Module 5: Designing Equitable 3D Assessment Tasks

Session 5.0: The Assessment Task Design Cycle

Session 5.0 *(2 hours)* The Assessment Task Design Cycle	**Session 5.1** *(2 hours)* Phase 1 - Get Started	**Session 5.2** *(2.5 hours)* Phase 2 - Establish Clear Assessment Targets	**Session 5.3** *(2 hours)* Phase 3 - Craft the Scenario
Session 5.4 *(2.5 hours)* Phase 4 - Write a Task Storyline from the Student Perspective	**Session 5.5** *(3.5 hours)* Phase 5 - Test and Revise the Task	**Session 5.6** *(3 hours)* Phase 6 - Create Guidance Tools	

Session Description:
In this session, participants are introduced to the design cycle that will be used to create a 3D assessment task. They study how the scenario and prompts elicit sensemaking through an engaging phenomenon that is interesting and relevant to students. Participants consider key ideas for equitable assessment design and make decisions about which ideas they want to highlight. Finally, they organize their resources to begin the assessment task design process.

Module Goals:
1. Understand a process for developing equitable 3D assessment tasks that attend to the identity and interests of all students.
2. Develop an assessment product that can be used by teachers in a classroom setting.

Session Length: **120 minutes**

Part 1	Welcome and Opening (S1-S3)	10 minutes
Part 2	The Assessment Task Design Cycle (S4-S7)	20 minutes
Part 3	Assessment Task Terminology (S8-S13)	35 minutes
Part 4	Equity in Assessment (S14-S15)	25 minutes
Part 5	Structure of Module 5 (S16-S19)	22 minutes
Part 6	Closing (S20-S21)	8 minutes

Pre-work for the Session:
1. Gather and review the resources developed in Module 2 and Module 3.
    - From Module 2:
        - Knobs/Constants Chart (Session 2.1)
        - Unpacked dimensions (Session 2.2 and Session 2.3)
    - From Module 3:
        - Path of student learning and thinking across a unit of instruction (Session 3.1)
        - Actions and Next Steps (Session 3.3)
2. Participants will need access to a laptop or computer to participate in the learning activities in this session and throughout Module 5. The Module 5 Participant Agenda and Resource Links document contains all the links for the sessions in Module 5, including the template that will be used throughout the process.
3. Participants should have a notebook or personal method for jotting down ideas, wonderings, and questions.

Session Resources:

Slides
- 5.0 Session Slides (GoogleSlides)

Agenda and Resource Links
- Module 5 Participant Agenda and Resource Links

Technology Tools
- N/A

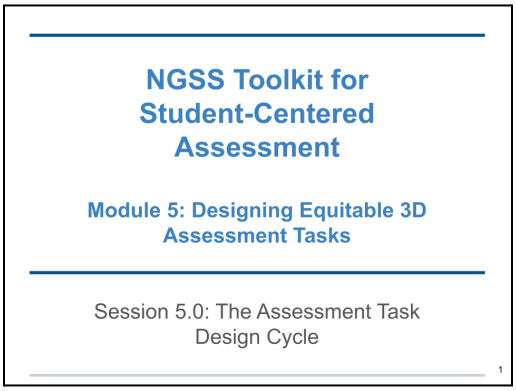
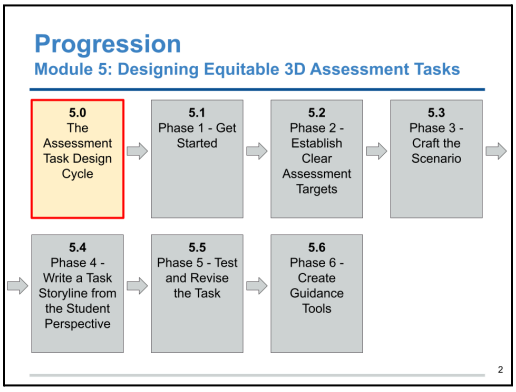
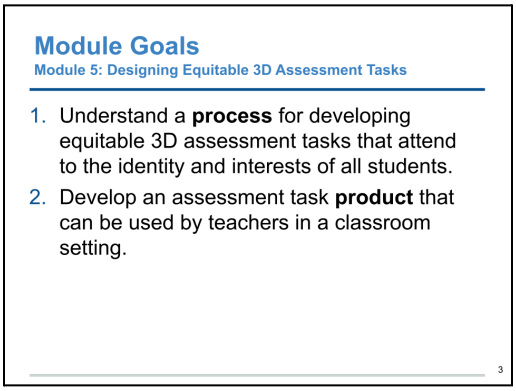
Handouts
- H2-5 Science Assessment System Continuum
- R5-1 Sample Assessment Tasks
- H2-6 Task Annotation Project (TAPs) - Equity
- H2-8 Non-Negotiables and Variables in an Assessment System
- H5-1 3D Assessment Task Design Template

