NextGen TIME Paperscreen
Designed for the NGSS: Pre-Paperscreen
Learn the Process

Purposes:

- To introduce the NextGen TIME tools and processes for the Paperscreen Phase which supports teams in evaluating and selecting instructional materials
- To help participants understand how the Paperscreen process connects to the overall purpose of NextGen TIME and to develop commitment to the process.

Session Outline (60 minutes; 1 hour plus breaks)

<table>
<thead>
<tr>
<th>Part 1: Introduction Slides 1-9</th>
<th>Purpose: Orient participants to the purpose of NextGen TIME and set the stage for the focus of the session. Summary: Participants review purpose and outcomes for NextGen TIME; access prior knowledge experiences related to selecting and implementing instructional materials and the characteristics of high-quality instructional materials designed for next generation science; and orient participants to where they are in the process.</th>
<th>60 min plus time for introductions and for developing commitment to the process.</th>
</tr>
</thead>
</table>

Materials

<table>
<thead>
<tr>
<th>Slides</th>
</tr>
</thead>
<tbody>
<tr>
<td>S1</td>
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<td>S2</td>
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<td>S3</td>
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<td>S7</td>
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<td>S8</td>
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<td>S9</td>
</tr>
</tbody>
</table>

Handouts

- NG-HO1: Overview of NextGen TIME
- NG-HO2: Paperscreen Overview
- NG-HO3: Paperscreen Score Sheet
- NG-HO4: NGSS Science and Engineering Practices and Crosscutting Concepts

Resources

None

Charts

- F-C1: NextGen TIME Goals and Outcomes
- F-C2: Agenda
Other Charts

- Parking lot
- Twitter/Social Media
- Goals
- Agenda
- Norms

Other Materials

- Chart paper, markers, and painters tape (1 of each per group)

Optional Text Resources

- Personal Journal

Advance Preparation

- Prepare charts.
- If you are going straight into learning the Foundations Rubric, be sure to review groupings and room set up in Foundations PD Leader Guide and adjust the Learning the Foundations PPT as needed.
- Note that this introduction is not intended to be repeated when leading the process.
## Part 1: Introduction (60 minutes)

<table>
<thead>
<tr>
<th>Slide</th>
<th>Facilitation Notes and Time</th>
</tr>
</thead>
</table>
| **Slide 1**  Welcome and Opening (5 min) | a. Welcome participants to the session, introduce the focus of the session, and at some point mark that the acronym **TIME** in NextGen **TIME** has two meanings.  
b. Determine how session leaders will be introduced, how participants will introduce themselves, and how much additional time will be needed.  
c. Optional Opening: Ask those participants to stand who have served on a statewide committee to select instructional materials. Ask them to stay standing. Ask participants to stand if they have served on a district committee to select instructional materials. Ask them to stay standing. Ask participants to stand if they have served on a department committee to select instructional materials. Ask participants to continue to stand if the materials their committees selected were “loved” by all the teachers at their site.  
d. Remind participants that while given the best efforts of well-intentioned people, no single set of instructional materials is going to suit the needs of everyone! The purpose of using NextGen **TIME** is to evaluate instructional materials to select the best possible program based on the needs of local students and to put them in the hands of teachers prepared to use them. |
| **Slide 2**  Goals (5 min) | a. Provide time for participants to read through the institute goals. Mark that we will work collaboratively to not only support our own learning, but the learning of our colleagues.  
**Transition:** To help support this effort, we’ll make our thinking public in a variety of ways beginning with thinking together about a couple of essential questions. |
| **Slide 3**  Essential Questions (5 min) | a. Share the essential questions with participants. Mark that we will focus on the first essential question in this part of the session.  
b. Invite participants to share their response to the prompt with an elbow partner or in their table groups. Gather ideas from the groups.  
c. Alternatively (and requiring an additional 25 minutes), post pictures of different vehicles (e.g., rocket, kayak, Tesla, horse and buggy, Jeep, bicycle, and/or submarine; note that pictures are NOT |
Transition: We want to share some backgrouing information about NextGen TIME. Direct participants to the Overview in their binder (PreTab pages 1 and 2).

Slide 4  NextGen TIME (5 min)
Note: This slide is animated.

a. Refer to NG-HO1 (NextGen TIME Overview). This handout found on p.____. Invite participants to silently scan the Overview. Invite participants to turn and talk about what they have just read.

b. Share that NextGen TIME is an investment involving time and resources up front. Mark that TIME is not just a selection of materials, but also a process for planning for implementation to create systems of support for teachers as they prepare to use the selected materials.

c. Explain to participants that the NextGen TIME has five phases:

   1. The Prepare Phase supports leaders in preparing for the evaluation, selection, and implementation of instructional materials.

   2. The prescreen is a process using a small number of criteria to narrow the choices of instructional materials to those most relevant.

   3. The paperscreen is a process and series of tools for gathering data from print or digital media, comparing that data to indicators found in the NextGen TIME rubrics, and analyzing the evidence based on a critical examination of the instructional materials.

   4. The pilot is a means of gathering classroom data from the perspective of both students and teachers.

   5. The Plan Phase brings the pilot and paperscreen data together to make a decision and plan for broad and effective use of the selected instructional materials.
### Slide 5  Goals and Outcomes (5 min)

a. Explain to participants that we will begin today with the Paperscreen Process and Tools. Share that the reasons we will start with the paperscreen is that in order to prepare, you need to know what you are preparing for. The prescreen requires the nits and bolts of the paper screen process. Review the Session Goals and Outcomes chart with participants. Emphasize that this is more than a process for selection.

b. Mark that we will first learn the NextGen TIME process using a middle school unit on ecosystems and then apply it to other instructional materials in this professional learning setting.

### Slide 6  Our Work (5 min)

Note: This slide is animated.

**How we’ll work**

- Briefly review the norms that will guide our work in this session.
- Invite participants to turn and talk about how these norms will help us in our work. Invite several participants to share why these norms (or norms like these) are important to collaborative work.

**What we’ll do**

- Remind participants of the goals and outcomes. Since the ultimate goal is to select instructional materials using the paperscreen, we’ll first learn to use the tools and then apply them to programs under consideration. The focus of this session is to learn the process.

**Transition:** *To begin, let’s consider our ideas about the characteristics of high-quality instructional materials designed for next generation science.*

### Slide 7  Paperscreen Tools and Processes (5 min)

a. Use this slide to share the common tools and iterative processes embedded in NextGen TIME.

b. Use the picture on this slide to highlight the importance of going visual to publicly represent evidence throughout the process.
### Slide 8  Essential Questions (15 min)

**a.** Share the second essential question with participants. Invite participants to think silently about the prompts, particularly the characteristics of high-quality instructional materials. Note that they should use the sub-questions to prompt their thinking about characteristics. Make sure to offer a minute or two for individual think time.

**b.** Invite table groups to discuss their ideas and chart the characteristics of high-quality instructional materials designed for next generation science.

**c.** Ask groups to share their top characteristic, adding characteristics that were not previously mentioned.

**d.** Mark that we will return to these charts throughout the process.

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<table>
<thead>
<tr>
<th>Essential Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>* How have you selected instructional materials in the past?</td>
</tr>
<tr>
<td>* What are the characteristics of high quality instructional materials designed for next generation science?</td>
</tr>
<tr>
<td>* How are instructional materials important to the learning process for students?</td>
</tr>
<tr>
<td>* How are instructional materials important for teachers?</td>
</tr>
</tbody>
</table>

**Transition:** So if these are characteristics we are thinking about, then let’s begin to consider how the NextGen TIME tools and process can help us identify these and other characteristics and be critical consumers of instructional materials.
<table>
<thead>
<tr>
<th>Slide</th>
<th>Facilitation Notes and Time</th>
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</thead>
</table>
| Meta Moment | **Slide 9  Meta Moment (5 min)**  
Note: If this concludes your session and you will continue with Foundations later, then use this slide and adjust the content as appropriate for your setting. If you are going straight into the Foundations work, then cut this slide and begin with Slide 5 of Foundations_LearntheProcess PPT.  
a. Invite participants to share their insights about the process. This could be in the form of hopes and fears or 3-2-1 strategy.  
b. Gather ideas from the whole group.  
**Transition or Forecast:** We’ll begin learning to use the Paperscreen Tools and Processes on an Ecosystems unit. |
NextGen TIME Paperscreen
Designed for the NGSS: Foundations
Learn the Process

Purposes:

- To introduce the NextGen TIME tools and processes for the Paperscreen Phase of selecting instructional materials and to help participants understand how this process connects to the overall purpose of NextGen TIME.
- To access participants’ prior knowledge and experience related to the selection and implementation of instructional materials and related to the characteristics of high-quality instructional materials designed for next generation science.
- To begin to develop a deep understanding of the instructional materials being evaluated and to assess the presence of key features of high-quality instructional materials designed for next generation science: phenomena or problems, three dimensions, and logical sequence.

Session Outline (395 minutes; 6 hours 35 minutes plus breaks)

<table>
<thead>
<tr>
<th>Part 1: Introduction</th>
<th>Slides 1-4</th>
<th>Purpose: Revisit the purpose of NextGen TIME and set the stage for the focus of the session.</th>
<th>20 min</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Summary: Participants review purpose and outcomes for NextGen TIME; access prior knowledge experiences related to selecting and implementing instructional materials and the characteristics of high-quality instructional materials designed for next generation science; and orient participants to where they are in the process.</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Part 2: Orientation to instructional materials, gather evidence, and go visual</th>
<th>Slides 5-11</th>
<th>Purpose: Access and engage prior knowledge about the “content” focus of the unit to be analyzed and introduce the instructional materials.</th>
<th>145 min</th>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Summary: Participants gather evidence from the instructional materials for what students could learn and represent the evidence gathered.</td>
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</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Part 3: Analyze evidence and score components using the Foundations Rubric</th>
<th>Slides 12-21</th>
<th>Purpose: Develop a shared understanding of Designed for the NGSS: Foundations and characteristics of high-quality instructional materials designed for next generation science.</th>
<th>210 min</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Summary: Introduce the Foundations Rubric, analyze strengths and limitations of the unit being evaluated, and score components. Participants gather evidence for Teacher Support.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Part 4: Meta moment and connections to NextGen TIME</th>
<th>Slides 22-25</th>
<th>Purpose: Prepare for the analysis of materials through the Student Thinking lens and for the analysis of candidate programs.</th>
<th>20 min</th>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Summary: Reflect on lessons learned through the process and reconnect to goals and outcomes for the Paperscreen phase.</td>
<td></td>
</tr>
</tbody>
</table>
Materials

Slides

S1  Title
S2  Goals and Outcomes
S3  Our Work
S4  NextGen TIME Paperscreen
S5  Ecosystems: Interactions, Energy, and Dynamics
S6  Meta Moment
S7  Grain-size
S8  Learn the Paperscreen T & P
S9  Navigation Guide
S10 Jigsaw
S11 Go Visual! Conceptual Flow
S12 Presence of Dimensions
S13 Presence of Dimensions
S14 Tell the Story
S15 Presence of Phenomena
S16 Designed for the NGSS: Foundations
S17 What would it look like?
S18 Foundations: Strengths and Limitations
S19 Consensus
S20 Score Sheet: Foundations
S21 Designed for the NGSS: Foundations Teacher Support
S22 Meta Moment
S23 NextGen TIME
S24 Paperscreen Rubrics
S25 Goals and Outcomes

Handouts

NG-HO4  Science and Engineering Practices and Crosscutting Concepts
F-HO1  Disruption Unit Overview
F-HO2  Designed for the NGSS: Foundations Rubric
F-HO3  Designed for NGSS: Foundations Analyze Evidence
TS-HO1  Designed for the NGSS: Teacher Support for Foundations Evidence Chart

Resources

F-R1  Science Ideas Cards (1 set/2 participants) Print on Avery 5371 or print on card stock and cut apart.
F-R2  MSLS2 Stickers (1 set/group; DCI only available on NextGen TIME website; print using Uline Stickers available at https://www.uline.com/Product/Detail/S-19643/Laser-Labels/Uline-Laser-Labels-White-3-x-2 OR print in color on regular paper, cut apart, and use transparent tape to affix to sticky notes.
F-R3  Middle School Standards Page: MSLS2 (1 copy/group)
F-R4  Disruptions Chapters (1 copy of 1 chapter per person)
Charts
F-C1   NextGen TIME Goals and Outcomes
F-C2   Agenda
F-C3   Foundations: Score Sheet (1 chart/group)
F-C4   Conceptual Flow Key

Other Charts
• Parking lot
• Twitter/Social Media
• Goals
• Agenda
• Norms

Other Materials
• Chart paper, markers, and painters tape (1 of each per group)
• Sticky notes (3 × 3\(^{\text{"}}\)): yellow, orange, green, blue, pink, purple (1 pad of each color per 3 participants)
• Sets of *Disruptions in Ecosystems* instructional materials (SE pages, handouts, and TE pages) copied by unit
• MSLS2 stickers (Foundations set)
• Sharpie Markers, fine tip (1 per person)

Optional Text Resources
• *Next Generation Science Standards: For States, By States, Volume 1: The Standards* (2013) by NGSS Lead States
• *Next Generation Science Standards: For States, By States, Volume 2: The Appendices* (2013) by NGSS Lead States
• Personal Journal
Advance Preparation

- Prepare charts.
- Determine groupings.
  - For groups smaller than 15, reduce the number of chapters to be reviewed so that 4-5 people read each chapter. Each group will create a set of charts and score together.
  - For groups of 15 to 36, divide the group so that 3-6 people reach each chapter. Each group will create a set of charts and score together. Use the recommendations above for groups larger than 36 and establish multiple sets of charts and scoring groups. For example:

```
Unit Group A
1  2
3   4  5

Unit Group B
1  2
3   4  5
```

- Ensure adequate space to post the charts each table group will create of the characteristics of high-quality instructional materials designed for next generation science. These charts will be used throughout the Paperscreen phase.
- Ensure adequate space to post the Conceptual Flow Evidence charts. Ultimately, each scoring group will need wall space to accommodate a 5X3 organization of chart paper posted landscape on the wall. For example:

<table>
<thead>
<tr>
<th>Chapter 1</th>
<th>Chapter 2</th>
<th>Chapter 3</th>
<th>Chapter 4</th>
<th>Chapter 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foundations Charts</td>
<td></td>
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<tr>
<td>Student Thinking Charts</td>
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<tr>
<td>Student Progress Charts (1/2 sheet)</td>
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</tbody>
</table>
• Consider how you might establish group roles, such as facilitator, recorder, timekeeper, etc. This will provide structure to the group’s work together and also hold them accountable to their group.

<table>
<thead>
<tr>
<th>Unit Group A</th>
<th>Unit Group B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chapter Table Group: Ch. 1</td>
<td>Chapter Table Group: Ch. 1</td>
</tr>
<tr>
<td>Chapter Table Group: Ch. 2</td>
<td>Chapter Table Group: Ch. 2</td>
</tr>
<tr>
<td>Chapter Table Group: Ch. 3</td>
<td>Chapter Table Group: Ch. 3</td>
</tr>
<tr>
<td>Chapter Table Group: Ch. 4</td>
<td>Chapter Table Group: Ch. 4</td>
</tr>
<tr>
<td>Chapter Table Group: Ch. 5</td>
<td>Chapter Table Group: Ch. 5</td>
</tr>
</tbody>
</table>

• Print copies of the student and teacher editions of each chapter of the Disruptions unit for chapter groups. Each member of the chapter group will need a copy of the materials (student edition, handouts, and teacher edition) for their assigned chapter. The Disruptions in Ecosystems unit can be downloaded at using the link in the full reference: Regents University of California (2016). Disruptions in ecosystems: Ecosystems, interactions, and dynamics. Downloaded from https://www.nextgenscience.org/resources/middle-school-disruptions-ecosystems.
**Part 1: Introduction (20 minutes)**

<table>
<thead>
<tr>
<th>Slide</th>
<th>Facilitation Notes and Time</th>
</tr>
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</table>
| **Slide 1** Welcome and Opening (5 min) | a. Welcome participants to the session, introduce the focus of the session, and at some point mark that the acronym TIME in NextGen TIME has two meanings.  

b. Determine how session leaders will be introduced, how participants will introduce themselves, and how much *additional* time will be needed.  

c. Optional Opening: Ask those participants to stand who have served on a statewide committee to select instructional materials. Ask them to stay standing. Ask participants to stand if they have served on a district committee to select instructional materials. Ask them to stay standing. Ask participants to stand if they have served on a department committee to select instructional materials. Ask participants to continue to stand if the materials their committees selected were “loved” by all the teachers at their site.  

d. Remind participants that while given the best efforts of well-intentioned people, no single set of instructional materials is going to suit the needs of everyone! The purpose of using NextGen TIME is to evaluate instructional materials to select the best possible program based on the needs of local students and to put them in the hands of teachers prepared to use them. |
| **Slide 2** Goals and Outcomes (5 min) | a. Explain to participants that we will begin today with the Paperscreen Process and Tools. Share that the reasons we will start with the paperscreen is that in order to prepare, you need to know what you are preparing for. The prescreen requires the nits and bolts of the paper screen process. Review the Session Goals and Outcomes chart with participants. Emphasize that this is more than a process for selection.  

b. Mark that we will first learn the NextGen TIME process using a middle school unit on ecosystems and then apply it to other instructional materials in this professional learning setting. |
### Slide 3  Our Work (5 min)

Note: This slide is animated.

