outcomes show full connections made, and synthesis of parts to the overall meaning <i>E.g. "I plan to do X because it will ... I know what to do and why .."</i>	Learning outcomes go beyond subject and makes links to other concepts - generalises <i>E.g. "I sense what to do to find the best solutionI seek feedback and adjust my actions in response "</i>
NoS Criteria For example <ul style="list-style-type: none"> • Consistent, • Observable, • Natural, • Predictable, • Testable, and • Tentative. 	I need help to check for consistency in a scientific experiment or statement. [Consistency: Repeated experiments performed by competent researchers giving similar results.]	If directed I repeat the experiment to see if I get similar results. If directed I check for similar claims for a scientific statement	I usually repeat my experiment to check if I get similar results. I usually check for similar claims for a scientific statement BUT I am not sure why I do this or what to do if I do not get consistent results.	I repeat my experiment to check if I get similar results. I work strategically/ purposefully to make sure all variables in the repeated experiment remain the same. I check for similar claims for a scientific statement AND the expertise and experience of the person making the claim. I know why, when and how I need to repeat my experiment to check for consistency.	I am skilled and active in repeating my experiments and controlling variables to check for consistency in the results. I seek feedback from others on how I can improve the consistency of my experimental approach. I give feedback on the consistency of other's experiments and suggest ways to improve consistency. I check on similar and dissimilar claims for a scientific statement AND judge the expertise and experience of the persons making the claims.
Effective Strategies					

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NoS Criteria For example <ul style="list-style-type: none"> • Consistent, • Observable, • Natural, • Predictable, • Testable, and • Tentative. 	I need help to observe the event. [Observable: The event under study, or evidence of the occurrence of the event, can be observed and explained.]	I can observe the event if directed.	I can observe the event (or evidence from the event) but I am not sure what I am looking for.	I can observe the event (or evidence from the event) and explain what I am looking for and why I am looking for it.	I can observe the event (or evidence from the event) and explain what I am looking for and why I am looking for it. I seek feedback from others to improve my observation of the event.
Effective Strategies					

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SELF ASSESSMENT RUBRIC	Prestructural	Unistructural	Multistructural	Relational	Extended Abstract
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NoS Criteria For example <ul style="list-style-type: none"> • Consistent, • Observable, • Natural, • Predictable, • Testable, and • Tentative. 	I need help to explain the natural cause of an event. [Natural: A natural cause (mechanism) must be used to explain why or how the naturally occurring event happens.]	I can identify a natural cause for an event if directed.	I can identify a natural cause for an event but I cannot justify my decision.	I can identify a natural cause for an event and explain why I believe it is a natural cause.	I can identify a natural cause for an event and explain why I believe it is a natural cause. I seek feedback from others on any unwarranted assumptions and or alternative explanations to improve my explanation.
Effective Strategies					

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NoS Criteria For example <ul style="list-style-type: none"> • Consistent, • Observable, • Natural, • Predictable, • Testable, and • Tentative. 	I need help to make a prediction based on the natural cause of an event. [Predictability: The natural cause (mechanism) of the naturally occurring event can be used to make specific predictions. Each prediction can be tested to determine if the prediction is true or false.]	I can make a prediction based on the natural cause of an event if directed.	I can make a prediction based on the natural cause of an event but I cannot test my prediction to determine if it is true or false.	I can make a prediction based on the natural cause of an event and I can test the reliability of my prediction to determine if it is true or false.	I can make a prediction based on the natural cause of an event and I can test the reliability and validity of my prediction to determine if it is true or false. I seek feedback from others on how I can improve the validity and reliability of my test.
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NoS Criteria For example <ul style="list-style-type: none"> • Consistent, • Observable, • Natural, • Predictable, • Testable, and • Tentative. 	I need help to test the cause of a naturally occurring event using a controlled experiment. [Testability: The natural cause (mechanism) of the naturally occurring event must be testable through the processes of science, controlled experimentation being essential.]	I can test the cause of a naturally occurring event using a controlled experiment, if directed.	I can test the cause of a naturally occurring event using a controlled experiment, but I am not sure of the reasons behind what I am doing so I make mistakes.	I can test the cause of a naturally occurring event using a controlled experiment. I can explain the reasons behind each of the steps I take.	I can test the cause of a naturally occurring event using a controlled experiment. I can explain the reasons behind the steps I take. I seek feedback from others on how I can improve the validity and reliability of my testing process.
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NoS Criteria For example <ul style="list-style-type: none"> • Consistent, • Observable, • Natural, • Predictable, • Testable, and • Tentative. 	I need help to explain why a scientific idea/theory may be tentative (not certain, subject to revision). [Tentativeness: Scientific theories are subject to revision and correction, even to the point of the theory being proven wrong.]	I can identify one reason why a scientific idea/theory may be tentative (not certain, subject to revision), if directed.	I can identify several reasons why a scientific idea/theory may be tentative (not certain, subject to revision).	I can identify several reasons why a scientific idea/theory may be tentative (not certain, subject to revision) and explain why these reasons are relevant.	I can identify several reasons why a scientific idea/theory may be tentative (not certain, subject to revision) and explain why these reasons are relevant. I can provide evidence to support the validity of my reasons.
Effective Strategies					