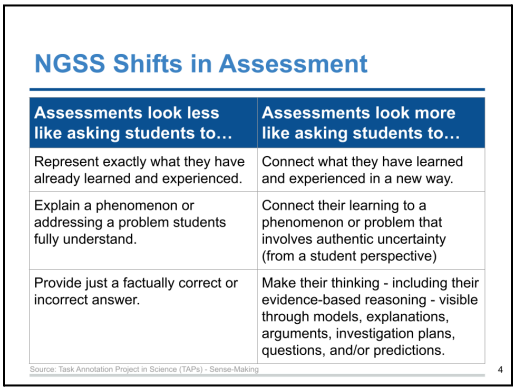
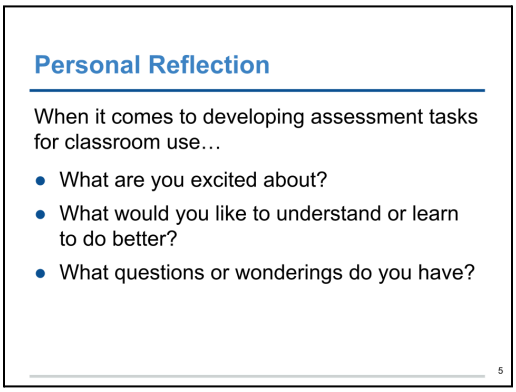
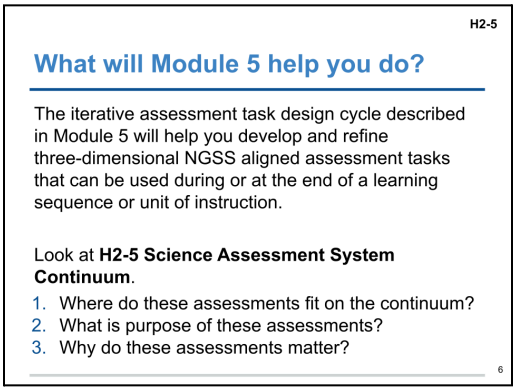
Resources
- For alternative sample assessment tasks used on S12, refer to the *NGSS Assessment Database* (hosted by The Stanislaus County Office of Education). Note: Click on the NGSS Assessment Database tab to find the database.

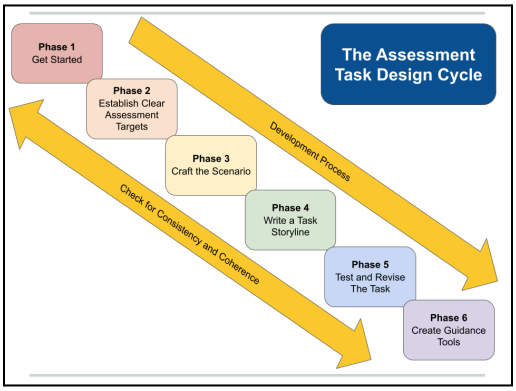
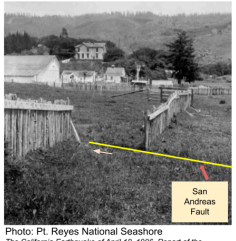
Planning to Present and Facilitate Session 5.0