#### How we’ll work

- **Norms**
  - Be kind.
  - Ask some questions.
  - Be present.
  - Meet some people.
  - And ... have fun!

- **What we’ll do**

  **Agenda**
  - Learn the Paperscreen tools & processes using a common experience.
  - Apply the Paperscreen tools and processes.
  - Plan for next steps.

#### What we’ll do

- Briefly review the norms that will guide our work in this session. Invite participants to turn and talk about how these norms will help us in our work. Invite several participants to share why these norms (or norms like these) are important to collaborative work.

- When participants discuss being present, mark that if you need to attend to something, you should be accountable to their team, letting the group know that you will be stepping out of the room and an idea of when you’ll return.

#### Transition: To begin, let’s consider our ideas about the characteristics of high-quality instructional materials designed for next generation science.

### Slide 4  NextGen TiME Paperscreen (5 min)

Note: This slide is animated.

- Refer to NG-HO1 (*NextGen TiME Paperscreen Overview*), this handout is on p. _____. Share that the paperscreen consists of four or five passes through the instructional materials, each using a different lens: Foundations, Student Thinking, Student Progress, Teacher Support, and finally Program. In each pass, participants will gather evidence, analyze that evidence in light of a rubric, and then score the components.

- Highlight that this is an iterative process of gathering evidence, analyzing that evidence in light of a rubric, and scoring the evidence. Each pass through the materials will add to the evidence, and we will be specific about which evidence you should collect on the pass—in other words, we’ll collect evidence about the quality of assessments later when we focus on student progress.

- Explain that at the end of four passes through the instructional materials, we will identify a few programs to analyze across units for the whole program. Then we will summarize the results of the paperscreen. After collecting and analyzing evidence from the paperscreen, we will merge the results of the paperscreen and pilot
### Facilitation Notes and Time

<table>
<thead>
<tr>
<th>Slide</th>
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<tbody>
<tr>
<td>to make a decision about which instructional materials to recommend for purchase.</td>
</tr>
<tr>
<td>d. Invite participants to turn to an elbow partner and discuss what they understand about the process at this point.</td>
</tr>
<tr>
<td>e. Draw the group back together and ask if there were any questions that your colleagues couldn’t answer.</td>
</tr>
</tbody>
</table>

**Transition:** Note that we will be reading a unit focused on ecosystems and to set us up for a successful experience, we will share some of our ideas.

### Part 2: Orientation to instructional materials, gather evidence, and go visual (145 min)

<table>
<thead>
<tr>
<th>Slide</th>
<th>Facilitation Notes and Time</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Slide 5 Ecosystems (20 min)</strong></td>
<td>a. Provide instructions for task.</td>
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<tr>
<td></td>
<td>b. Ask participants to take a picture of their sticky notes.</td>
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<tr>
<td></td>
<td>c. Invite participants to sort their ideas into “bigger” ideas and “smaller” ideas. Ask them to share the criteria by which they sorted. Emphasize that soon they’ll be reading a unit of instruction and will be reading for concepts.</td>
</tr>
</tbody>
</table>

| **Slide 6 Meta Moment (5 min)** | a. Invite participants to respond silently to the prompt. They should record their ideas in their Journals, if provided/available. |
| | b. Ask several participants to share their response with the unit group. Highlight participant ideas that discuss the importance of engaging prior knowledge. Because this process is also a professional learning experience to deepen our shared understanding, it’s important to consider the ideas that we are bringing into the process. |

| **Slide 7 Grain-size of Science Ideas (optional 20 min)** | Note: Use this activity, if participants find sorting their ideas into big ideas and smaller ideas. |
| | a. Distribute the R-F1 (*Science Ideas Card Sets; 1 set/pair of participants*). Provide instructions for the task and offer 5 min to sort the cards and more time as needed. Remind participants to be prepared to share their thinking. |
| | b. Gather ideas from the group beginning with cards that were easy to sort. Ask how they sorted and see if others agree. If all agree |
Hidden Slide

Slide 8   Learn the Paperscreen T & P: Orientation to Materials (5 min)

a. Show the *Disruptions in Ecosystems* unit (Third Field Test Version, 2016) to participants. Note that the unit was developed by the American Museum of Natural History and Lawrence Hall of Science with funding from the National Science Foundation. This unit scored highly in the EQuIP review and received the designed for NGSS badge. Tell participants that we will be focusing on this unit to learn the process—essentially calibrating understanding—and they will then apply their learning to their candidate instructional materials.

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Facilitation Notes and Time

(most agree), then gather criteria used to sort. Capture these ideas on a chart paper set up as a T-chart (Fact/Concepts).

c. After capturing ideas about those that were easy to sort, gather ideas about those that were more difficult to sort and see if partners are able to sort based on the criteria generated.

d. At the conclusion of the experience, invite participants to review the sticky notes they wrote about what students should learn in a unit about Ecosystems and sort a few of the statements that are more fact-like or concept-like. Highlight that moving forward, we want to be aware of whether materials emphasize the development of concepts or include lots of disconnected facts.

e. An example of what to expect is in the space below. Be sure to probe ideas as you write to get more information.

<table>
<thead>
<tr>
<th>Facts</th>
<th>Concepts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discrete</td>
<td>Show relationships</td>
</tr>
<tr>
<td>Specific</td>
<td>Combine facts into bigger ideas</td>
</tr>
<tr>
<td>Details</td>
<td>Requires many ideas to understand or explain</td>
</tr>
<tr>
<td>Single ideas</td>
<td></td>
</tr>
</tbody>
</table>

f. One common idea is that what is a fact for a middle school or high school student is a concept for elementary students. While concepts may be more complex at higher grade levels...the idea that insects have 6 legs is a fact regardless of grade level. You might use this as an example and categorize based on the ideas on the public chart.

**Transition:** Emphasize that to Paperscreen materials, we have to read those materials and read them closely. Note that over the next couple of days, we’ll read instructional materials for their design for NGSS and begin that process by reading for the big ideas students could learn—read for the ideas like the big ideas they identified in the card sort.

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Learn the Paperscreen Tools & Processes: Orientation to Materials

- *Disruptions in Ecosystems*
  - Developed by the American Museum of Natural History and the Lawrence Hall of Science
  - Supported by the National Science Foundation (NSF)
b. Explain to participants that the unit group (a set of five tables) will be responsible for constructing a conceptual flow of the instructional materials. The conceptual flow process will be facilitated as a jigsaw with each chapter group (one of the five tables) reading and writing the big ideas (concepts) found in their assigned chapter.

c. Orient participants to the instructional materials noting that the unit is divided into chapters and each chapter includes student materials, handouts, and teacher materials. Invite them to flip through their particular chapter and add sticky note tabs to identify the different sections.

<table>
<thead>
<tr>
<th>Slide 9 Navigation Guide: Disruptions in Ecosystems (5 min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Distribute copies of the appropriate Disruptions chapters (F-R4) to each member of the chapter group. Have participants focus on the student edition to determine the big ideas (concepts) in their chapter. The teacher materials are to be consulted only after the student materials have been examined.</td>
</tr>
<tr>
<td>b. Direct participants’ attention to the Navigation Guide chart. Provide an orientation to the materials, including where to find the unit overview (all read), student pages, handouts, and teacher pages. Remind participants to pay particular attention to the student pages and handouts and review the teacher pages as needed. The teacher pages will be more important to reviewers of programs in the lower grades so they can get an accurate sense of the program.</td>
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</table>

<table>
<thead>
<tr>
<th>Slide 10 Jigsaw (60 min)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Note:</strong> This slide is animated.</td>
</tr>
<tr>
<td>a. Share with participants that ultimately, our goal is to understand the whole unit. To help us do that, note that they’ll use these pages in their binder as an overview of the unit and to help them consider how each chapter fits into the whole. Refer to F-HO1 (<em>Disruptions Unit Overview</em>), this handout is on p. ____. Distribute yellow sticky notes and Sharpie markers to each person.</td>
</tr>
<tr>
<td>b. Have participants read their chapter and write the concepts in complete sentences (one per sticky note using the Sharpie marker) and page numbers found in the instructional materials. Mark that they should not write questions, only declarative statements that represent concepts that students will learn. Allow 60 minutes for reading and note taking.</td>
</tr>
<tr>
<td>c. The purpose of writing in complete sentences is to capture concepts rather than just topics. For example, “predator-prey” is a topic; what is it about “predator-prey” will students will learn?</td>
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**Note:** Depending on the timing of your session, consider including time for a break or lunch in addition to the 60-minute reading time to give additional reading time for those who might need it. Make sure that you move about to read what participants are writing and remind them to use complete, declarative sentences and to include page numbers.

<table>
<thead>
<tr>
<th>Slide 11 Go Visual! Conceptual Flow (30 min)</th>
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</thead>
<tbody>
<tr>
<td>a. Refer to this slide, noting that the image shows what the charts will look like after evidence is represented visually. Note that the purpose of this process is to represent the “what” of learning from the instructional materials. This is a screen of only what on the “paper” of the materials; it is not a screen of how they might be implemented.</td>
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</tr>
<tr>
<td>b. Distribute chart paper to each chapter group and remind them to use a landscape orientation. Direct chapter groups to construct a conceptual flow for their chapter.</td>
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<tr>
<td>c. Have each person in the chapter group read aloud one of her or his sticky notes from the beginning of the chapter. Have participants clump like big ideas until all the sticky notes from the beginning to the end of the chapter have been posted on the chart paper. Note that, from left to right, they will be building a conceptual flow that represents the ideas presented in the chapter. Remind participants of the collaboration norm which, in this process, means that the</td>
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<td>Facilitation Notes and Time</td>
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<tr>
<td></td>
<td>person who places a sticky note on the chart is the only person who can remove the sticky note from the chart.</td>
</tr>
<tr>
<td>d.</td>
<td>As chapter groups complete the conceptual flow for their chapter, they should hang their chart paper in chapter order on a wall where the entire unit group can gather to examine the unit conceptual flow. Share that we will not share our story yet.</td>
</tr>
<tr>
<td>e.</td>
<td>Have participants return to their unit group. Facilitate building a unit conceptual flow by asking chapter groups to share their flow in sequential order, thus connecting the chapter conceptual flows to provide a view of the entire unit. Note, the flow should now be a group of individual chart papers that represent the whole, but that can be separated as needed.</td>
</tr>
<tr>
<td>f.</td>
<td>Remind groups that their consensus flow is a representation of how the concepts are actually presented in the instructional materials and not how a teacher might rearrange them.</td>
</tr>
<tr>
<td>g.</td>
<td>Depending on the space in the room, you may wish to have participants take a picture of their chapter section of the unit conceptual flow as well as the whole flow.</td>
</tr>
</tbody>
</table>

Key Ideas to emphasize with groups:

- Participants will be taking multiple passes through the materials
- Participants should represent what is actually there, not what is implied or interpreted
- If participants are struggling with distinguishing facts and concepts, encourage them to establish their own convention to delineate sticky notes that are more fact-like and those that are more concept-like.

**Note:** As groups work through the rubrics, they will continue to add to their chapter conceptual flow. To refer to the physical flow participants may

- work at the unit flow posted on the wall;
- take their chapter flow off the wall and to their work space, then return it to the wall; or
- work from a photo of their chart.
### Slide 12: Presence of Dimensions (30 min)

**a.** Briefly explain to participants that instructional materials should lead to mastery of the performance expectations as students figure out phenomena or problems through the integration of the three dimensions. AND, before we assess quality, we will assess presence.

**b.** Share that chapter groups will now locate the DCIs in their chapter. Distribute the orange stickers to each group and model putting an orange sticker on an orange sticky note. Explain that this will allow them to move the orange stickers throughout the process. They should note the page number of the instructional materials where they find evidence of the DCI. Mark that not all the stickers may be used in your assigned chapter and that they may need to seek out other DCIs present in their chapter for which they don’t have a sticker.

**c.** Mark that they should place the DCI sticker on the chart where they think the materials do the “best job” of getting at the idea. If the DCI is revisited later in the chapter, they should make an orange sticky note with the DCI code and place the sticky note on the chart.

### Slide 13: Presence of Dimensions (20 min)

**a.** Refer to NG-HO4 (Science and Engineering Practices and Crosscutting Concepts). This handout is on p. ____.

**b.** Invite participants to return to their chapter to locate the SEPs and CCCs and record the SEP or CCC on the appropriate color sticky note. Remind participants to make a note of the page number where the SEP or CCC can be found. Mark that they should stay at the level of the practice and not consider the elements of the practice. They will consider the elements later in the process.

**c.** Participants should place the SEP and CCC stickers (blue for SEPs and green for CCCs) on the chart where it fits in their conceptual flow.
### Slide 14 Tell the Story (30 min)

- **a.** Remind participants that our goal is to understand the entire unit. Invite them to consider what students *learn* across each chapter and across the entire unit.
- **b.** Invite participants to review the overall conceptual flow of the unit.
- **c.** What you won’t hear is reference to what students are doing.
  
  Provide an example and nonexample, such as the following:
  
  1. **Example:** The unit begins with students learning…this is foundational understanding for them to learn…
  2. **Nonexample:** Students do this activity, then this activity, then….
- **d.** Provide 10 min for participants to practice their story of learning (not doing) for their assigned section. They should record their summary statement on 3x5 size yellow sticky notes. The summary statements will likely include core ideas, practices, and crosscutting concepts. If noted or applicable, they may also capture learning related to connections to nature of science or engineering, technology, and applications of science. It will not include activities that students are doing or the context of learning (e.g., wolves in Yellowstone UNLESS it is connected to concepts).
- **e.** Provide about 30 minutes for participants to tell the story of the *Disruptions* unit beginning with the “summary statement” from the group responsible for Chapter 1. Each subsequent story teller should try and connect what they heard from the previous group to what students learn in their assigned chapter.
- **f.** Be prepared to summarize a participant’s “story” that focuses on what students are DOING and challenge them to focus on what students are learning.

**Note:** This is a critical time in the process. This represents a significant shift from educators thinking about what students are doing (activities) to what students are learning. It’s this shift in thinking that takes NextGen TIME from being a “selection” process and to a process focused on professional learning. IT’S OK IF PARTICIPANTS ARE NOT ABLE TO TELL THE STORY OF LEARNING. Just pay attention to this and be prepared to push thinking further in the Student Thinking process.
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<tr>
<td>Presence of Phenomena</td>
<td>Slide 15 Presence of Phenomena (15 min)</td>
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<tr>
<td>a. Share that an important part of the NGSS includes students wrestling with phenomena and design processes. Invite participants to discuss their ideas about what phenomena are with their chapter table group.</td>
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<tr>
<td>b. Share that a phenomenon is anything that is observable in the natural or built world and causes us to wonder. Instructional materials need to be phenomena driven. Design problems are solved via engineering practices. Note that materials may include i. no phenomenon (and don’t force it), ii. a single phenomenon, or iii. multiple phenomena.</td>
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<tr>
<td>c. Mark that it’s important to only identify phenomena that are actually there, not phenomena that can be inferred.</td>
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<tr>
<td>d. Distribute pink sticky notes to each group. Have participants return to their chapter to locate phenomena/design problems and note (cite page number) with pink sticky notes. Note that the amount of time spent on phenomena will depend on the experience of the group that you are working with.</td>
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<tr>
<td>e. Have each person in the chapter group read one of his or her pink sticky notes from the beginning of the chapter. Have participants clump like phenomena/design problems until all the sticky notes from the beginning to the end of the chapter have been posted on the chapter conceptual flow chart.</td>
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<tr>
<td>e. Invite one participant from each group to go up to their chart and share the identified phenomena for their chapter.</td>
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<td>Note: It is possible to have one large phenomenon or problem, multiple smaller phenomena/problems, or no phenomena/problems in a chapter. Ideally, we would have all read all five chapters. As we move into the scoring portion, we will score across the entire unit so will need to understand the whole unit to help us reach consensus.</td>
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Facilitation Notes and Time

Slide 16 Designed for the NGSS: Foundations (10 min)

Note: This slide is animated.

a. Refer to F-HO1 (Designed for the NGSS: Foundations Rubric). This handout is on p. _____. Remind groups that their chapter flow with the phenomena, DCIs, SEPs, and CCCs serves as their evidence for how the chapter was designed for NGSS.

b. Remind participants that this rubric, like all the rubrics in the paperscreen, defines the components and indicators of high-quality instructional materials designed for the NGSS.

