

## Lesson Framework – Guided Inquiry for Conceptual Understanding

Lesson Step	Question Stems	Might Look Like
<p style="text-align: center;"><b>1) Connecting and Exploring</b></p> <p>*Stimulus/Hook: The “why” of the unit. Why is this topic important to me? What do I already think about it?</p> <p>The question stems are written in 3<sup>rd</sup> person because this is usually a bit teacher-lead. We want to connect to their prior knowledge and their lives while stimulating interest in the unit.</p>	<ul style="list-style-type: none"> <li>• Imagine...</li> <li>• What might happen if...</li> <li>• How is this important?</li> <li>• Is this true: _____?</li> <li>• Which is more important: _____ or _____?</li> <li>• What comes to mind when you think of/hear the word _____?</li> <li>• What do you like about...?</li> <li>• How often do you rely on...?</li> <li>• Why is _____ important to you, your family, our community, city?</li> </ul>	<ul style="list-style-type: none"> <li>• Images</li> <li>• Skits</li> <li>• Touching/tactile objects</li> <li>• Music/art</li> <li>• Transform the classroom</li> <li>• Videos</li> <li>• Sample food/smells</li> <li>• Learning walk</li> <li>• Students drawing their ideas</li> <li>• See, think, wonder</li> </ul>
<p style="text-align: center;"><b>2) Asking Questions</b></p> <p>This part shifts to being more student-directed but with <b>clear teacher goals</b> presented to students via questions about the big ideas (conceptual relationships) that we want the students to “uncover” via exploration and research.</p> <p>*Teacher modelling and questions *Learning Objectives and Success Criteria + High expectations – Share the goals of the unit via questions and rubrics/checklists.</p>	<ul style="list-style-type: none"> <li>• What are the concepts of this unit?</li> <li>• Which relationships should we investigate?</li> <li>• What impacts should we investigate?</li> <li>• What questions might we ask?</li> <li>• How should we investigate this?</li> <li>• What do we want to find out?</li> <li>• What do we need to know first, second, third?</li> <li>• What can we compare or contrast this to?</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher model coming up with questions</li> <li>• Guest scientist, etc. models coming up with questions</li> <li>• Give students choice of examples</li> <li>• Brainstorm as many questions as possible then sort them</li> <li>• Rank a set of questions</li> <li>• Rank a set of hypotheses</li> <li>• Rank a set of possible investigations</li> </ul>

	<ul style="list-style-type: none"> <li>• What is our research question?</li> <li>• What is our hypothesis?</li> <li>• What patterns might we notice?</li> <li>• What examples will help us to understand this better?</li> </ul>	<ul style="list-style-type: none"> <li>• Rank a set of possible methods of investigation</li> </ul>
<p><b>3) Investigating and Organizing</b></p> <p>This is the real substance of the unit and usually takes the most time. We must carefully facilitate student discovery of the <i>relationship</i> between concepts to gain greater insight into a topic. This step is where the cycle of conceptual learning (abstract conceptual question explored through multiple fact-rich contexts) takes place.</p> <p>*Scaffolding and differentiation *Feedback</p>	<ul style="list-style-type: none"> <li>• What evidence can I collect about the relationships between concepts?</li> <li>• What patterns do I notice?</li> <li>• What effects do I notice?</li> <li>• What further questions do I have as a result of my investigation?</li> <li>• How will we show what we learned?</li> </ul>	<ul style="list-style-type: none"> <li>• Graphic organizers</li> <li>• Concept maps</li> <li>• Cause/effect diagrams</li> <li>• Compare/contrast diagrams</li> <li>• Explicit teaching of research strategies and tools</li> <li>• Visible thinking routines: Generate, sort, connect, elaborate</li> <li>• At least one transfer of understanding to a new situation</li> </ul>
<p><b>4) Going Further</b></p> <p>This is where we give a summative assessment of learning via a new situation or context that ideally involves a real-life, important issue to unpack. We also want students to take action in some way to make learning authentic and purposeful.</p> <p>*High expectations and teacher modelling – share what good work looks like, push them to go further.</p>	<ul style="list-style-type: none"> <li>• How has my understanding deepened as a result of my investigation?</li> <li>• How can I apply my understanding to a new situation?</li> <li>• What slight differences can I find in the new situation and how does that deepen my understanding?</li> <li>• How can I take action on this topic?</li> </ul>	<ul style="list-style-type: none"> <li>• GRASP</li> <li>• Presentation to authentic audience</li> <li>• At least second transfer</li> <li>• Reflection on how the unit changed them as a person and how they are going to make a difference</li> </ul>