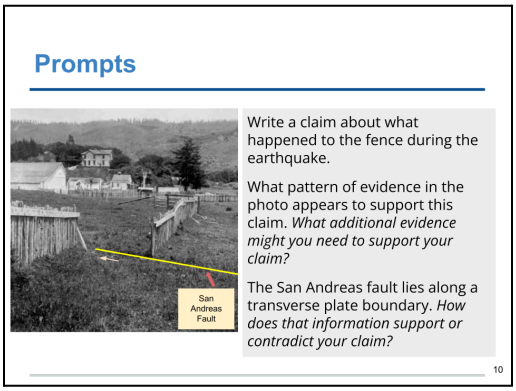
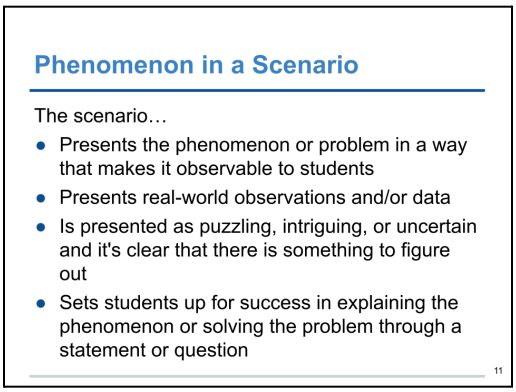
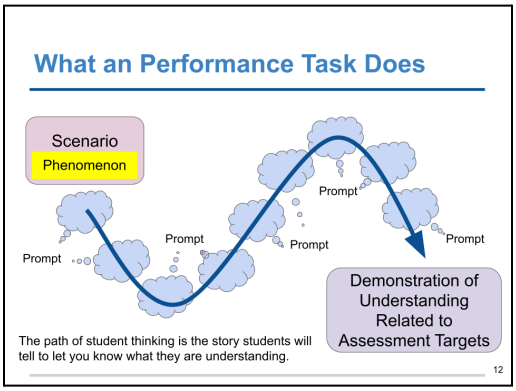
1. Throughout Module 5, participants will have an opportunity to develop a three-dimensional assessment task. If participants have previously completed Module 2 and Module 3, they should already have an idea about the task they want to create, should have completed the unpacking of each dimension, and written an assessment target. If not, the facilitator should meet with each team and consider the context in which a task will be developed. In doing this, they should work with the team to:
    - Clarify what topic or unit they are creating an assessment task for
    - Determine which specific DCI, SEP, and CC will be addressed in the assessment task
    - Identify which variables (H2-8) are to be included (or dialed-up) in the task
    - Unpack each of the identified dimensions. It is highly recommended that this be done in advance of starting Module 5 or additional time will be required to complete Session 5.2.
2. Create a parking lot chart or digital document where questions can be posted.
3. Determine the structure and format for this session.
    - For a virtual session (i.e., Zoom or GoogleClassroom), groups will have to be determined in advance. Groups will need to be able to be moved back and forth between breakout rooms. All resources will have to be made available electronically or physical handout will have to be provided in advance.
    - For a face-to-face session, groups can be arranged by tables. The presentation can be displayed on a screen and also shared with participants if they have technology available.
4. As participants will be asked to work and share within a team (task development) and across groups (peer-feedback) throughout all the sessions of Module 5, the composition of each group is important to determine in advance. Groups should be kept to a small number of participants per group, with a recommendation of 3-4 people per group. Each group will work to develop a specific task, so buy-in and interest of each participant should be considered. Some possible group compositions might be:
    - Grade level teams
    - Content alike teams
    - PLC teams
5. Set up team folders where all work can be organized and stored. Place a copy of H5-1 3D Assessment Task Design Template in each folder. Make sure all participants in the group have editing access to the folder.
6. Make a copy of the Module 5 Participant Agenda and Resource Links document. You will need to update it with the links for the Module, including the links to group folders and/or templates.
7. Decide whether you will use the tasks in R5-1 Sample Assessment Tasks or other sample tasks. Refer to the *NGSS Assessment Database* (hosted by The Stanislaus County Office of Education) for possible other assessment tasks.