Note: Choose appropriate grouping and report-out strategies based on the size of your group. Hold the rubric up for the group so that only the first column is visible.

c. Review the structure of the rubric with participants. Mark that the first column contains the component that will be scored and the indicators that describe the component. Note that each component has a number that will be important later. Have participants individually read down the first column for each component and indicator and highlight important words about the presence of phenomena/problems, three dimensions, and logical sequence.

d. After a few minutes, invite participants to share their summaries of each component.

e. Participants should return to their charts of the characteristics of high-quality instructional materials created earlier in the session. Using a different colored marker, table groups should review their charts, adding new ideas and/or revising ideas based on their review of the rubric.

f. Direct participants’ attention to the three scoring columns. Note that these columns contain descriptors of both quantity and quality. Share that quantity words might include those such as rarely, often, few, consistently, and occasionally. Quality words might include strong potential or insufficient to motivate. Invite table groups to discuss the descriptors for each row and underline key quality and quantity words.

Note: Some participants may ask about the 5-3-1 scores. Share with participants that they’ll ultimately use these descriptors to score units from all the programs they will consider. Note that the purpose of the 5-3-1 score is to increase the spread of scores across programs so their quality is more readily distinguished. Also highlight that no descriptor includes “all” or “none” language.
## Slide 17  What would it look like? (20 min)

Note: You will need to determine how you will help teams negotiate this part of the session. Choose appropriate grouping and report-out strategies based on the size of your group. It’s important that PD leaders have a clear understanding of evidence for each row of the rubric.

a. Note that the purpose of this next step in the process is to increase our shared understanding of the characteristics of high-quality instructional materials designed for the NGSS and to calibrate scoring across groups. Remind participants to take notes as they will use this same rubric to evaluate other programs.

b. Remind them that they are NOT describing or scoring the *Disruptions in Ecosystems* unit at this point; they are to focus on evidence of a 5 for any program.

c. Invite participants to consider the prompt on the slide using the group and report-out strategy you’ve identified for your context.

d. Examples of what might justify a “5” are listed below.

### F1. Presence of phenomena/problems
- Pink sticky notes are consistently present on the conceptual flow and they are clustered with orange, blue, and green sticky notes.
- The student materials call-out phenomena or problems.

### F2. Presence of three dimensions
- The three colors of sticky notes are consistently present across all five chapters.
- The student materials highlight when students are using crosscutting concepts or science and engineering practices.

### F3. Presence of a logical sequence
- The “story” we told would make sense to students.
- The core ideas, crosscutting concepts, and practices build from beginning to end of most chapters and across the unit.
- Big ideas are revisited often and in different ways.
- There aren’t a lot of yellow sticky notes that more fact-like, disconnected, or distracting to the story.

e. Circulate among the groups and remind them that they are to cite evidence—what they would see in instructional materials or on
Slide 18 Foundations: Strengths and Limitations (30 min)
a. Refer to F-HO3 (Designed for the NGSS: Foundations Analyze Evidence). This handout on p._____. Have participants return to their conceptual flow and materials to look for and record strengths and limitations for each component for their Disruptions chapter. Have participants discuss their findings in their table groups and be prepared to share with others. Note that these ideas will help them justify their score across the whole unit—all chapters.
b. Have groups discuss and complete the strengths and limitations chart for each component for their assigned chapter.
c. Mark that they will use this information along with their Student Thinking charts as evidence to score materials.
d. Any groups that finish early should consider what they see and have heard about other chapters related to each component. This will help prepare them to score the whole unit.

Slide 19 Consensus (20 min)
Note: This slide appears in the PD leader guide for each rubric. Use these notes to help you support teams in building consensus scores.
a. Share that NextGen TIME is a collaborative process. As a collaborative process, groups will come to consensus often. Invite participants to turn to a partner and discuss what they think consensus means. Allow time for the discussion. What processes have you used for consensus before? Allow time for discussion.
b. Mark that we will discuss evidence before identifying a score. Invite participants to gather around the charts to share their strengths and limitations for their assigned chapter for F1. Have one person from each chapter share the strengths and limitations they recorded for row 1.
c. In preparation for scoring, consider the strengths and limitations for the entire unit. Note that they can give a score of 1, 3, or 5 (they cannot give scores of 2 or 4). Forecast that you will count down and they should share their score with a show of fingers. Count down and have participants show their score with fingers.
d. Share the distribution of scores. For example, “I see no 1s, but a spread of 3s and 5s”. Ask individuals to provide evidence for their score.

e. Share additional strategies to build consensus on the slide. After considering evidence from the discussion, have participants vote again with fingers (or sticky notes). Use a sticky note to add the score to the score chart.

f. Repeat the process for additional rows in the rubric.


Slide 20 Score Sheet: Foundations (5 min)

a. Refer to the F-C3 (Foundations Score Sheet). Use evidence gathered to reach consensus on a score for the entire unit for each component.

b. Record the score for each row on the chart.

c. When scoring is complete, refer to NG-HO3 (Paperscreen Score Sheet) This handout is on p. ____. Invite participants to record the score for each row on the score sheet and use the multiplier so that the TOTAL score for the unit equates to a score out of 100. Add the multiplier to the public score chart, calculate the score, and post it.

Slide 21 Designed for the NGSS: Foundations Teacher Support Evidence Chart (30 min)

a. Note that, to this point, they have focused on the student edition as the source of evidence for analysis. Now they will consider the support that is provided by the teacher materials.

b. Refer to TS-HO1 (Designed for the NGSS: Foundations Teacher Support Evidence Chart). This handout is on p. ____. Invite participants to take a moment to silently notice the key features of the chart. Invite participants to turn and talk with a shoulder
### Part 4: Next Steps and Closing (20 min)

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<tr>
<th>Slide</th>
<th>Facilitation Notes and Time</th>
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<tbody>
<tr>
<td></td>
<td>partner to discuss key features of the evidence chart. Gather questions from the unit group.</td>
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<td></td>
<td>c. Note the codes here match those for each component of the Foundations Rubric. Mark that they will place a check mark in the appropriate column in the top half of the chart. In the bottom half of the chart, they will document the strengths and limitations of the teacher materials as they relate to the presence of phenomena/problems, the three dimensions, and of a logical sequence. Provide time for individual consideration. After they each capture their ideas, have them share their ideas to see where they are and then share their strengths and limitations.</td>
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<td></td>
<td>d. Provide time for chapter table groups to discuss and complete the Foundations Teacher Support Evidence Chart.</td>
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<td>e. Draw the group together and have participants jot down things they want to remember from their group conversation for future use.</td>
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<td><strong>Note:</strong> If time allows, have chapter groups share their findings in their unit groups.</td>
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</table>

### Slide 22 Meta Moment (5 min)

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<th>Slide</th>
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<td><strong>Slide 22 Meta Moment (5 min)</strong></td>
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<tr>
<td></td>
<td>a. Congratulate/celebrate with participants on completing the Foundations step of the Paperscreen.</td>
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<td>b. Provide instructions for the meta moment. Invite participants to respond silently to the two prompts in their journals. Remind them that what they learned will be important when they apply lessons learned to the analysis of their own materials.</td>
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<td>c. Briefly revisit the norms and invite participants to reflect on their use, how they did with the norms, and how they were important to their work.</td>
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<td>Slide</td>
<td>Facilitation Notes and Time</td>
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<tr>
<td>23</td>
<td><strong>NextGen TIME (5 min)</strong></td>
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</table>
|       | a. Refer to NG-HO1 (*Paperscreen Overview*). This handout is on p. ____.
|       | b. Note that we will follow the pattern of gather evidence/go visual, analyze evidence and apply rubric, and score components for the remaining unit-level rubrics and the program rubric. |
| 24    | **Paperscreen Rubrics (5 min)**  |
|       | a. Refer to NG-HO3 (*Paperscreen Overview*). This handout is on p. ____.
|       | b. Note that we will follow the pattern of gather evidence/go visual, analyze evidence and apply rubric, and score components for the Student Progress Rubric in the next dip into the materials. |
| 25    | **Goals and Outcomes (5 min)**  |
|       | a. Revisit the goals and outcomes.
|       | b. If possible, gather ideas from the group about what they are learning. |
NextGen TIME Paperscreen
Designed for the NGSS: Foundations
Lead the Process

Purpose:

- To evaluate instructional materials for the purpose of gathering and analyzing evidence of quality to inform a selection decision and, if the program is selected, to inform professional learning to support their broad and effective implementation in the classroom.

Anticipated time to complete Foundations review per program: Approximately 3 hours (First program: 30 minutes to consider their ideas, 60 minutes to read and gather evidence, and 90 minutes to represent evidence, review the Foundations Rubric, identify strengths and limitations, and score components; Additional programs: 60 minutes to read and gather evidence (could be done prior to full group meeting) and 90 minutes to represent evidence, review the Foundations Rubric, identify strengths and limitations, and score components). NOTE: One important difference in the application phase is that readers MUST be discerning as to the grain size of ideas developed through the materials. In the example unit, big ideas were developed. That may not always be the case in other programs under review. NOTE: A second important difference is that reviewers should use what they’ve learned about the quality of phenomena/problems.

Advance Preparation

- Assign participants to develop their yellow sticky notes of “what students should learn” so they come ready to organize their ideas BEFORE reading the materials to gather evidence.
- Prepare charts.
- Print Foundations strengths and limitations chart (1 copy/program/person).
- Ensure adequate space for posting the Conceptual Flow Evidence charts.
- Determine the unit of instruction that will be analyzed across each program under consideration.
- Secure access or copies of the student and teacher editions of each program under consideration for chapter groups. Each member of the chapter group will need a copy of the materials (SE, handouts, and TE) for their assigned chapter or a copy of the entire unit that will be analyzed.
- Determine how you will group participants.
- Determine how you will divide the materials based on the number of people who will be evaluating the materials and the amount of “reading” they will need to do.
- Develop a navigation guide for each set of instructional materials under consideration.
- Create the appropriate sticker set and print. Note that you will only need the DCI stickers. Uline Stickers available at [https://www.uline.com/Product/Detail/S-19643/Laser-Labels/Uline-Laser-Labels-White-3-x-2](https://www.uline.com/Product/Detail/S-19643/Laser-Labels/Uline-Laser-Labels-White-3-x-2)
  - Stickers by DCI: available on NextGen TIME website (nextgentime.org)
  - Stickers by Topic: available on NextGen TIME website (nextgentime.org)
- Customize the Lead the Process PPT and use the instructions provided in the Learning the Process PD leader guide to support the process.
NextGen TIME Paperscreen
Designed for the NGSS: Student Thinking
Learn the Process

**Purposes:**

- To introduce the NextGen TIME tools and processes for the Paperscreen Phase of selecting instructional materials and to help participants understand how this process connects to the overall purpose of NextGen TIME.
- To develop a deep understanding of the instructional materials being evaluated and to assess the **quality** of key features of high-quality instructional materials designed for next generation science: phenomena or problems, three-dimensional conceptual framework, prior knowledge, metacognitive abilities, and equitable learning opportunities.

**Session Outline** (395 minutes; 6 hours 35 minutes plus breaks)

<table>
<thead>
<tr>
<th>Part 1: Introduction</th>
<th>Purpose: Set the stage for the focus of the session. Summary: Participants review purpose and outcomes for NextGen TIME, PD leader orients participants to where they are in the process, and PD leader introduces and provides time for participants to consider the essential question.</th>
<th>30 min plus optional 30 min for card sort</th>
</tr>
</thead>
<tbody>
<tr>
<td>Part 2: Gather evidence and go visual</td>
<td>Purpose: Gather evidence from instructional materials and represent it visually. Summary: Participants analyze the quality of learning experiences and their equitability for all students. They consider the phenomena and problems in light of connections across the unit and to three-dimensional learning experiences, and the path of student thinking. The path of student thinking helps participants assess how well the materials elicit and engage prior knowledge, develop metacognitive abilities, and how well the materials help students change their thinking toward a more scientifically accurate conceptual framework.</td>
<td>190 min</td>
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<tr>
<td>Part 3: Analyze evidence and score components using the Student Thinking Rubric</td>
<td>Purpose: Develop a shared understanding of Designed for the NGSS: Student Thinking Rubric and characteristics of high-quality instructional materials designed for next generation science. Summary: Participants consider evidence that would justify a “5” for each component on the rubric, consider strengths and limitations of the materials under consideration, and reach consensus on a score for each component. Participants gather evidence for Teacher Support.</td>
<td>155 min</td>
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<tr>
<td>Part 4: Meta moment and connections to NextGen TIME</td>
<td>Purpose: Prepare for the analysis of materials through the Student Thinking lens and for the analysis of candidate programs. Summary: Participants revisit the essential question to consider if and how thinking of participants has changed through use of the tools and process and reflect on lessons learned through the process and reconnect to goals and outcomes for the Paperscreen phase.</td>
<td>20 min</td>
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## Materials

**Slides**

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<td>S2</td>
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<td>Designed for the NGSS: Student Thinking Rubric</td>
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<td>Designed for the NGSS: Teacher Support for Student Thinking Evidence Chart</td>
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<td>ST-C2</td>
<td>Session Agenda</td>
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<td>ST-C3</td>
<td>Navigation Guide (from Foundations)</td>
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<td>ST-C4</td>
<td>Student Thinking: Score Sheet</td>
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**Resources**

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<thead>
<tr>
<th></th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>ST-R1</td>
<td>Phenomena/Problem Card Set (Optional; 1 set/2-3 participants) Print on Avery 5371 or print on card stock and cut apart</td>
</tr>
<tr>
<td>ST-R2</td>
<td>Phenomena/Problem Reading: <em>Criteria for Evaluating Useful Phenomena and Problems</em> (Optional; 1/person)</td>
</tr>
<tr>
<td>ST-R3</td>
<td>MSLS2 Dimensions stickers (Element level DCIs, SEPs, and CCCs;) print in Uline Stickers <a href="https://www.uline.com/Product/Detail/S-19643/Laser-Labels/Uline-Laser-Labels-White-3-x-2">https://www.uline.com/Product/Detail/S-19643/Laser-Labels/Uline-Laser-Labels-White-3-x-2</a> OR print in color on regular paper, cut apart, and use transparent tape to affix to sticky notes.</td>
</tr>
</tbody>
</table>
Other Materials

- Chart paper, markers, and painters tape (1 of each per group)
- Sticky notes (3 × 3"): yellow, orange, green, blue, pink (1 pad of each color per 3 participants)
- Sticky notes (3 × 5"): yellow
- Sticky notes (1 × 2"): yellow and purple
- Sets of Disruptions in Ecosystems instructional materials (SE pages, handouts, and TE pages) copied by unit and the Unit Overview. Same as used in Foundations.
- Conceptual Flow (from Foundations Rubric)
- Characteristics of High-Quality Instructional Materials charts from setup for the Foundations Rubric

Optional Text Resources

Next Generation Science Standards: For States, By States, Volume 1: The Standards (2013) by NGSS Lead States
Next Generation Science Standards: For States, By States, Volume 2: The Appendices (2013) by NGSS Lead States

Advance Preparation

- Prepare charts.
- Ensure adequate space for adding the charts for the Student Thinking Rubric to the wall under the conceptual flow from the Foundations Rubric.
- Determine if you need to offer the second essential question and modify the PPT as appropriate.
- Determine if you need to include the Phenomena/Problem card sort and modify the PPT as appropriate.
- Prepare “new” pink sticky notes to represent quality phenomena/problems for the Student Thinking chart.
**Part 1: Introduction** (30 min; plus 30 min for Phenomena/Problem Card Sort Activity)

<table>
<thead>
<tr>
<th>Slide</th>
<th>Facilitation Notes and Time</th>
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</table>
| **Slide 1** NextGen TIME: Title Slide (5 min)  
- Welcome participants to the session.  
- Optional opening:  
  i. Ask those participants to share any reflections (e.g., an insight or aha) on using the Foundation Tools and Process from the previous session.  
  OR  
  ii. Invite participants to tell the story of their work from the Foundations Tools and Process. |

