1. **Elaborate Major Ideas**
   - *What is the intended meaning of the element of the core idea?*
   - *Is there one idea or several separate ones in the statement?*
   - *What terminology is explicitly used in the core idea?*

2. **Define Boundary Conditions**
   - *What peripheral ideas or terms are not essential for understanding the core idea?*

3. **Describe Prior Knowledge**
   - *What other knowledge and skills (both from this topic and from other topics) do students need in order to achieve an understanding of this core idea?*

4. **Identify Student Challenges**
   - *Are there any commonly-held ideas that differ in important ways from the scientifically accepted understanding?*
   - *What methods can be used to determine students current understandings?*
   - *In what ways can instruction directly address or leverage students current understandings?*

5. **Brainstorm Phenomena**
   - *What phenomena would provide an example of this core idea?*