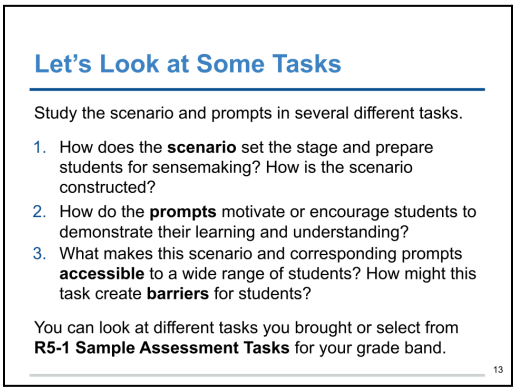
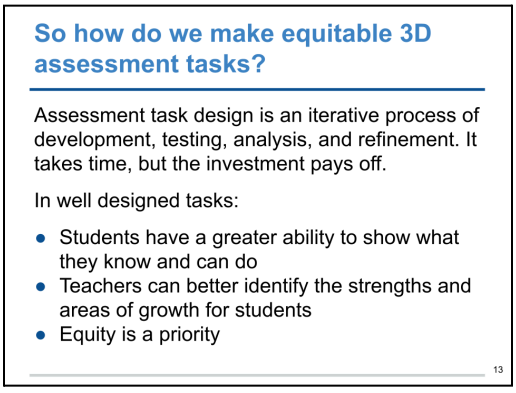
Part 1 Welcome and Opening (10 minutes)

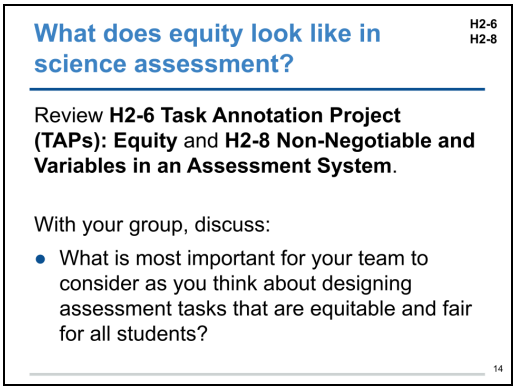
Slide	Facilitator Notes
S1 Title 	Welcome participants and introduce session facilitators. Share the link to the **Module 5 Participant Agenda and Resource Links** document. Explain that all the links needed for the session can be found in the agenda and that it will be helpful to have the document open throughout the session. Remind them to also have a notebook or place to record any ideas they wish to capture throughout this and the other sessions in Module 5. *Facilitator Note: If norms/agreements have not already been established, it is worth spending a couple minutes to discuss among the group what norms will be required for full engagement and participation among everyone. These can be charted or summarized in a place that is accessible to everyone.*
S2 Progression 	Explain that in this session participants will be introduced to a design cycle to help them plan, develop, and test an assessment task that can be implemented in a classroom setting. In this first session they will be introduced to some terminology that will be used and explore the structures of some sample assessment tasks. The rest of the sessions in Module 5 will focus on the assessment task design process.
S3 Module Goals 	Go over the goals for Module 5 and emphasize that the cycle we will be using focuses on both process (how we do it) and product (something we can use in the classroom). Explain that the process includes pieces of the learning from previous modules as well as using some of the products that have already been created. Explain that at the end of each module session there will be an opportunity to reflect on how understanding has changed related to these goals as well as to highlight any wonderings and questions that have surfaced. *Facilitator Note: If participants have not done Module 2 (Knobs & Constants Chart, Unpacking, Identifying a Phenomenon, Learning/Assessment Target) or Module 3 (Path of Student Learning and Thinking, Flagged Assessments across a Unit of Instruction, Assessment Actions and Next Steps), there will be opportunities to develop the products needed to complete this module. Extra time, however, will need to be considered and planned for.*
Part 2 The Assessment Task Design Cycle (20 minutes)	