<table>
<thead>
<tr>
<th>Goals and Outcomes</th>
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| • Learn a process for analyzing instructional materials in light of the NGSS.  
• Use the process and tools to help you transform your shared understanding of the characteristics of high-quality instructional materials and the NGSS.  
• Use the results of the process to inform the selection of instructional materials.  
• Use the results of the process to inform planning for classroom use. |

| Slide 2 Goals and Outcomes (5 min)  
**Note:** Keep this as short as possible  
- Explain to participants that we will continue today with the Paperscreen Process and Tools. Review the session goals with participants.  
- Mark that we will continue to learn the NextGen TIME process using a middle school unit on ecosystems, so we are prepared to apply it to other instructional materials.  
- If needed, invite participants to return to the Overview of NextGen TIME and revisit the five phases. Provide time for participants to review the “big picture of NextGen TIME, then invite elbow partners to turn and talk about their ideas. |

| Slide 3 NextGen TIME: Paperscreen Phase (5 min)  
**Note:** Highlight a few of the ideas in the text below.  
- Refer to NG-R1 *(NextGen TIME Paperscreen Overview)* this handout is on p. ____ (from the Foundations session). Share that the paperscreen consists of five passes through the instructional materials, each using a different lens. In each pass, you will gather evidence, analyze that evidence and apply the rubric, and then score the components. The focus for this session will be on student thinking.  
- Highlight that this is an iterative process of gathering evidence, analyzing that evidence in light of a rubric, and scoring the evidence. Each pass you take through the materials will add to the evidence, and we will be specific about the evidence you should collect on the pass. Do not feel like you must collect evidence about all aspects of the instructional materials in a single pass because you will have multiple passes to gather all the pieces of evidence. Note that following the analysis and scoring phases in this session, we will analyze the teacher support in the materials and then consider the program as a whole.  
- Explain that at the end of four passes through the instructional materials, we’ll identify a few programs to analyze across units. Then we will summarize the results of the paperscreen. After collecting and analyzing evidence from the paperscreen, we will merge the results of... |
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<thead>
<tr>
<th>Slide</th>
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<tbody>
<tr>
<td></td>
<td>the paperscreen and pilot to make a decision about which instructional materials we will select. Mark that while the Foundations process collected data about presence; today we will begin to look at quality.</td>
</tr>
</tbody>
</table>
| **Slide 4  Our Work (5 min)** | a. Briefly review the norms that will guide our work in this session.  
   b. Review the agenda for the day, pointing to the charted agenda. Highlight that this session will focus on learning the Paperscreen Tools and Processes using a middle school ecosystems unit. |
| **Essential Questions** | | a. Share the first essential question with participants and invite participants to bring their Characteristics of High-Quality Instructional Materials charts to their table and add to or revise their charts.  
   b. Invite table groups to discuss their ideas and chart what they would expect to find in high quality instructional materials.  
   c. **ONLY** share the second essential question if participants are unable to focus on learning in the story, they tell in the Foundations process. Invite participants to share their ideas with an elbow partner. Invite several pairs to share the highlights of their conversation. Emphasize that the work today will focus more on student thinking and what students learn through using the materials. |
| **Phenomena/Problems (optional hidden: 30 min)** | | Note: Use this optional resource (ST-R1) and process if participants would benefit from negotiating their understanding of quality phenomena/problems.  
   a. Provide instructions for the task, invite participants to work with a partner, and distribute ST-R1 (Phenomena Cards) to each pair. Offer 5 min to sort the cards and more time if needed. Remind participants to be prepared to share their thinking.  
   b. Gather ideas from the group beginning with cards that were easy to sort. Ask how they sorted and see if others agree. If all agree (most agree), then gather criteria used to sort. Capture these ideas on a chart paper.  
   c. After capturing ideas about those that were easy to sort, gather ideas about those that were more difficult to sort and see if partners are able to sort based on the criteria generated. Criteria generated may be similar to following example. |

---

**Our Work**

**How we’ll work**

Norms
- Be kind.
- Ask some questions.
- Be present.
- Meet some people.
- And ... have fun!

**What we’ll do**

Agenda
- Learn the Paperscreen T & P using a common experience
- Apply the Paperscreen T & P
- Plan for next steps.

**Essential Questions**

- What would you expect to find in instructional materials designed for the NGSS that make student thinking visible and engage them in powerful learning experiences?
- What is the difference between what students do and what they learn in a learning experience? How is what they do and learn related to the phenomenon/problem?

**Phenomena/Problems**

- Sort the cards into two piles
  - Statements that are more “phenomenon-like”
  - Statements that are less “phenomenon-like”
- Pay attention to
  - Ideas that help you sort
  - Those cards that are more difficult to sort

Optional (Hidden)
## Slide

<table>
<thead>
<tr>
<th>Facilitation Notes and Time</th>
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<tbody>
<tr>
<td>Phenomena/Problem Criteria</td>
</tr>
<tr>
<td>• Observable (directly or indirectly)</td>
</tr>
<tr>
<td>• Motivating</td>
</tr>
<tr>
<td>• Need to be explained/solved</td>
</tr>
<tr>
<td>• Drive student learning</td>
</tr>
<tr>
<td>• Engaging</td>
</tr>
<tr>
<td>• Interesting</td>
</tr>
<tr>
<td>• Inspires wonderment</td>
</tr>
<tr>
<td>• Not “Googleable”</td>
</tr>
</tbody>
</table>

**Note:** The criteria in the table above represent an entry level understanding of quality phenomena or problems. In addition to these, we want to prompt a deeper conversation of quality and grain-size.

d. Invite participants to examine their “more-like” cards and identify one or two cards that represent a high-quality phenomenon/problem and challenge them to identify additional criteria. Examples **could** include: sufficient to drive a “unit (multiple weeks) of instruction that could be broken down into smaller phenomena/problems, requires aspects of all three dimensions to explain or solve, explanations or solutions require in-depth analysis, and the required dimensions are appropriate to the grade level/band.

e. Distribute ST-R2 (*Phenomena/Problems reading*). Provide a few minutes for participants to review the document and discuss key ideas in light of the card sort.

**Note:** The Student Thinking rubric highlights these ideas, so the goal here is **NOT** to tell participants these ideas nor to create this entire list, but to generate conversation and to help them engage in a more critical analysis of phenomena/problems used in instructional materials.
Part 2: Gather Evidence and Go Visual (190 min)

<table>
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<tr>
<th>Slide</th>
<th>Facilitation Notes and Time</th>
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</table>
| **Slide 7** Gather Evidence & Go Visual (5 min) | **Note:** The purpose of this slide is to provide an example of the Student Thinking chart they will begin to develop as evidence of the quality of learning experiences in their assigned chapter and over the unit. Instructions for the task are on the next slide.  
  a. Explain that participants will develop a visual of evidence gathered from the materials. Share that we will follow the pattern used in the work on the Foundations Rubric. Forecast that we will take multiple steps to gather evidence.  
  b. Forecast that by the end of this pass through the instructional materials, everyone will have a much clearer picture of learning across the entire unit. Note that ultimately, they will go through three basics steps to construct the Student Thinking chart: 1) consider phenomena/problems and the concepts and practices linked to making sense of phenomena/problems, 2) represent the path of student thinking, and 3) analyze the connections to the NGSS dimensions.  
**Transition:** The question you might be asking is, How do we get there? Let’s walk through that now. |

| **Slide 8** Gather Evidence & Go Visual: Consolidation of Phenomena/Problem (45 min) | **Note:** As you share the instructions on the slide, plan to MODEL the process participants will use. It’s critical that you communicate clearly that this next pass through the materials is a deeper pass to get at quality of student thinking and uncover the rigor of student thinking (i.e., how hard students have to think).  
  a. Provide instructions for the first part of the task (step 1). Emphasize that as they re-assess phenomena/problems for quality (not just presence), they may find:  
    1. no phenomena/problems (don’t force it),  
    2. one phenomenon/problem, or  
    3. multiple phenomena/problems  
    4. Alternatively, they may identify anchor phenomena or investigative phenomena.  
Remind participants to consider lessons learned from the Phenomena/Problems Card Sort.  
**MODEL** the process by  
1. taking a pink sticky note from one of the Foundations charts and revising the language to be a complete sentence, not a question or phrase, that represents a quality phenomenon or problem. Add the new sticky note to the Student Thinking Chart in the appropriate place. |
<table>
<thead>
<tr>
<th>Slide</th>
<th>Facilitation Notes and Time</th>
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</thead>
<tbody>
<tr>
<td>2.</td>
<td>referring to a pink sticky note on the Foundations chart and note that this no longer meets our criteria for quality and therefore will NOT appear on the Student Thinking chart.</td>
</tr>
<tr>
<td>3.</td>
<td>reminding them to differentiate anchor and investigative phenomena/problems. Provide an example from the card sort.</td>
</tr>
<tr>
<td>b.</td>
<td>Provide instructions for the second part of the task (steps 2 and 3). Invite participants to <strong>work together</strong> and return to their materials and identify aspects of each dimension developed through their assigned chapter and specifically those developed in close ties to any phenomena/problem. <strong>Model</strong> how each would be represented on the Student Thinking chart.</td>
</tr>
<tr>
<td>a.</td>
<td>First, identify a pink sticky note and model that to make sense of this phenomena (or solve this problem), kids use this DCI, this CCC, and this SEP <strong>according the guidance provided in the materials</strong>. Group orange, green, and blue sticky notes around the pink sticky note.</td>
</tr>
<tr>
<td>b.</td>
<td>Second, model step 3 by reviewing the materials and summarizing a few of the yellow sticky notes from the Foundations chart on the appropriate orange or blue color sticky note to better represent the core ideas or crosscutting concepts students would learn. Emphasize that they should also figure out what students are doing and learning about the practices in more detail that just “developing and using models” or “constructing explanations”. The goal is to figure out the extent to which students are learning the elements of the NGSS.</td>
</tr>
<tr>
<td><strong>NOTE:</strong></td>
<td>It is critical that participants don’t just “go to the standards documents” and write that text on sticky notes. The words on the sticky notes should represent what students would learn through the materials. Forecast that we will analyze the materials in light of the NGSS elements soon—using stickers!</td>
</tr>
</tbody>
</table>

**Slide 9  Gather Evidence & Go Visual (5 min)**

Note: This slide is animated. Instructions for the task are on the next slide.

a. Display the slide to describe the overall product. Emphasize the representation is about student thinking made visible through the learning experiences. The best representations tend to show pictures of the activities and words for the thinking.

b. Advance the slide to provide an example of the path of student thinking. Highlight the use of both words and pictures.
### Slide 10 Gather Evidence & Go Visual (40 min)

- **a.** Refer participants to ST-HO1 *(Designed for the NGSS: Student Thinking Evidence Chart)*. This handout is on p. ____. Note that they should pay attention to the following:
  - How do students access, engage, and use prior knowledge and experiences to advance their thinking?
  - What is driving student learning (e.g., question, scenario, problem, phenomenon)?
  - How do students develop metacognitive abilities?
  - What ideas and practices do students develop through these learning experiences?

- **b.** Encourage chapter teams to begin by reading for where the materials access students’ prior knowledge or experiences and develop metacognitive abilities. They may choose to do this as a whole group or using a jigsaw strategy by lessons. They should represent those instances using sticky note flags.

- **c.** They should consider “what” prior knowledge or experience is likely to be uncovered and then consider if and how students’ thinking is made visible and negotiated across the chapter.

- **d.** Provide time for chapter groups to work. They should represent the path of learning for their assigned chapter on the top half of their Student Thinking chart.

- **e.** Invite participants to add arrows showing the connections between lessons. Model the use of a broad arrow to show a strong connection, a narrow arrow to show and weak connection, and no arrow to represent no connection.

### Slide 11 Gather Evidence & Go Visual (5 min)

**Note:** Instructions for the task are on the next slide. This slide is animated and includes a picture of a sample path of student thinking.

- **a.** Share that we are moving to the third step of the development of the Student Thinking chart.

- **b.** Note that this pass through the materials requires an analysis of the dimensions linked to making sense of the phenomena or problems.
**Slide 12 Gather Evidence & Go Visual! (30 min)**

a. Mark that we will now do a deep analysis of the student learning experience to make sure our ideas are consistent with the standards. In this round, we examine the three dimensions in light of what students learn by engaging with the phenomenon/problem.

b. Pass out a new set of ST-R3 (*MSLS2 Dimensions Stickers*). Note that we will analyze the elements of the DCIs, SEPs, and CCCs by choosing relevant statements and crossing out ideas that are not addressed in the student learning experience.

c. Remind participants that, as in the Foundations work, they will place the stickers on the corresponding colored sticky note before placing them on the chart. Have them keep their sticker sets. While they will not use all stickers in each chapter, the hope would be most stickers would be used across the entire unit.

**Note:** Use the next slide as a visual representation of how groups will divide their chart paper into lessons and where they will place their sticky notes.

**Slide 13 Tell the Story ... (50 min)**

a. Remind participants that our goal is to understand and eventually score the entire unit. Invite them to consider the path of student thinking—what and how student thinking [potentially] changes across their chapter. Provide a few minutes for chapter teams to practice telling the story of student thinking. As they do so, they should add arrows to the path they drew to represent the strength of connections across their chapter. Wide arrows represent strong connections, narrow arrow represent weak connections.

b. Provide a nonexample that tells the story of what students do (e.g., Students construct a graph of data and look for patterns in the data and then construct an explanation). Provide an example that tells the story of students’ thinking (e.g., In the Engage, students share their prior knowledge related to how organisms interact with each other including predation, competition, and parasitism and the interactions between biotic and abiotic factors. Later in the Explore, they analyze data to see patterns in the changes in populations of predators and prey in conjunction with the amount of rainfall. They see that as rainfall...).

c. Invite chapter teams to determine who will tell the story for their chapter as they gather around the charts on the wall. Forecast that they should listen for connections from one chapter to the next. After each table group tells the story of student learning for their chapter, invite participants to turn and talk to a neighbor about the strength of connections between lessons. Survey the group for consensus on the strength of connections, asking for evidence to justify their ideas. Post a large yellow sticky note between chapters and ask a participant to draw the appropriate arrow on the sticky note.
<table>
<thead>
<tr>
<th>Slide 14</th>
<th>Meta Moment (10 min)</th>
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</thead>
<tbody>
<tr>
<td><strong>Note:</strong> As chapter teams practice telling the story of student thinking, listen for nonexamples and provide examples.</td>
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**Meta Moment**
- What is important about the evidence we’ve collected, represented, and discussed so far?
- How is our work today similar to or different from the work we did around the Foundations rubric?

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<thead>
<tr>
<th>Slide 15</th>
<th>Designed for the NGSS: Student Thinking (30 min)</th>
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<tbody>
<tr>
<td><strong>Note:</strong> Choose appropriate grouping and report-out strategies based on the size of your group. <strong>Hold</strong> the rubric up for the group so that only the first column is visible.</td>
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</table>

**Designed for the NGSS: Student Thinking Rubric**

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<thead>
<tr>
<th>Slide</th>
<th>Facilitation Notes and Time</th>
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<tbody>
<tr>
<td><strong>a.</strong> Refer participants to ST-HO2 (<em>Designed for the NGSS: Student Thinking Rubric</em>). This handout is on p. ____ Remind participants that this rubric, like all the rubrics in the paperscreen, defines the components and indicators of high-quality instructional materials designed for the NGSS. The purpose of our conversations over work together over the next few minutes is to develop a shared understanding of the rubric components so that we are able to reach consensus as we evaluate materials to determine a quantitative score and identify strengths and limitations.</td>
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</table>

**b.** Invite participants to note the components in the first column and score descriptors in the three columns to the right. Note that the first column of the rubric contains the component that will be scored and the indicators that describe the component. |

**c.** Use a jigsaw strategy for the first column of the chart by directing each chapter team to divide the three components among their team. Each of the three groups should carefully examine one component and its indicators by highlighting key words. They should be prepared to share a summary of each row or their assigned row. |

**d.** Invite groups to share a summary of their assigned row with the rest of their chapter team. Remind participants to take notes on the Student Thinking Rubric to use when they apply this tool to new materials as they continue to analyze instructional materials for purposes of selection and to inform potential classroom use of the materials. |
e. After they share their summaries, they should return to their charts for high-quality instructional materials created during the work on the Foundations Rubric. Using a different colored marker, table groups should review their charts, adding new ideas and/or revising ideas based on their examination of the rubric.

f. Direct participants’ attention to the three scoring columns. Note that these columns contain descriptors of both quantity and quality. Share that quantity words might include those such as rarely, often, few, consistently, and occasionally. Quality words might include those such as strong potential or insufficient to motivate. Invite table groups to discuss the descriptors for each row and underline key quality and quantity words.

