CLEAN-NGSS Unit Planning Flowchart

Select grade-level and content Performance Expectations (PEs)

↓

Identify phenomena, problem, or project that best suit the PE or bundle of PEs

↓

Review if PEs are addressed → Revise or adapt phenomena, problem, or project

↓

Unpack PEs on NGSS Matrix (SEP/DCI/CCC) ↔ Select teaching strategies that meet phenomena, problem, or project

↓

Develop unit storyline, summative assessments and rubrics to assess PEs ↔

↓

Access students' prior knowledge to succeed at the PEs ↔

↓

Choose learning activities (e.g. CLEAN) that build students' understanding of the PEs ↔

↓

Sequence learning activities to scaffold the unit storyline to meet the PEs ↔

↓

Develop formative assessments and rubrics based on storyline learning activities ↔

↓

Review unit plan with NGSS Matrix (SEP/DCI/CCC) →

↓

Instruct unit

↓

Unit reflection
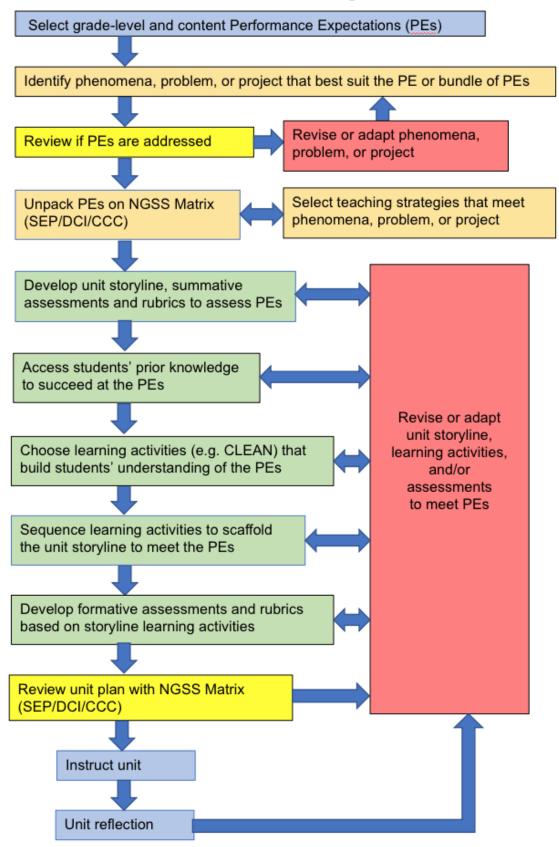
Revise or adapt unit storyline, learning activities, and/or assessments to meet PEs

CLEAN 3D Learning NGSS Unit Planning Flowchart Guide

1. **Select grade-level and content Performance Expectations (PE=standard)**

2. **Identify phenomena, project, or problem that best suit the PE or bundle of PEs** Which science core ideas align with the unit that also meet the curriculum's focus?

3. **Review if PEs are addressed**
   What are the natural events and/or personal experiences that strengthen student engagement in the unit?

4. **Revise or adapt phenomena, project, or problem**
   Check that the phenomena, problem, or project address the PE(s).

5. **Unpack PEs on NGSS Matrix (SEP=skills, DCI=content, CCC=connections)**
   Break down the PEs according to its supporting scientific and engineering practices, disciplinary core ideas, and the crosscutting concepts.

6. **Select teaching strategy that addresses the phenomena, project, or problem**
   Which instructional strategy or strategies are most effective in teaching and learning about the unit's core ideas?

7. **Develop unit storyline, summative assessments and rubrics to assess PE**s
   Following the backward instructional design, plan the summative assessment and the formative assessments to support student success in meeting the unit's learning objectives of the science core ideas. What will students ask and experience to address assessment?

8. **Access students' prior knowledge to succeed at the PEs**
   What skills do students need to know and be able to do to complete the unit and succeed at the PE? How are the activities packaged to meet our students learning needs?

9. **Choose learning activities (e.g. CLEAN) that build students' understanding of the PEs**
   Search the CLEAN Collection and other sources to select unit learning resources. Build a coherent flow science core ideas that scaffold and loop student learning of the unit's science core ideas in a logical progression. Identify learning activities to address the storyline questions and experiences.

10. **Sequence learning activities to scaffold the unit storyline to meet the PEs**
    Develop the unit using the CLEAN 3D Learning NGSS unit planning template.

11. **Develop formative assessments and rubrics based on learning activities**
    How can the learning activities gauge the development of students' knowledge about the PEs?

12. **Review unit plan with NGSS Matrix (PE/SEP/DCI/CCC)**
    Check that the learning resources selected for the unit align with the scientific and engineering practices, disciplinary core ideas, and the crosscutting concepts of the corresponding performance expectations.

13. **Revise or adapt assessments and/or learning activities to meet PEs**
    Review and revise the unit learning activities and assessments.

14. **Instruct unit**
    Teach the unit and make note of any feedback, adaptations, etc. in order to improve student achievement in mastering the science core ideas of the unit.

15. **Unit reflection**
    What parts of the unit worked well in building students' knowledge and understanding of the PEs? What parts of the unit need to be changed or revised in the unit based on students' performance in the assessments?