Slide	Facilitator Notes
S4 NGSS Shifts in Assessment 	Explain that in order to fully teach the Next Generation Science Standards, both instruction and assessment needs to shift dramatically. Go over the shifts highlighted on the slide. *Facilitator Note: Additional shifts are located in Module 0. Refer to these additional shifts as necessary to help participants understand that assessment should look different in NGSS.*
S5 Personal Reflection 	With these NGSS assessment shifts in mind, give participants 3-4 minutes to complete this personal reflection. Invite them to record their ideas in their notebook or in a personal document. Ask several participants to share their reflections. Thank them for sharing and close the conversation by summarizing some of the ideas presented. *Facilitator Note: It might be helpful to record some of the learnings or questions that are shared and acknowledge them as they are addressed in the assessment task design cycle.*
S6 What will Module 5 help you do? 	Explain that Module 5: Designing Equitable 3D Assessment Tasks uses an iterative design cycle to develop and refine three-dimensional assessment tasks that can be used during or at the end of a learning sequence or unit of instruction. Have participants look at **H2-5 Science Assessment System Continuum** and spend 4 minutes orienting themselves to the location in the continuum where such assessment occurs. Ask groups to discuss and answer the questions on the slide. They can find this link on the **Module 5 Participant Agenda and Resource Links** document. Spend a few minutes having participants share some ideas they have about each of the questions on the slide. *Facilitator Note: (1) Where do these assessments fit on the continuum? The answer depends on when the assessment will be given. If it is while learning is occurring it is considered a short cycle assessment. If it is at the end of learning, it should be considered a medium cycle assessment. (2) What is the purpose of these assessments? Refer to the "Why they Matter" sections for science understanding. (3) Why do these assessments matter? Refer to the "Why they Matter" sections for student identity.*

S7 The Assessment Task Design Cycle 	Introduce the assessment task design cycle that will be used throughout this module. The development process moves through various phases (from Phase 1 - Getting Started to Phase 6 - Create the Guidance Tools) but is not necessarily a linear process. Throughout each phase participants will need to return back to previous phases as they check for consistency and coherence in their design. Highlight that the heart of the process is Phase 3 and Phase 4 where the task scenario and prompts are written. This is the "fun" part of the process. In order to do this in such a way that the assessment task meets the intended purpose, it is important to slow down and focus on the first two phases. *Facilitator Note: If participants have completed Module 2 and Module 3, much of the heavy lifting of Phase 1 and Phase 2 in the design cycle will already have been completed. If so, remind participants again that they will be using work previously done in the first two phases.*
Part 3 Assessment Task Terminology (35 minutes)	
Slide	**Facilitator Notes**
S8 Some Terminology **Some Terminology** What are the two main components of an assessment task? **Scenario:** The contextual framing of a task in which a phenomenon to be explained or a problem to be solved is presented to students. The phenomenon or problem presented is the focus of the entire assessment task. **Prompts:** Individual components or questions, all of which are linked to the scenario and build on each other to help students explain and make sense of the phenomenon. 8	Explain to participants that there are two main components to an assessment task, a well-crafted scenario and a set of prompts to help students explain and make sense of the phenomenon presented in the scenario and demonstrate their understanding. Go over each of the terms and explain that they will now look at a sample task to better understand the role each of these play to support student learning and thinking.
S9 Scenario **Scenario** In 1906, a massive earthquake shook the San Francisco Bay Area along the San Andreas fault. Among the damage, this fence broke in one area as seen in the picture. Using what you know about the causes of earthquakes, construct an explanation for why we see what we see here.  Photo: Pt. Reyes National Seashore *The California Earthquake of April 18, 1906. Report of the State Earthquake Investigation Commission.* Andrew C. Lawson, Chairman. Washington, D.C.: Carnegie Institution of Washington, 1908–10. 9	Have participants read the scenario. Then use these questions to prompt their thinking and lead a discussion about the scenario: • What phenomenon do you see here? • How is this scenario preparing students for sensemaking? • What makes this scenario accessible to a wide range of students? • What barriers does this scenario create? *Facilitator Note: Barriers are obstacles the task puts in front of students that prevent them from fully accessing, participating, or demonstrating understanding. Barriers are minimized when using UDL Guidelines (Session 2.1).*