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<td></td>
</tr>
<tr>
<td>16</td>
<td><strong>What would it look like?</strong></td>
</tr>
<tr>
<td></td>
<td><em>What would you expect to see in instructional materials to justify a “5” for your assigned row?</em></td>
</tr>
</tbody>
</table>

**Slide 16 What would it look like? (30 min)**

**Note:** Choose appropriate grouping and report-out strategies based on the size of your group. It’s important that PD leaders have a clear understanding of evidence for each row of the rubric.

a. Note that the purpose of this next step in the process is to increase our shared understanding of the characteristics of high-quality instructional materials designed for the NGSS and to calibrate scoring across groups. Note that this is particularly important since the group will analyze units from several programs using this same rubric. Remind participants to take notes as they’ll use this same rubric to evaluate other programs.

b. Using the group and report-out strategy you identified, invite participants to consider what a level 5 might look like for each component. Remind them that they are NOT scoring the Disruptions in Ecosystems unit at this point; they are to focus on evidence of a 5 for any program.

i. A 5 for ST1 should be based, in part, on the consistent groupings of four colors of sticky notes (i.e., orange, blue, green, and pink) or strong links between the dimensions and the phenomenon/problem across the unit as represented on the Student Thinking Charts.

ii. A 5 for ST2 should be based, in part, on the consistently strong connections represented by wide arrows on the Path of Student Thinking within a chapter and wide arrows from chapter to chapter as represented on the Student Thinking Charts.

iii. A 5 for ST3 and ST4 should be based, in part, on the consistent presence of PKs and Ms within the Path of Student Thinking representations.

iv. A 5 for ST5 should be based, in part, on the quality of supports for students to engage with the phenomena or problem. For example, the materials could include a short videoclip to help all students have a common experience with the phenomenon.
c. Circulate among the groups and remind them that they are to cite evidence—what they would see in instructional materials or on their charts—NOT restatements of the components and indicators or descriptors.

Slide 17 Student Thinking: Strengths and Limitations (30 min)

a. Refer to ST-HO3 (Designed for the NGSS: Student Thinking Analyze Evidence Chart) this handout is on p. _____. Have participants return to their conceptual flow and materials to look for and record strengths and limitations for each component for their Disruptions chapter. Have participants discuss their findings in their table groups and be prepared to share with others. Note that these ideas will help them justify their score across the whole unit—all chapters.

b. Have groups discuss and complete the strengths and limitations chart for each component for their assigned chapter.

c. Mark that they will use this information along with their Student Thinking charts as evidence to score materials.

d. Any groups that finish early should consider what they see and have heard about other chapters related to each component. This will help prepare them to score the whole unit.

Slide 18 Consensus (5 min)

Note: This slide is animated.

a. NextGen TIME is a collaborative process. As a collaborative process, groups will come to consensus often. Remind participants of the description of consensus used in NextGen TIME.

b. Invite participants to turn to a partner and share something they learned from building consensus during the work with the Foundations Rubric. Allow time for the discussion about what worked and what didn’t. Gather a few ideas from the group.

c. Remind participants of a few of the consensus-building strategies.


Slide 19 Score Sheet: Student Thinking (45 min)

a. Refer to the ST-C4 (Chart: Student Thinking Score Sheet). Use evidence gathered to reach consensus on a score for the entire unit for each component.

b. Record the score for each row on the chart.
When scoring is complete, NG-R2 (Paperscreen Score Sheet). This handout is on p.____. Invite participants to record the score for each row on the score sheet and use the multiplier so that the TOTAL score for the unit equates to a score out of 100.

Slide 20 Designed for the NGSS: Student Thinking Teacher Support Evidence Chart (15 min)

a. Refer to TS-HO1 (Designed for the NGSS: Teacher Support for Student Thinking Evidence Chart). This handout is on p. _____. Invite participants to take a moment to silently notice the key features of the chart. Note that the codes here match those for the Student Thinking Rubric.

b. Note that, as in the evaluation using the Foundations rubric, they will consider the support that is provided by the teacher materials.

c. Mark that they will place a check mark in the appropriate column in the top half of the chart. In the bottom half of the chart, they will document the strengths and limitations of the teacher materials as they relate to each of the components of the Student Thinking Rubric.

d. Provide time for chapter groups to discuss and complete the Student Thinking: Teacher Support Evidence Chart.

Note: If time allows, have chapter groups share their findings in their home groups.
### Part 4: Meta moment and connections to NextGen TIME (20 min)

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<thead>
<tr>
<th>Slide</th>
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<tbody>
<tr>
<td><strong>Meta Moment</strong>&lt;br&gt;• What do you want to remember about the work we did today?&lt;br&gt;• Why is it important for your future work?</td>
<td><strong>Slide 21 Meta Moment (5 min)</strong>&lt;br&gt;a. Remind participants that we want to make sure we can bring lessons learned from our work together evaluating the Disruptions unit to materials we will consider for our own school/district.&lt;br&gt;b. Provide instructions for the meta moment. Remind participants that part of the meta moment could include a reflection on their use of the norms.&lt;br&gt;c. Gather a few ideas from the group.</td>
</tr>
<tr>
<td><strong>NextGen TIME Paperscreen</strong>&lt;br&gt;Refer to NG-HO1 (<em>Paperscreen Overview</em>). This handout is on p. ____.&lt;br&gt;Note that we will follow the pattern of gather evidence/go visual, analyze evidence and apply rubric, and score components for the Student Progress Rubric in the next dip into the materials.</td>
<td><strong>Slide 22 NextGen TIME: Paperscreen (5 min)</strong>&lt;br&gt;a. Refer to NG-HO1 (<em>Paperscreen Overview</em>). This handout is on p. ____.&lt;br&gt;b. Note that the unit-level rubrics help us analyze materials for other critical criteria and components—many of which are identified in the charts of characteristics of high quality instructional materials.</td>
</tr>
<tr>
<td><strong>Paperscreen Rubrics: Unit and Program Evaluation</strong>&lt;br&gt;Refer to NG-HO1 (<em>Paperscreen Overview</em>). This handout is on p. ____.&lt;br&gt;Note that we will follow the pattern of gather evidence/go visual, analyze evidence and apply rubric, and score components for the Student Progress Rubric in the next dip into the materials.</td>
<td><strong>Slide 23 Paperscreen Rubrics: Unit and Program Evaluation (5 min)</strong>&lt;br&gt;a. Refer to NG-HO1 (<em>Paperscreen Overview</em>). This handout is on p. ____.&lt;br&gt;b. Note that the unit-level rubrics help us analyze materials for other critical criteria and components—many of which are identified in the charts of characteristics of high quality instructional materials.</td>
</tr>
<tr>
<td><strong>Goals and Outcomes</strong>&lt;br&gt;• Learn a process for analyzing instructional materials in light of the NGSS&lt;br&gt;• Apply the process and tools to help you increase your shared understanding of the characteristics of high quality instructional materials and the NGSS&lt;br&gt;• Use the results of the process to inform the selection of instructional materials&lt;br&gt;• Use the results of the process to inform planning for classroom use.</td>
<td><strong>Slide 24 Goals and Outcomes (5 min)</strong>&lt;br&gt;a. Revisit the goals and outcomes.&lt;br&gt;b. If possible, gather ideas from the group about what they are learning.</td>
</tr>
</tbody>
</table>
NextGen TIME Paperscreen
Designed for the NGSS: Student Thinking Rubric
Lead the Process

Purpose:

- To evaluate instructional materials for the purpose of gathering and analyzing evidence of quality to inform a selection decision and, if the program is selected, to inform professional learning to support their broad and effective implementation in the classroom.

Anticipated time to complete Student Thinking review: Approximately 2 hours (60 minutes to review rubric, gather evidence, and represent evidence, 20 minutes to identify strengths and limitations, and 40 minutes to score components)

Advance Preparation:

- Prepare charts.
- Ensure adequate space for adding the charts for the Student Thinking Rubric to the wall under the conceptual flow from the Foundations Rubric.
- Choose the appropriate sticker set and print. Note that you will need DCI, SEP, and CCC stickers.
  - Text by DCI: available on the NextGen TIME website
  - Text by Topic: available on the NextGen TIME website
- Customize the Lead the Process PPT and use the instructions provided in the main PD leader guide to support the process.
### NextGen TIME Paperscreen
**Designed for the NGSS: Monitoring Student Progress**

**Learn the Process**

#### Purposes:
- To introduce the NextGen TIME tools and processes for the Paperscreen Phase of selecting instructional materials and to help participants understand how this process connects to the overall purpose of NextGen TIME.
- To develop a deep understanding of the instructional materials being evaluated and to assess the quality of key features of high-quality instructional materials designed for next generation science: three-dimensional performances, variety of measures, student progress over time, and equitable access.

#### Session Outline (230 minutes; 3 hours 50 minutes plus breaks)

| Part 1: Introduction to monitoring student progress | Purpose: Set the stage for the focus of the session.  
**Summary:** Participants review purpose and outcomes for NextGen TIME, PD leader orients participants to where they are in the process, and PD leader introduces and provides time for participants to consider the essential question. | 30 min |
|---------------------------------------------------|-------------------------------------------------------------|---|
| Part 2: Gather evidence and go visual | Purpose: Gather evidence from instructional materials and represent it visually.  
**Summary:** Participants analyze the quality of assessments of and for learning including their access for all students. They consider the quality of assessments in light of connections within their selection and across the unit and connections to the dimensions and phenomena or problems called out in the path of student thinking. | 105 min |
| Part 3: Analyze evidence and score components using the Student Progress Rubric | Purpose: Develop a shared understanding of Designed for the NGSS: Student Progress Rubric and characteristics of high-quality instructional materials designed for next generation science.  
**Summary:** Participants consider evidence that would justify a “5” for each component on the rubric, consider strengths and limitations of the materials under consideration, and reach consensus on a score for each component. Participants gather evidence for Teacher Support. | 75 min |
| Part 4: Meta moment and connections to NextGen TIME | Purpose: Prepare for the analysis of materials through the Student Progress lens and for the analysis of candidate programs.  
**Summary:** Participants revisit the essential question to consider if and how thinking of participants has changed through use of the tools and process and reflect on lessons learned through the process and reconnect to goals and outcomes for the Paperscreen phase. | 20 min |
Materials

**Slides**

S1  NextGen TIME: Title slide  
S2  Goals and Outcomes  
S3  Next Gen TIME Paperscreen  
S4  Our Work: Norms and Agenda  
S5  Essential Questions  
S6  What Is an Assessment?  
S7  Gather Evidence & Go Visual  
S8  Gather Evidence & Go Visual  
S9  Gather Evidence  
S10 Go Visual  
S11 Assessment Tasks  
S12 Gather Evidence & Go Visual  
S13 Go Visual  
S14 Gather Evidence & Go Visual  
S15 Go Visual  
S16 Tell the Story  
S17 Designed for the NGSS: Student Progress Rubric  
S18 What would it look like?  
S19 Student Progress: Strengths and Limitations  
S20 Score Sheet: Student Progress  
S21 Teacher Support for Student Progress Chart  
S22 Meta Moment  
S20 NextGen TIME Paperscreen  
S21 Paperscreen Rubrics: Unit and Program Evaluation  
S22 Goals and Outcomes

**Handouts**

SP-HO1  Designed for the NGSS: Student Progress Evidence Chart  
SP-HO2  Designed for the NGSS: Student Progress Rubric  
SP-HO3  Designed for the NGSS: Student Progress Analyze Evidence Chart  
TS-HO1  Designed for the NGSS: Student Progress Teacher Support Evidence Chart

**Charts**

SP-C1  Student Progress Score Sheet

**Other Materials**

- Chart for path of student thinking from *Student Thinking Rubric*. *Note that participants will add to this chart to analyze student progress.*
- Sticky notes  
  - red and teal, 1X2” portrait orientation  
  - yellow, 3x3”
- Pink sticky dot or pink marker (highlighter or chart marker)  
- Highlighters (2 sets/chapter group; orange, blue, and green)  
- Chart paper and markers
Optional Text Resources


**Advance Preparation**

- Prepare charts. Add a ½ sheet of chart paper in a landscape orientation below each chapter team’s Foundations and Student Thinking charts.
- Ensure adequate space for adding the Student Progress charts underneath the Foundations and Student Thinking charts.

**Note:** The “learn the process” piece for Student Progress is a truncated version of the full process.

**Part 1: Introduction to Monitoring Student Progress** (30 min)

<table>
<thead>
<tr>
<th>Slide</th>
<th>Facilitation Notes and Time</th>
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</thead>
</table>
| ![NextGen TIME](image) | **Slide 1 Title Slide**  
   a. Welcome participants to the session.  
   b. Optional opening:  
     i. Ask those participants to share any reflections (e.g., an insight or aha) on using the Foundation Tools and Process from the previous session.  
     OR  
     ii. Invite participants to tell the story of their work from the Foundations and Student Thinking Tools and Process. |
| ![Goals and Outcomes](image) | **Slide 2 Goals and Outcomes** (5 min)  
**Note:** Keep this as short as possible  
   a. Explain to participants that we will continue today with the Paperscreen Process and Tools. Review the session goals with participants.  
   b. Mark that we will continue to learn the NextGen TIME process using a middle school unit on ecosystems so we are prepared to apply it to other instructional materials. |
### Slide 3  NextGen TIME Paperscreen (5 min)

- a. Remind participants that they have completed two of the five passes through the instructional materials, using Foundations and Student Thinking lenses. Now we will use a Student Progress lens to analyze the assessments included in the materials.
- b. Share that in previous passes, we gathered evidence, analyze that evidence, apply a rubric, and then score the components. However, for our purposes today, we’ll use an abridged version today and then apply the full process to materials we are considering later.

### Slide 4  Our Work (5 min)

- a. Briefly review the norms that will guide our work in this session.
- b. Highlight that we continue to learn the process using the Disruptions in Ecosystems unit so we can apply the process to our own materials later.

### Slide 5  Essential Questions (10 min)

- a. Ask participants to review the questions, briefly consider their thinking, and then share their ideas with a partner.
- b. Whip around the room to have participants share some thoughts. Record their brainstorm on a chart.

### Slide 6  What Is an Assessment? (5 min)

- a. Explain that we are providing this definition of assessment as the one they will use for the **Student Progress Rubric**. An assessment is a sequence of activities that are used to monitor student learning. An assessment consists of an assessment task which is a discrete activity/experience combined with a rubric or scoring guide that monitors student learning. An assessment might have multiple assessment tasks.
## Part 2: Gather Evidence and Go Visual (105 min)

<table>
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<tr>
<th>Slide</th>
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</table>
| **Slide 7 Go Visual! (5 min)**<br>Note: Use this slide to model the process. | a. Share with participants that they’ll return to their instructional materials to identify assessments of and for student learning.  
b. They’ll represent evidence on the charts they’ve created with red and teal dots or flags. |
| **Slide 8 Gather Evidence & Go Visual (30 min)**<br>Note: Encourage participants to identify only the primary assessment tasks, because they will do an in-depth analysis of each one. Some chapter sections may not include an assessment. We would expect two to a max of four or five assessments across a chapter. | a. Explain to participants that they will add evidence of how student progress is monitored to a new Student Progress chart. Point to the ½ sheet of chart paper posted in a landscape orientation underneath the Student Thinking chart.  
b. Note that they’ll begin by gathering evidence from their assigned chapter for the presence of assessments and then continue the process to analyze the quality of those assessments.  
c. The instructional materials may or may not formally label something as an assessment. Participants should identify both labeled and non-labeled assessments using a capital letter (F or S) for identified assessments and a lower-case letter (f or s) for experiences that are not identified, but that could serve the role of an assessment.  
d. Using red sticky notes or dots to flag formative assessments and teal sticky notes or dots to flag summative assessments, place the flags at the appropriate places on the **path of student thinking**.  
**Note:** Ensure participants to identify only the primary assessment tasks, because they will do an in-depth analysis of each one. Some chapter sections may not include an assessment. We would expect two to a max of four or five assessments across a chapter. |
| **Slide 9 Gather Evidence (20 min)**<br>Note: Ensure participants to identify only the primary assessment tasks, because they will do an in-depth analysis of each one. Some chapter sections may not include an assessment. We would expect two to a max of four or five assessments across a chapter. | a. Make available multiple copies of SP-HO1 *(Designed for the NGSS: Student Progress Evidence Chart)* to participants. This handout is on p. _____  
b. Explain to participants that when evaluating their own materials, they will complete one table for each assessment they identified and flagged. Note that for our purposes today, they will select one assessment in their assigned chapter and complete SP-HO1 *(Designed for the NGSS: Student Progress Evidence Chart)*.  
c. Emphasize that they should write the gestalt 2- or 3-D learning goal in the last cell, not separate goals for core ideas, practices, and/or crosscutting ideas. Provide an example, such as the one below. |
## Slide

### Facilitation Notes and Time

**Develop a model to show the relationships among living and nonliving components of an ecosystem and how matter cycles and energy flows among the components.**

d. What they will not write are statements beginning with “Students will be able to”.

e. Ask participants to write the 2- or 3-D goal on a yellow sticky note as well as in the last cell. This will make the next step in the process more efficient.