S10 Prompts 	Have participants read the prompts. Then use these questions to prompt their thinking and lead a discussion about the prompts: ● How do the prompts support student sensemaking? ● What makes these prompts accessible to a wide range of students? ● What barriers do these prompts create?
S11 Phenomenon in a Scenario 	Explain to participants how the scenario sets the stage for sensemaking by using an interesting and compelling phenomena by going over each of the bullets on the slide. Share that they will have a chance to carefully consider the phenomenon and scenario as part of the assessment task design process. *Facilitator Note: In Session 5.2 participants will consider the phenomenon to be used in their assessment task. In Session 5.3 they will build out the scenario for their task.*
S12 What a Performance Task Does 	Use this click through to help clarify what a performance task does. A performance task starts with a phenomenon, an observable occurrence in the natural or human-made world that causes one to wonder and ask questions. Click to reveal the next two boxes. Explain that a phenomenon is presented to students in a well crafted scenario that sets students up for sensemaking. The goal of the performance task is for students to demonstrate their understanding related to the assessment targets. Click again to reveal the line and thinking bubbles. Explain that in a performance task we consider how to structure the task in a way to help students let us know what they are understanding. This is called the path of student thinking. Click once more to reveal the word “prompts” and explain that we use carefully crafted questions and prompts to reveal student thinking in a way that we can make a determination of what students understand and where they may be getting stuck. Lead a short discussion by asking participants to share differences between a performance task and a traditional multiple choice assessment. *Facilitator Note: Possible ideas to highlight is that performance tasks require sensemaking, explanation, and often reveal*

	nuanced thinking. They also require more time for teachers to analyze student work. Multiple choice assessments often only reveal a student response to a prompt and do not provide deeper insight into what students are thinking or understanding. They are, however, easier to grade. The key here is not to say on is better than the other, but rather, that the purpose and use for an assessment needs to be carefully considered.
S13 Let's Look at Some Tasks 	With the scenario, prompts, accessibility, and barriers in mind, ask participants to look through the **R5-1 Sample Assessment Tasks** and find one for their grade band to review. Have them use the prompts on the slide to guide their thinking and conversations. Provide approximately 15 minutes for groups to discuss. If they finish one task they can begin looking at a second one. Once groups have done their evaluation, lead a short discussion by having groups share what they learned from the tasks they studied. Make note of ways tasks are accessible to a wide range of students and possible barriers they present to students. *Facilitator Note: Instead of using the tasks available here, the facilitator may want to identify some specific tasks for participants to study. The Stanislaus County Office of Education hosts an **NGSS Assessment Database** (click on the NGSS Assessment Database tab) which can be used to find possible other assessment tasks. Be sure any tasks chosen have both a scenario and prompts that can be evaluated.*
Part 4 Equity in Assessment (25 minutes)	
Slide	**Facilitator Notes**
S14 So how do we make equitable 3D assessment tasks? 	Explain that a primary goal of assessment task development is to make the assessment experience equitable to all students. This is done by engaging in an iterative design process that includes development, testing, analysis, and refinement. Emphasize that the process takes time but the investment is worth it if the goal is to allow students opportunities to show what they know and can do and for the teacher to better identify the strengths and areas of growth for students. In order to support all students, equity in design must be a priority.
S15 What does equity look like in science assessment?	To better consider what equity looks like in science assessment, have participants review **H2-6 Task Annotation Project (TAPs) - Equity** and **H2-8 Non-Negotiables and Variables in an Assessment System** in their groups. These documents are linked on the **Module 5 Participant Agenda and Resource Links** document.



Ask participants to discuss what is important for them to consider as they think about designing assessment tasks that are fair and equitable for all students.

Provide 15 minutes for participants to complete this task. When they finish, invite several groups to share some of the considerations they want to keep in mind.

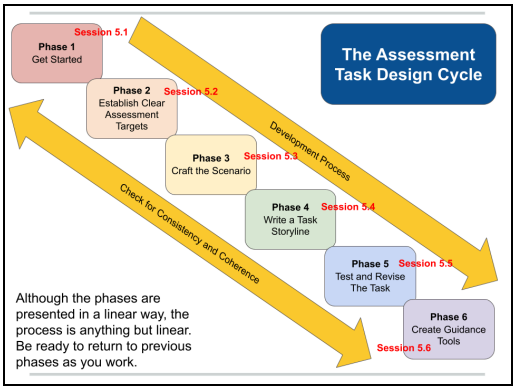
If participants have completed a knobs/constants chart from Session 2.1, they can review it against these documents and decide if there is anything else that they want to include.

*Facilitator Note: Here are some key ideas f*rom TAPs: Equity for consideration:

- Provide students with tasks that are **relevant** to them - to their own interests and lives, or that are globally or universally meaningful.
- Encourage and support **multiple ways of knowing** as avenues to success.
- Include appropriate **scaffolds, on-ramps, and cues** that help all students connect with the task and engage in sense-making.
- Are **coherent and understandable** to all students engaging with the task.
- **Respect and advantage students' cultural and linguistic backgrounds**.
- Use **accessible language** and provide **multiple ways for students to make facets of their thinking visible**, so that all learners can demonstrate progress.
- **Cultivate students' interests in and confidence with science** by valuing students' own ideas as part of the task through connections to lived and classroom experience; providing opportunities for choices and decision-making; and opportunities for peer- and self-reflection.
- Ask students to engage in tasks for which their **learning experiences have prepared them**.
- Provide students with opportunities to **monitor and recognize their own progress**.

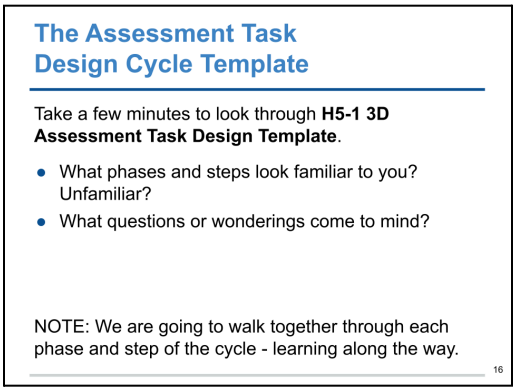
Part 5 Structure of Module 5 (22 minutes)

Slide	Facilitator Notes
S16 The Assessment Task Design Cycle	Return back to the Assessment Task Design Cycle chart and share how each of the remaining sessions in Module 5 correlate to a phase of the cycle. Explain to participants that they will work through each phase in order but they will find they return to previous phases throughout the process to check for consistency and coherence. Explain that this is a "go slow to go fast" process, meaning that in order to get to the place where they are crafting the scenario and building prompts they will first need to carefully get clear on



the purpose of the assessment task, clearly identify the assessment target, and create a gapless student explanation of the phenomenon that will be considered.

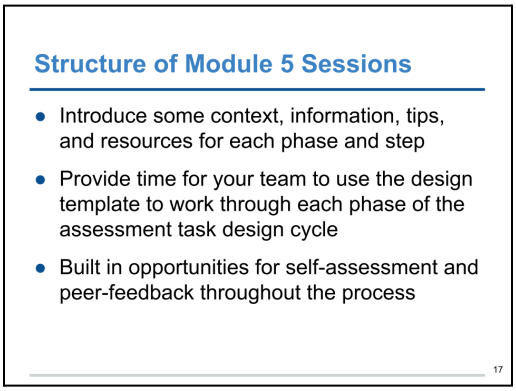
S17 The Assessment Task Design Cycle Template



Introduce the [H5-1 3D Assessment Task Design Template] to participants. Give them 5 minutes to skim through the template and notice any steps that look familiar or new. If there are any questions or wonderings, provide time for them to share them with the group or place them on a parking lot chart or document.