**Note:** The sticky notes will be posted on the *Student Progress* chart in the go visual step. Some identified assessments may be 1-dimensional; if so, tell participants to write the goal in the cell and indicate in the cell and on the sticky notes that it is 1-D.

Advance the slide to show the example of the visual evidence and the example of the 3-D statement of what is assessed.

**Note:** The sticky notes will be posted on the *Student Progress* chart in the go visual step. Some identified assessments may be 1-dimensional; if so, tell participants to write the goal in the cell and indicate in the cell and on the sticky notes that it is 1-D.

<table>
<thead>
<tr>
<th>Slide 10</th>
<th>Go Visual! (5 min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Share with participants that they’ll represent evidence gathered about assessments and recorded on SP-HO1 (<em>Student Progress Evidence Chart</em>) on their charts.</td>
<td></td>
</tr>
<tr>
<td>b. Note that for our purposes in learning the process, we’ll mark this step in the process.</td>
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<thead>
<tr>
<th>Slide 11</th>
<th>Assessment Tasks (10 min)</th>
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<tbody>
<tr>
<td>a. Explain that participants will ultimately review the learning goal that they write and use the appropriate color highlighter (orange, blue, or green) to highlight the parts of the goal that represent any DCIs, SEPs, or CCCs evaluated by the assessment. They will highlight on both the SP-HO1 (<em>Student Progress Evidence Chart</em>) and the yellow sticky notes.</td>
<td></td>
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<tr>
<td>b. Note that for our purposes today, they’ll select one assessment from their assigned chapter and complete SP-HO1 (<em>Student Progress Evidence Chart</em>) and sticky note of the learning goal to post on their chart.</td>
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</tr>
<tr>
<td>c. Note that for each assessment they choose, they’ll need to place a pink sticky dot (or mark) in the upper right corner of the yellow sticky notes that indicate assessments that address the phenomenon or design problem central to the learning goal/chapter.</td>
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<tr>
<td>Slide</td>
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<td></td>
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<tr>
<td>Gather Evidence &amp; Go Visual</td>
<td></td>
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<tr>
<td>- Write the 2- to 3-dimensional learning goal that is evaluated by each assessment task on a large yellow sticky note.</td>
<td></td>
</tr>
<tr>
<td>- Using the appropriate color, highlight the part of the learning goal that represents any DOIs, SIFs, and/or CCGs evaluated by the assessment task on the evidence chart and on the sticky note. Add stars to the sticky note to represent how many dimensions are assessed.</td>
<td></td>
</tr>
<tr>
<td>- Place a pink sticky dot in the upper right corner of the assessments that address the phenomena or design problems in the learning experiences.</td>
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<th>Facilitation Notes and Time</th>
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<tbody>
<tr>
<td><strong>Slide 12 Gather Evidence &amp; Go Visual (5 min)</strong></td>
</tr>
<tr>
<td>a. Note that participants will post their yellow sticky notes on the bottom row of the Student Thinking chart, aligned with the relevant learning experience in the path of student thinking row.</td>
</tr>
<tr>
<td>b. Explain that they will then use chart markers to draw arrows from the standards in the middle row of the chart to the assessment that evaluates that standard. The weights of the arrows should indicate how well the assessment provides evidence of student learning.</td>
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<tr>
<td><strong>Note:</strong> The highlighted text on their sticky notes should help with this task.</td>
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<tr>
<th>Go Visual!</th>
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<tbody>
<tr>
<td>Note: Use this slide to model the process.</td>
</tr>
<tr>
<td>a. Share with participants that as they’ve done before, they’ll tell the story within their selection and across selections. This time, the assessment story.</td>
</tr>
<tr>
<td>b. As they tell the story, they’ll consider the connections across the entire unit and represent the strength of the connections using arrows.</td>
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<tr>
<th>Gather Evidence &amp; Go Visual</th>
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<tbody>
<tr>
<td>- Post the yellow sticky notes in the appropriate location on the bottom row of the charts representing evidence from the analysis of Student Thinking.</td>
</tr>
<tr>
<td>- Add arrows from the standards stickers in the middle row of the charts to the relevant yellow sticky notes. Indicate the extent to which the assessment tasks provide evidence of student learning of the standard by the width of the arrows:</td>
</tr>
<tr>
<td>- poorly</td>
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<tr>
<td>- moderately</td>
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<tr>
<td>- weakly or not at all</td>
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<td>Note: Use this slide to model the process.</td>
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<td>a. Share with participants that as they’ve done before, they’ll tell the story within their selection and across selections. This time, the assessment story.</td>
</tr>
<tr>
<td>b. As they tell the story, they’ll consider the connections across the entire unit and represent the strength of the connections using arrows.</td>
</tr>
</tbody>
</table>
Tell the Story...
- Tell the assessment story across your assigned selection. Consider the following questions:
  - How well do the assessment tasks match student understanding beyond what was in the previous task?
  - How well do the assessment tasks relate to the summative assessments?
- Add arrows to represent the strength of connections.

Note: This might be a good point for a meta moment to help participants step back and consider the power of telling the assessment story.

Part 3: Analyze Evidence and score components using the Student Progress Rubric (75 min)

Slide 17 Designed for the NGSS: Student Progress Rubric (30 min)
- Refer participants to SP-HO2 (Designed for the NGSS: Student Progress Rubric). This handout is on p. ____. Remind participants that this rubric, like all the rubrics in the paperscreen, defines the components and indicators of high-quality instructional materials designed for the NGSS. The purpose of our conversations over work together over the next few minutes is to develop a shared understanding of the rubric components so that we are able to reach consensus as we evaluate materials to determine a quantitative score and identify strengths and limitations.

Note: Choose appropriate grouping and report-out strategies based on the size of your group. Hold the rubric up for the group so that only the first column is visible.

- Invite participants to note the components in the first column and score descriptors in the three columns to the right. Note that the first column of the rubric contains the component that will be scored and the indicators that describe the component.

- Use a jigsaw strategy for the first column of the chart by directing each chapter team to divide the three components among their team. Each of the three groups should carefully examine one component and its indicators by highlighting key words. They should be prepared to share a summary of each row or their assigned row.

- Invite groups to share a summary of their assigned row with the rest of their chapter team. Remind participants to take notes on the Student Progress Rubric to use when they apply this tool to new materials as they continue to analyze instructional materials for purposes of selection and to inform potential classroom use of the materials.

- After they share their summaries, they should return to their charts for high-quality instructional materials created during the work on the Foundations Rubric. Using a different colored marker, table groups should review their charts, adding new ideas and/or revising ideas based on their examination of the rubric.
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<td>g.</td>
<td>Direct participants’ attention to the three scoring columns. Note that these columns contain descriptors of both quantity and quality. Share that quantity words might include those such as <em>rarely</em>, <em>often</em>, <em>few</em>, <em>consistently</em>, and <em>occasionally</em>. Quality words might include those such as <em>strong potential</em> or <em>insufficient to motivate</em>. Invite table groups to discuss the descriptors for each row and underline key quality and quantity words.</td>
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<td></td>
<td><strong>Slide 18  What would it look like? (30 min)</strong></td>
</tr>
<tr>
<td>a.</td>
<td>Remind participants that the purpose of this step is to increase our shared understanding of the characteristics of high-quality instructional materials designed for the NGSS and to calibrate scoring across groups. Note that this is particularly important since the group will analyze units from several programs using this same rubric. Remind participants to take notes as they’ll use this same rubric to evaluate other programs.</td>
</tr>
<tr>
<td>b.</td>
<td>Use a jigsaw strategy for the first column of the chart by directing each table group to divide into four. Assign each table group a different row (one component and its criteria) that they will carefully examine.</td>
</tr>
<tr>
<td>c.</td>
<td>Have participants underline key words in the indicator that describe what they are looking for in the instructional materials. Then have them read the score points to see a description of the quality for the indicators.</td>
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<tr>
<td>d.</td>
<td>Provide an example of evidence to justify a 5, such as there are multiple bold connecting arrows from a DCI, SEP, and/or CCC standard to the assessments, indicating that the assessment is assessing a 2- or 3-D learning goal. Remind participants that they are NOT scoring the <em>Disruptions in Ecosystems</em> unit at this point; they are to focus on evidence of a 5 for any program/set of instructional materials. <strong>Note:</strong> It’s important that PD leaders have a clear understanding of evidence for each row.</td>
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<tr>
<td>e.</td>
<td>Circulate among the groups and remind them that they are to cite evidence—what they would see in instructional materials or on their charts—NOT restatements of the components and elements or descriptors.</td>
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<tr>
<td>f.</td>
<td>Invite them to share their ideas and ask questions of one another. Be ready to help them negotiate these ideas.</td>
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<tr>
<td>g.</td>
<td>Transition to the next slide. <strong>Note:</strong> Remind participants to take notes on the <em>Student Progress Rubric</em> to use when they apply this tool to new materials as they continue to analyze instructional materials for purposes of selection and to inform potential classroom use of the materials.</td>
</tr>
</tbody>
</table>
Slide 19 Student Progress: Strengths and Limitations (5 min)

a. Refer to SP-HO3 (Designed for the NGSS: Student Progress Analyze Evidence Chart). This handout is on p. _____.

b. Remind teams that they will complete this form for each row and that they’ll consider the contributions from the entire unit, not just one chapter.

Slide 20 Score Sheet: Student Progress (5 min)

a. Refer to SP-C1 (Student Progress Score Sheet).

b. Remind participants that had they gathered all the evidence for the unit, they would record a consensus unit score for each row on the chart. Remind them to consider the contribution of each chapter to these scores and to consider the criteria established for a consensus decision.

c. When scoring is complete, they will add the scores to NG-HO3 (Paperscreen Score Sheet). This handout is on p. ______.

Slide 21 Teacher Support for Student Progress Chart (5 min)

a. Refer to TS-HO1: (Designed for the NGSS: Student Progress Teacher Support Evidence Chart). This handout is on p. _____. Invite participants to take a moment to silently notice the key features of the chart.

b. Note that, as they did with the Foundations and Student Thinking analyses, they will also consider the support for monitoring student progress that is provided by the teacher materials.
Part 4: Meta moment and connections to NextGen TIME (20 min)

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<tr>
<td>c.</td>
<td>Depending on time available, provide a few minutes for participants to note strengths and limitations for their chapter.</td>
</tr>
</tbody>
</table>

**Slide 22 Meta Moment (5 min)**
Provide instructions for the meta moment.

**Slide 23 NextGen TIME Paperscreen (5 min)**

a. Remind participants that they have just completed the Student Progress Rubric component of the paperscreen and will move to the Teacher Support Rubric next.

b. Explain that in the next session they will be analyzing the teacher support provided in the instructional materials for the aspects of the program they have evaluated in the Foundations, Student Thinking, and Student Progress rubrics.

**Slide 24 Paperscreen Rubrics: Unit and Program Evaluation (5 min)**
Forecast next steps.

*Note:* You may want to point out that participants have already completed much of the work for this rubric because they evaluated teacher support in the instructional materials for each of the three previous rubrics.

**Slide 25 Goals and Outcomes (5 min)**
Revisit goals and outcomes.
NextGen TIME Paperscreen  
**Designed for the NGSS: Monitoring Student Progress**  
**Lead the Process**  

**Purpose:**
- To evaluate instructional materials for the purpose of gathering and analyzing evidence of quality to inform a selection decision and, if the program is selected, to inform professional learning to support their broad and effective implementation in the classroom.

**Session Outline (295 minutes; 4 hours 55 minutes plus breaks)**

| Part 1: Introduction to Monitoring Student Progress Slides 1-4 | **Purpose:** Set the stage for the focus of the session.  
**Summary:** Participants review purpose and outcomes for NextGen TIME, PD leader orients participants to where they are in the process, and PD leader introduces and provides time for participants to consider the essential question. | 20 min (keep the opening as short as possible) |
|---|---|---|
| **Part 2:** Gather evidence and go visual Slides 5-13 | **Purpose:** Gather evidence from instructional materials and represent it visually.  
**Summary:** Participants analyze the quality of assessments of and for learning including their access for all students. They consider the quality of assessments in light of connections within their selection and across the unit and connections to the dimensions and phenomena or problems called out in the path of student thinking. | 130 min |
| **Part 3:** Analyze evidence and score components using the Student Progress Rubric Slides 14-18 | **Purpose:** Develop a shared understanding of Designed for the NGSS: Student Progress Rubric and characteristics of high-quality instructional materials designed for next generation science.  
**Summary:** Participants consider evidence that would justify a “5” for each component on the rubric, consider strengths and limitations of the materials under consideration, and reach consensus on a score for each component. Participants gather evidence for Teacher Support. | 125 min |
| **Part 4:** Meta moment and connections to NextGen TIME Slides 19-22 | **Purpose:** Prepare for the analysis of materials through the Student Progress lens and for the analysis of candidate programs.  
**Summary:** Participants revisit the essential question to consider if and how thinking of participants has changed through use of the tools and process and reflect on lessons learned through the process and reconnect to goals and outcomes for the Paperscreen phase. | 20 min (keep the opening as short as possible) |
Materials

Slides

- S1  NextGen TIME: Title slide
- S2  Goals and Outcomes
- S3  Next Gen TIME Paperscreen
- S4  Our Work: Norms and Agenda
- S5  Gather Evidence & Go Visual
- S6  Gather Evidence & Go Visual
- S7  Gather Evidence
- S8  Go Visual
- S9  Gather Evidence & Go Visual
- S10  Go Visual
- S11  Gather Evidence & Go Visual
- S12  Go Visual
- S13  Tell the Story
- S14  Designed for the NGSS: Student Progress
- S15  What would it look like?
- S16  Student Progress: Strengths & Limitations
- S17  Score Sheet: Student Progress
- S18  Designed for the NGSS: Student Progress Teacher Support Evidence Chart
- S19  Meta Moment
- S20  NextGen TIME Paperscreen
- S21  Paperscreen Rubrics: Unit and Program Evaluation
- S22  Goals and Outcomes

Handouts

- SP-HO1  Designed for the NGSS: Student Progress Evidence Chart
- SP-HO2  Designed for the NGSS: Student Progress Rubric
- SP-HO3  Designed for the NGSS: Student Progress Analyze Evidence Chart
- TS-HO1  Designed for the NGSS: Student Progress Teacher Support Evidence Chart

Charts

- SP-C1  Student Progress Score Sheet

Other Materials

- Chart for path of student thinking from Student Thinking Rubric
- Sticky notes
  - red and teal, 1X2” portrait orientation
  - yellow, 3x3”
- Pink sticky dot or pink marker (highlighter or chart marker)
- Highlighters (2 sets/chapter group; orange, blue, and green)
- Chart paper and markers
Advance Preparation

- Post charts from Foundations and Student Thinking so they are accessible.

**Part 1: Introduction to Monitoring Student Progress (20 min)**

<table>
<thead>
<tr>
<th>Slide</th>
<th>Facilitation Notes and Time</th>
</tr>
</thead>
</table>
| Slide 1 **Title Slide (5 min)** | a. Welcome participants to the session.  
b. Optional opening:  
  i. Ask those participants to share any reflections (e.g., an insight or aha) on using the Foundation Tools and Process from the previous session.  
  OR  
  ii. Invite participants to tell the story of their work from the Foundations and Student Thinking Tools and Process. |
| Slide 2 **Goals and Outcomes (5 min)** | a. Orient participants to where they are in the process—what they have done, what they will do, and where they go next.  
b. Briefly explain that the goals of the session are to (1) learn a process for analyzing how instructional materials address monitoring student progress toward the 3-dimensional learning goals and how materials provide data for teachers to monitor and adjust instruction and for students to reflect on their learning and (2) apply the evidence and rubric to the instructional materials under analysis to obtain a score for the paperscreen. |
| Slide 3 **NextGen TIME Paperscreen (5 min)** | a. Remind participants that they have completed two of the five passes through the instructional materials, using design Foundations and Student Thinking lenses. Now we will use a Student Progress lens to analyze the assessments included in the materials. As in the previous passes, we will gather evidence, analyze that evidence, apply a rubric, and then score the components.  
b. Note that following the analysis and scoring phases in this session, we will analyze the teacher support in the materials and then consider the program as a whole. At the end of the five passes through the materials, we will summarize the results of the paperscreen. |
Slide 4  Our Work (5 min)
c. Briefly review the norms that will guide our work in this session.
d. Review the agenda for the day, pointing to the charted agenda. Highlight that this session will focus on learning the Paperscreen Tools and Processes for evaluating the assessment tasks that monitor student progress in the middle school *Disruptions in Ecosystems* unit.

### Part 2: Gathering Evidence and go visual (130 min)

#### Slide 5  Gather Evidence & Go Visual (5 min)
**Note:** Use this slide to model the process.

a. Share with participants that they’ll return to their instructional materials to identify assessments of and for student learning.
b. They’ll represent evidence on the charts they’ve created with red and teal dots or flags.

#### Slide 6  Gather Evidence & Go Visual (30 min)

a. Explain to participants that they will add evidence of how student progress is monitored to a new Student Progress chart. Point to the ½ sheet of chart paper posted in a landscape orientation underneath the Student Thinking chart.
b. Note that they’ll begin by gathering evidence from their assigned chapter for the presence of assessments and then continue the process to analyze the quality of those assessments.
c. The instructional materials may or may not formally label something as an assessment. Participants should identify both labeled and non-labeled assessments using a capital letter (F or S) for identified assessments and a lower-case letter (f or s) for experiences that are not identified, but that could serve the role of an assessment.
d. Using red sticky notes or dots to flag formative assessments and teal sticky notes or dots to flag summative assessments, place the flags at the appropriate places on the path of student thinking.

**Note:** Encourage participants to identify only the primary assessment tasks, because they will do an in-depth analysis of each one. Some chapter sections may not include an assessment. We would expect two to a max of four or five assessments across a chapter.
### Slide 7  Gather Evidence (30 min)

- **f.** Make available multiple copies of SP-HO1 (*Designed for the NGSS: Student Progress Evidence Chart*) to participants.
- **g.** Explain to participants that they should complete one table for each assessment they identified and flagged. Suggest that they use a jigsaw strategy to gather evidence and complete the tool.
- **h.** Emphasize that they should write the gestalt 2- or 3-D learning goal in the last cell, not separate goals for core ideas, practices, and/or crosscutting ideas.
- **i.** Ask participants to write the 2- or 3-D goal on a yellow sticky note as well as in the last cell. This will make the next step in the process more efficient.

**Note:** The sticky notes will be posted on the *Student Progress* chart in the go visual step. Some identified assessments may be 1-dimensional; if so, tell participants to write the goal in the cell and indicate in the cell and on the sticky notes that it is 1-D.

- **j.** Advance the slide to show the example of the visual evidence and the example of the 3-D statement of what is assessed.

### Slide 8 Go Visual (5 min)

**Note:** Use this slide to model the process.

- **a.** Remind participants that as they gather evidence from the assessments they flagged in the earlier step, they’ll post sticky notes to represent what is assessed including both the dimensions and the phenomena or problems.
- **b.** Share the example.

### Slide 9  Gather Evidence & Go Visual (5 min)

- **a.** Explain that participants should review the learning goal and use the appropriate color highlighter (orange, blue, or green) to highlight the parts of the goal that represent any DCIs, SEPs, or CCCs evaluated by the assessment. Try should highlight on both the SP-HO1 (*Student Progress Evidence Chart*) and the yellow sticky notes.
- **b.** Ask participants to place a pink sticky dot (or mark) in the upper right corner of the yellow sticky notes that indicate assessments that address the phenomenon or design problem central to the learning goal/chapter.
<table>
<thead>
<tr>
<th>Slide</th>
<th>Facilitation Notes and Time</th>
</tr>
</thead>
</table>
| Go Visual! | **Slide 10 Go Visual! (5 min)**<br>Note: Use this slide to model the process of representing connections within their chapter.  
  a. Share with participants that they’ll consider the connections within their chapter and represent the strengths of connections using arrows.  
  b. In this first pass, they’ll consider the extent to which the assessments measure the dimensions and the extent to which the assessments connect to one another. Note the arrows from the blue, orange and green stickers/sticky notes (the dimensions) to the yellow sticky notes (the assessment goals).  
  c. Prompt chapter teams to return to their instructional materials as needed. <br>Note: If appropriate or needed, forecast that shortly they’ll consider connections across the unit (see slide 12). |
| Gather Evidence & Go Visual | **Slide 11 Gather Evidence & Go Visual (15 min)**<br>a. Ask participants to post their yellow sticky notes on the bottom row of the Student Thinking chart, aligned with the relevant learning experience in the path of student thinking row.  
  b. Explain that they should use chart markers to draw arrows from the standards in the middle row of the chart to the assessment that evaluates that standard. The weights of the arrows should indicate how well the assessment provides evidence of student learning. <br>Note: The highlighted text on their sticky notes should help with this task. |
| Go Visual! | **Slide 12 Go Visual (5 min)**<br>Note: Use this slide to model the process.  
  a. Share with participants that as they’ve done before, they’ll tell the story within their selection and across selections. This time, the assessment story.  
  b. As they tell the story, they’ll consider the connections **across the entire unit** and represent the strength of the connections using arrows. |

- Post the yellow sticky notes in the appropriate location on the bottom row of the charts representing evidence from the analysis of Student Thinking.  
- Add arrows from the standards stickers in the middle row of the charts to the relevant yellow sticky notes. Indicate the extent to which the assessment tasks provide evidence of student learning of the standard by the width of the arrows:  
  - strongly  
  - moderately  
  - weakly or not at all

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Slide 13 Tell the Story (30 min)

- Point out to participants that the yellow sticky notes on the bottom row of the chart tell the “story” of monitoring student progress across the chapters and unit. Just like the sequence of learning experiences, the sequence of assessment tasks should also be coherent.
- Ask participants to discuss the coherence of the chapter’s assessments with their team members by responding to these questions.

**Note:** Circulate among the groups and listen in on the discussions. If necessary, emphasize that they should NOT be discussing what students are doing in the assessment tasks, but how the tasks evaluate student understanding as they progress on the path of thinking.
- Next, invite them to tell the assessment story across the unit in the unit group. As they tell the story across the unit, they should add arrows of different types and weights to show how well the assessments link to one another across the unit.

**Note:** This might be a good point for a meta moment to help participants step back and consider the power of telling the assessment story.

Part 3: Analyze evidence and score components using the Student Progress Rubric (125 min)

Slide 14 Designed for the NGSS: Student Progress Rubric (10 min)

- Refer to SP-HO1 *(Designed for the NGSS: Student Progress Rubric).* Invite participants to note the components of the rubric.
- Review the structure of the rubric with participants. Mark that the first column contains the components that will be scored and the criteria that describe the components.
- Remind participants that this rubric, like all the rubrics in the Paperscreen, defines the components and criteria of high-quality instructional materials.
- Direct participants’ attention to the three scoring columns. Remind them that these columns contain descriptors of both quantity and quality, with quantity words such as rarely, often, few, consistently, and occasionally. Quality words might include strong potential or insufficient to motivate. Ask table groups to discuss the descriptors for each row and underline key quality and quantity words.
### Slide 15  What would it look like? (10 min)

h. Remind participants that the purpose of this step is to increase our shared understanding of the characteristics of high-quality instructional materials designed for the NGSS and to calibrate scoring across groups. Note that this is particularly important since the group will analyze units from several programs using this same rubric. Remind participants to take notes as they’ll use this same rubric to evaluate other programs.

i. Use a jigsaw strategy for the first column of the chart by directing each table group to divide into four. Assign each table group a different row (one component and its criteria) that they will carefully examine.

j. Have participants underline key words in the indicator that describe what they are looking for in the instructional materials. Then have them read the score points to see a description of the quality for the indicators.

k. Provide an example of evidence to justify a 5, such as there are multiple bold connecting arrows from a DCI, SEP, and/or CCC standard to the assessments, indicating that the assessment is assessing a 2- or 3-D learning goal. Remind participants that they are NOT scoring the *Disruptions in Ecosystems* unit at this point; they are to focus on evidence of a 5 for any program/set of instructional materials.

**Note:** It’s important that PD leaders have a clear understanding of evidence for each row.

l. Circulate among the groups and remind them that they are to cite evidence—what they would see in instructional materials or on their charts—NOT restatements of the components and elements or descriptors.

m. Invite them to share their ideas and ask questions of one another. Be ready to help them negotiate these ideas.

n. Transition to the next slide.

**Note:** Remind participants to take notes on the *Student Progress Rubric* to use when they apply this tool to new materials as they continue to analyze instructional materials for purposes of selection and to inform potential classroom use of the materials.
Slide 16  Student Progress: Strengths and Limitations (30 min)

c. Refer to SP-HO3 *(Designed for the NGSS: Student Progress Analyze Evidence Chart)*. This handout on p._____.

d. Ask the teams to complete this form for each row. Remind them to consider the contributions from the entire unit, not just one chapter.

e. Ask chapter groups to return to their unit groups. Post the chapter Student Thinking charts, with the assessment (bottom) rows completed, on the wall to reconstruct the picture of the unit.

f. Ask each chapter group to explain, in chapter order, what they found about the assessments in their chapter.

g. Add additional arrows to the assessment row to show the strength of connections between the assessments in successive chapters. Explain that this tells the assessment story that represents how the assessments in each chapter capture student progress from the beginning of the unit to the end, in the service of having students use 3-dimensional learning to understand phenomena and/or design problems.

Slide 17  Score Sheet: Student Progress (45 min)

d. Refer to SP-C1 *(Student Progress Score Sheet)*.

e. Ask participants to record a consensus *unit score* for each row on the chart. Remind them to consider the contribution of each chapter to these scores and to consider the criteria established for a consensus decision.

f. When scoring is complete, refer to NG-HO3 *(Paperscreen Score Sheet)*. Invite participants to record the score for each row on the score sheet and use the multiplier so that the TOTAL score for the unit equates to a score out of 100.
### Slide 18  Teacher Support for Student Progress Chart (30 min)

d. Refer to TS-HO1: *(Designed for the NGSS: Student Progress Teacher Support Evidence Chart).* This handout on p.______. Invite participants to take a moment to silently notice the key features of the chart.

e. Note that, as they did with the Foundations and Student Thinking analyses, they will also consider the support for monitoring student progress that is provided by the teacher materials.

f. Mark that they will place a check mark in the appropriate column in the top half of the chart. In the bottom half of the chart, they will document the strengths and limitations of the teacher materials as they relate to each component of the **Student Progress Rubric**.

g. Provide time for chapter table groups to discuss and complete the TS-HO1 *(Teacher Support for Student Progress Evidence Chart)*.

### Part 4: Meta moment and connections to NextGen TIME (20 min)

<table>
<thead>
<tr>
<th>Slide</th>
<th>Facilitation Notes and Time</th>
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</thead>
<tbody>
<tr>
<td>Meta Moment</td>
<td>Slide 19  Meta Moment (5 min)</td>
</tr>
<tr>
<td></td>
<td>Provide instructions for the meta moment.</td>
</tr>
<tr>
<td>NextGen TIME Paperscreen</td>
<td>Slide 20  NextGen TIME Paperscreen (5 min)</td>
</tr>
<tr>
<td></td>
<td>a. Remind participants that they have just completed the <strong>Student Progress Rubric</strong> component of the paperscreen and will move to the <strong>Teacher Support Rubric</strong> next.</td>
</tr>
<tr>
<td></td>
<td>b. Explain that in the next session they will be analyzing the teacher support provided in the instructional materials for the aspects of the program they have evaluated in the <strong>Foundations</strong>, <strong>Student Thinking</strong>, and <strong>Student Progress</strong> rubrics.</td>
</tr>
<tr>
<td>Slide</td>
<td>Facilitation Notes and Time</td>
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</tr>
</tbody>
</table>
| Slide 21 Paperscreen Rubrics: Unit and Program Evaluation (5 min)  
   a. Forecast next steps.  
   b. You may want to point out that participants have already completed much of the work for this rubric because they evaluated teacher support in the instructional materials for each of the three previous rubrics. |
| Slide 22 Goals and Outcomes (5 min)  
Revisit goals and outcomes. |
NextGen TIME Paperscreen  
**Designed for the NGSS: Teacher Support**  
**Learn the Process**

**Purpose:**
- To introduce the NextGen TIME tools and processes for the Paperscreen Phase of selecting instructional materials and to help participants understand how this process connects to the overall purpose of NextGen TIME.
- To develop a deep understanding of the instructional materials being evaluated and to assess the quality of key features of high-quality instructional materials designed for next generation science: phenomena/problem-drive three-dimensional learning, coherence, effective teaching, and support for students with diverse learning needs.
- The Teacher Support session provides support for analyzing the supports for teachers in instructional materials. In prior rubrics, participants have analyzed primarily student materials for NGSS design, student thinking, and assessment of learning. In this session, they will analyze primarily teacher materials for the extent to which they support the features they examined previously.

**Session Outline** (160 minutes; 2 hours 40 minutes plus breaks)

| **Part 1:** Introduction  
Slides 1-5 | **Purpose:** Set the stage for the focus of the session.  
**Summary:** Participants review purpose and outcomes for NextGen TIME, PD leader orients participants to where they are in the process, and PD leader introduces and provides time for participants to consider the essential questions. | 30 minutes |
|---|---|---|
| **Part 2:** Analyze evidence and score components using the Teacher Support Rubric  
Slides 6-9 | **Purpose:** Develop a shared understanding of Designed for the NGSS: Teacher Support Rubric and characteristics of high-quality instructional materials designed for next generation science.  
**Summary:** Participants review evidence gathered for Teacher Support during for each of the previous rubrics. Participants consider evidence that would justify a “5” for each component on the rubric, consider strengths and limitations of the materials under consideration, and reach consensus on a score for each component. | 110 minutes |
| **Part 3:** Meta moment and connections to NextGen TIME  
Slides 10-12 | **Purpose:** Prepare for the analysis of materials through the Teacher Support lens and for the analysis of candidate programs.  
**Summary:** Participants revisit the essential question to consider if and how thinking of participants has changed through use of the tools and process and reflect on lessons learned through the process and reconnect to goals and outcomes for the Paperscreen phase. | 20 minutes |
Materials

Slides
S1  Title Slide
S2  Goals and Outcomes
S3  NextGen TIME Paperscreen Process
S4  Our Work
S5  Essential Questions
S6  Review Evidence
S7  Designed for the NGSS: Teacher Support
S8  What would it look like?
S9  Score Sheet
S10  Meta Moment
S11  NextGen TIME Paperscreen Process
S12  Goals and Outcomes

Handouts
TS-HO1  Designed for the NGSS: Teacher Support Evidence Charts (Note that these charts have been completed during the work with the Foundations, Student Thinking, and Student Progress Rubrics.)

TS-HO2  Designed for the NGSS: Teacher Support Rubric

Charts
TS-C1  Teacher Support Score Sheet

Other Materials
- Chart paper with criteria for instructional materials created in Part II of the process for Rubric 1 (response to Essential Question 3)
- Conceptual Flow with DCIs, SEPs, CCCs; work students do icons; and assessment flags from the Foundations, Student Thinking, and Student Progress rubrics

Optional Text Resources
- Next Generation Science Standards: For States, By States, Volume 1: The Standards (2013) by NGSS Lead States
- Next Generation Science Standards: For States, By States, Volume 2: The Appendices (2013) by NGSS Lead States

Advance Preparation
- Prepare copies of the handouts for each teacher or each team.
- Locate and display the chart paper with criteria for instructional materials created in Part II of the process for Rubric 1.
- Ensure that each expert groups’ chapter conceptual flow is available.
# Part 1: Introduction (30 min)

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<thead>
<tr>
<th>Slide</th>
<th>Facilitation Notes and Time</th>
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<tbody>
<tr>
<td><strong>Slide 1 Title Slide (0 min)</strong></td>
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</tbody>
</table>
| **Slide 2 Goals and Outcomes (5 min)**  
  - Briefly explain the goals.  
  - **Goal:** Learn a process for analyzing instructional materials in light of the NGSS.  
  - **Process:** Use the results of the process to inform the selection of instructional materials.  
  - **Plots:** Use the results of the process to inform planning for classroom use. |
| **Slide 3 NextGen TIME Paperscreen Process (5 min)**  
  - Orient participants to where they are in the process—what have they done, what will they do, and where they go next.  
  - **Note:** Point out that in prior rubrics they have analyzed primarily student materials for NGSS design, student thinking, and assessment of learning. In this session they will analyze primarily teacher materials for the extent to which they support the features they examined previously. And, they will use the evidence they’ve gathered during the sessions focused on Foundations, Student Thinking, and Student Progress. |
| **Slide 4 Our Work (5 min)**  
  - **How we'll work**  
    - **Norms:** Be kind. Ask some questions. Be present. Meet some people. And... have fun!  
  - **What we'll do**  
    - **Agenda:** Learn the Paperscreen T & P using a common experience. Apply the Paperscreen T & P. Plan for next steps.  
  - **a. Review the norms and agenda.**  
  - **b. The focus remains on learning to use the Paperscreen Tools and Processes of NextGen TIME.** |
### Essential Questions

- What resources in instructional materials would help teachers support three-dimensional learning among students?
- What teacher resources in instructional materials would support assessment of student progress toward NGSS-based learning goals?
- What are the features of teacher resources that make them likely to be used by teachers?