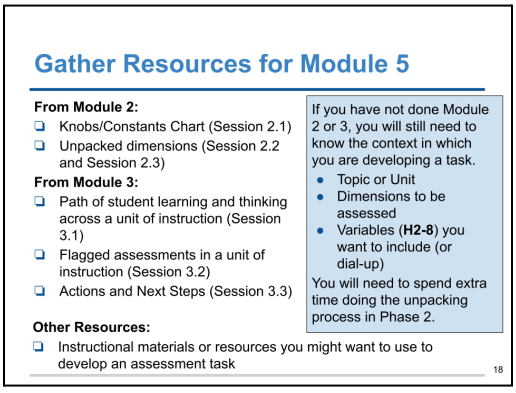
Remind participants that they will be learning the process as they work through each phase and step of the cycle.

S18 Structure of Module 5 Sessions



Provide a brief introduction to the structure of the remaining sessions in Module 5. In each session they will be introduced to some context, information, tips, and resources for each phase and step. There will be time for them to work with their team on the design template. There will also be built in time for self-assessment and peer-feedback throughout the process.

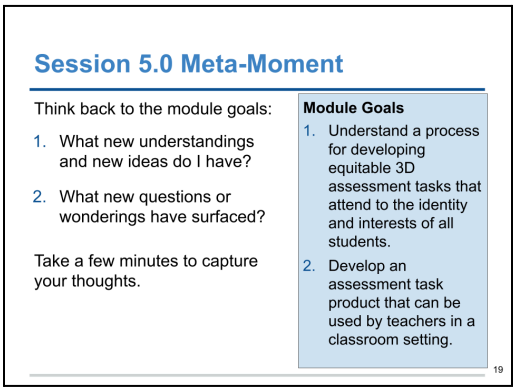
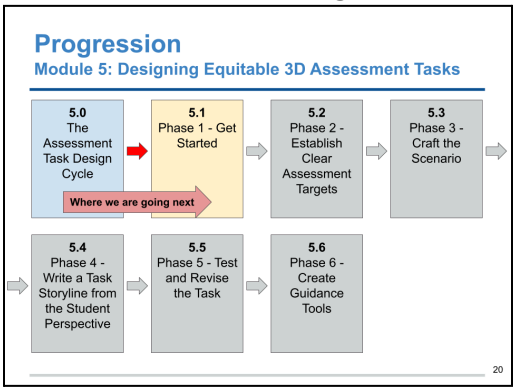
S19 Gather Resources for Module 5



Go over the resources that will be needed for the rest of Module 5. Give participants time to collect and organize these documents. If time allows, provide them an opportunity to review their work with one another.

If participants have not completed Module 2 or Module 3, they will need time to address the bullets in the blue box on the slide. The facilitator will need to check-in with groups to make sure there is clarity on the context before moving forward.

Facilitator Note: If folders have been set up in advance (recommended), spend time showing participants where they are located and make sure all sharing permissions are correct. Make sure any facilitators can access these folders to review

	and monitor group progress.
Part 6 Closing (8 minutes)	
Slide	**Facilitator Notes**
S20 Session 5.0 Meta-Moment 	Close the session by asking participants to read over the Module 5 goals and participate in a meta-moment. Invite them to capture their thoughts about what new understandings they have from the session related to the goals. Also ask them to record any questions or wonderings that have surfaced. If there is time, you might ask a couple people to share their reflection to the whole group or with a partner.
S21 Where We Are Going Next 	Thank participants for their engagement and participation in the session. Use the graphic to explain where we are going with the next session.