#### Slide 5 Essential Questions (15 min)

**Note:** This is an animated slide.

- Click to reveal question 1: What resources in instructional materials would help teachers support three-dimensional learning among students? In a think-pair-share, ask participants to review the question and discuss their thoughts with a partner.
- Whip around the room to have participants share some thoughts. Record their ideas on a chart.
- Click to reveal question 2: What teacher resources in instructional materials would support assessment of student progress toward NGSS-based learning goals? In a think-pair-share, ask participants to review the question and discuss their thoughts with a partner and then with the whole group.
- Click to reveal question 3: What are the features of teacher resources that make them likely to be used by teachers? In a think-pair-share, ask participants to review the question and discuss their thoughts with a partner.
- Whip around the room to have participants share some thoughts. Comment as appropriate.
- Return to the chart of characteristics of high-quality instructional materials. Explain that the NGSS vision includes some goals that may be new to many teachers and/or have not been addressed in their previous preservice and inservice professional learning experiences. Completing this rubric asks them to consider how teacher resources can support teachers as they grapple with these ideas, as well as other important attributes of high quality instructional materials.

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### Part 2: Review Evidence, Analyze Evidence, and Score Components (110 min)

#### Slide 6 Review Evidence (5 min)

- Ask participants to move into their expert groups and pull out their Teacher Support Evidence Sheets from the previous three rubrics.
- Note that the information collected earlier and recorded here will be analyzed using the *Teacher Support Rubric*. 

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### Slide 7  Designed for the NGSS: Teacher Support (35 min)

- **a.** Note that the information collected earlier and recorded here will be analyzed using the Teacher Support Rubric.

- **b.** Refer participants to TS-HO2 *(Designed for the NGSS: Teacher Support Rubric)*. This handout found on p.____. Remind participants that this rubric, like all the rubrics in the paperscreen, defines the components and indicators of high-quality instructional materials designed for the NGSS. The purpose of our conversations over work together over the next few minutes is to develop a shared understanding of the rubric components so that we are able to reach consensus as we evaluate materials to determine a quantitative score and identify strengths and limitations.

**Note:** Choose appropriate grouping and report-out strategies based on the size of your group. **Hold** the rubric up for the group so that only the first column is visible.

- **c.** Invite participants to note the components in the first column and score descriptors in the three columns to the right. Note that the first column of the rubric contains the component that will be scored and the indicators that describe the component.

- **d.** Use a jigsaw strategy for the first column of the chart by directing each chapter team to divide the three components among their team. Each of the three groups should carefully examine one component and its indicators by highlighting key words. They should be prepared to share a summary of each row or their assigned row.

- **e.** Invite groups to share a summary of their assigned row with the rest of their chapter team. Remind participants to take notes on the Teacher Support Rubric to use when they apply this tool to new materials as they continue to analyze instructional materials for purposes of selection and to inform potential classroom use of the materials.

- **f.** After they share their summaries, they should return to their charts for high-quality instructional materials created during the work on the Foundations Rubric. Using a different colored marker, table groups should review their charts, adding new ideas and/or revising ideas based on their examination of the rubric.

- **g.** Direct participants’ attention to the three scoring columns. Note that these columns contain descriptors of both quantity and quality. Share that quantity words might include those such as *rarely, often, few, consistently,* and *occasionally.* Quality words might include those such as *strong potential or insufficient to motivate.* Invite table groups to discuss the descriptors for each row and underline key quality and quantity words.
<table>
<thead>
<tr>
<th>Slide</th>
<th>Facilitation Notes and Time</th>
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<tbody>
<tr>
<td>Slide 8  What would it look like? (35 min)</td>
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</tr>
<tr>
<td>a. Remind participants that the purpose of this step is to increase our shared understanding of the characteristics of high-quality instructional materials designed for the NGSS and to calibrate scoring across groups. Note that this is particularly important since the group will analyze units from several programs using this same rubric. Remind participants to take notes as they’ll use this same rubric to evaluate other programs.</td>
<td></td>
</tr>
<tr>
<td>b. Use a jigsaw strategy for the first column of the chart by directing each table group to divide into four. Assign each table group a different row (one component and its criteria) that they will carefully examine.</td>
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<tr>
<td>c. Have participants underline key words in the indicator that describe what they are looking for in the instructional materials. Then have them read the score points to see a description of the quality for the indicators.</td>
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<tr>
<td>d. Provide an example of evidence to justify a 5, such as there are multiple bold connecting arrows from a DCI, SEP, and/or CCC standard to the assessments, indicating that the assessment is assessing a 2- or 3-D learning goal. Remind participants that they are NOT scoring the Disruptions in Ecosystems unit at this point; they are to focus on evidence of a 5 for any program/set of instructional materials.</td>
<td></td>
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<tr>
<td>Note: It’s important that PD leaders have a clear understanding of evidence for each row.</td>
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<tr>
<td>e. Circulate among the groups and remind them that they are to cite evidence—what they would see in instructional materials or on their charts—NOT restatements of the components and elements or descriptors.</td>
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<tr>
<td>f. Invite them to share their ideas and ask questions of one another. Be ready to help them negotiate these ideas.</td>
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<tr>
<td>g. Transition to the next slide.</td>
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<tr>
<td>Note: Remind participants to take notes on the Student Progress Rubric to use when they apply this tool to new materials as they continue to analyze instructional materials for purposes of selection and to inform potential classroom use of the materials.</td>
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</tbody>
</table>
### Part 3: Meta moment and connections to NextGen TIME (15 min)

#### Slide 9  Score Sheet (30 min)

- Refer to TS-C1 (Teacher Support Score Sheet).
- Ask participants to record a consensus *unit score* for each row on the chart. Remind them to consider the contribution of each chapter to these scores and to consider the criteria established for a consensus decision.
- When scoring is complete, refer to NG-R3 (*Paperscreen Score Sheet*) This handout found on p.____. Invite participants to record the score for each row on the score sheet and use the multiplier so that the TOTAL score for the unit equates to a score out of 100.

<table>
<thead>
<tr>
<th>Score Sheet: Teacher Support</th>
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</thead>
<tbody>
<tr>
<td>Designed for the NGSS: Support for Teachers</td>
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<tr>
<td>TS: Promoters/Problem-Solver, Three-Dimensional Learning</td>
</tr>
<tr>
<td>TG: Coherence</td>
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<tr>
<td>TR: Efficacy/Teaching</td>
</tr>
<tr>
<td>TH: Support for Students with Special Learning Needs</td>
</tr>
<tr>
<td>TG: Support for Teacher Progress</td>
</tr>
<tr>
<td>TOTAL: Support for Teachers</td>
</tr>
</tbody>
</table>

#### Slide 10  Meta Moment (5 min)

Provide instructions for meta moment.

- What do you want to remember about the work we did today?
- Why is it important for your future work?

#### Slide 11  NextGen TIME Paperscreen Process (5 min)

- Remind participants that they have just completed the process of analyzing the fourth criterion: Support for Teachers.
- Once each program under consideration has been analyzed, the team will move to the final paperscreen criterion and review one or two programs using the final paperscreen rubric: *Program Evaluation Rubric*.

#### Slide 12  Goals and Outcomes (5 min)

- Revisit goals and outcomes.
- Take a few minutes to reflect on lessons learned through the entire process.
- Use these lessons learned to set up for the application of the Paperscreen Phase to the first set of instructional materials that passed through the prescreen.
Advance Preparation

- Prepare charts.
- Ensure adequate space for posting the Conceptual Flow Evidence charts.
- Consider how you will group participants into home and expert groups.
- Customize the Lead the Process PPT (TS-R3) and use the instructions provided in the main PD leader guide to support the process.
- NOTE: Once the final program has been evaluated using the Foundations, Student Thinking, Student Progress, and Teacher Support Rubrics, be prepared to select one or two programs to evaluate using the Program Rubric.
NextGen TIME Paperscreen
Designed for the NGSS: Program
Lead the Process

Purposes:

- To apply the final rubric of the Paperscreen Phase to one or two programs under consideration
- To develop a deep understanding of the instructional materials being evaluated at the program level and to assess the quality of key features of high-quality instructional materials designed for next generation science: progressions of learning, unit-to-unit coherence, and program assessment system.

Note: The Program Rubric Lens does not include a “learning” phase.

Session Outline (310 minutes; 5 hours 10 minutes plus breaks to complete the process for one program. Up to an additional four hours will be required for each additional program.)

| Part 1: Introduction Slides 1-5 | Purpose: Set the stage for the focus of the session Summary: PD leader introduces the essential questions related to the Program rubric and reviews the session outcomes and the pathway for the Paperscreen. | 30 min |
| Part 2: Analyze evidence and score components using the Foundations Rubric Slides 6-9 | Purpose: Develop a shared understanding of Designed for the NGSS: Program tools and process and the characteristics of high-quality program designed for next generation science. Summary: Participants gather evidence, analyze strengths and limitations of the program under consideration, and score components. They finalize the analysis of materials through the Paperscreen Phase and identify materials to be piloted. | Up to 260 min |
| Part 3: Meta moment and connections to NextGen TIME Slides 10-14 | Purpose: Bring closure to the Paperscreen Phase. Summary: Reflect on lessons learned through the process and reconnect to goals and outcomes for the Paperscreen phase. | 20 min
Plus time at the conclusion of the evaluation of all programs under consideration to determine which program(s) to pilot |
Materials

Slides

S1  Title Slide
S2  Goals and Outcomes
S3  NextGen TIME Paperscreen Process
S4  Our Work
S5  Essential Questions
S6  Designed for NGSS: Program
S7  What would it look like?
S8  Gather and Analyze Evidence
S9  Score Sheet
S10 Meta Moment
S11 Goals and Outcomes
S12 Paperscreen and Pilot Phases
S13 Our Work
S14 Full Programs to Evaluate

Handouts

P-HO1  Designed for the NGSS: Program Evaluation Rubric
P-HO2  Designed for the NGSS: Program Gather and Analyze Evidence

Other

• Chart paper with criteria for instructional materials used throughout the Paperscreen process.
• Conceptual Flow with DCIs, SEPs, CCCs; work-students-do icons; and assessment flags from Foundations, Student Thinking, Student Progress, and Teacher Support rubrics

Advance Preparation

• Prepare copies of handouts for each teacher or each team.
• Locate and display the chart paper with criteria for instructional materials created in the process for the Foundations Rubric and used throughout.
• Ensure that all charts from the Paperscreen rubrics in the Paperscreen Process are posted for easy access.
## Part 1: Introduction (30 minutes)

<table>
<thead>
<tr>
<th>Slide</th>
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<tbody>
<tr>
<td><strong>Slide 1</strong> Title Slide (0 min)</td>
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<tr>
<td><strong>Slide 2</strong> Goals and Outcomes (5 min)</td>
<td>Briefly explain that the goals of the session are to (a) learn a process for analyzing the extent to which instructional materials include teacher materials that help teachers support students’ three-dimensional learning and adequately assess student progress toward those goals and that are accessible and usable by teachers and (b) apply the evidence and rubric to the instructional materials under analysis to obtain a score for the paperscreen.</td>
</tr>
<tr>
<td><strong>Slide 3</strong> NextGen TIME Paperscreen Process (5 min)</td>
<td>Orient participants to where they are in the process—what they have done, what they will do, and where they go next. <strong>Note:</strong> Point out that in prior rubrics they have analyzed primarily student materials for NGSS design, student thinking, and assessment of learning. In this session they will analyze primarily teacher materials for the extent to which they support the features they examined previously.</td>
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| **Slide 4** Our Work (5 min) | a. Review the norms and agenda.  
   b. The focus is on applying the program evaluation tools and process from the Paperscreen Process. |

### Goals and Outcomes

- Learn a process for analyzing instructional materials in light of the NGSS
- Apply the process and tools to help you increase your shared understanding of the characteristics of high-quality instructional materials and the NGSS.
- Use the results of the process to inform the selection of instructional materials.
- Use the results of the process to inform planning for classroom use.

### NextGen TIME Paperscreen Process

- Our Work
  - **How we’ll work**
    - Norms
      - Be kind.
      - Ask some questions.
      - Be present.
      - Meet some people.
      - And... have fun!
    - What we’ll do
      - Agenda
        - Learn the Paperscreen T & P using a common experience.
        - Apply the Paperscreen T & P
        - Plan for next steps.
### Slide 5 Essential Questions (15 min)

- Share the essential question and provide instructions for participants to respond to the prompt.
- Return to the chart of criteria for instructional materials and invite them to add to or revise ideas on their chart.

### Part 2: Analyze Evidence and Score Components (up to 290 minutes)

#### Slide 6 Designed for the NGSS: Program (30 min)

- Refer to P-HO1 (Program Evaluation Rubric) This handout found on p.____. Orient the groups to the whole rubric (i.e., the components, indicators, and scoring descriptors). Note that one difference in this rubric as compared to those used previously is that each row refers to specific sources of evidence from the evidence collection charts. Provide an example or two.

- Review the structure of the rubric with participants. Note that the first column contains the component that will be scored and the criteria that describe the component. Use a jigsaw strategy for the first column of the chart by directing each table group to divide into three. Each of the three groups should carefully examine one component and its criteria.

- Remind participants that this rubric, like all the rubrics in the paperscreen, defines the components and criteria of high quality instructional materials designed for the NGSS. Invite table groups to review only the first column (components and elements) of the rubric and consider each of the three components. As they share their summaries of each component from their jigsaw, they should return to their charts of high quality instructional materials used throughout the Paperscreen process. Using a different colored marker, table groups should review their charts, adding new ideas and/or revising ideas based on their review of the rubric.

- Direct participants’ attention to the three scoring columns. Note that these columns contain descriptors of both quantity and quality. Share that quantity words might include those such as rarely, often, few, consistently, and occasionally. Quality words might include those such as strong potential or insufficient to motivate. Invite table groups to discuss the descriptors for each row and underline key quality and quantity words.

**Note:** Some participants may ask about the 5-3-1 scores. Share with participants that they’ll ultimately use these descriptors to score units from all
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**Facilitation Notes and Time**

the programs they will consider. Note that the purpose of the 5-3-1 score is to increase the spread of scores across programs so their quality is more readily distinguished.

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<th>Slide 7  What would it look like? (20 min)</th>
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<td><strong>Note:</strong> You will need to determine how you will help teams negotiate this part of the session. Choose appropriate grouping and report-out strategies based on the size of your group. It’s important that PD leaders have a clear understanding of evidence for each row of the rubric.</td>
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<tr>
<td>a. Note that the purpose of this next step in the process is to increase our shared understanding of the characteristics of high-quality instructional materials designed for the NGSS and to calibrate scoring across groups. Note that this is particularly important since the groups will analyze units from several programs using this same rubric. Remind participants to take notes as they’ll use this same rubric to evaluate other programs.</td>
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<td><strong>Note:</strong> It’s important that PD leaders have a clear understanding of evidence for each row.</td>
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<th>Slide 8  Gather Evidence and Analyze Evidence (90–150 min)</th>
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<td><strong>Note:</strong> A number of factors will influence how you support your team to gather and analyze evidence based on the Program Evaluation Rubric.</td>
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| a. Refer to P-HO2 *(Designed for the NGSS: Program Gather and Analyze Evidence)* This handout on p._____.

b. How you gather evidence will depend on the group you are working with. You could invite everyone to gather evidence using the evidence charts for each row of the rubric, or you could use a jigsaw strategy for gathering evidence. Once the team has gathered evidence and documented strengths and limitations, move to scoring each row on the rubric.

c. The materials under review will also make a difference. You will likely need to make at least an initial pass of the program being considered so that you are ready to provide additional guidance to your team(s).

**Note:** Recommendations for sampling for each evidence chart are provided below.

**Progressions Sampling**

The progressions sampling focuses primarily on teacher materials. We recommend an examination of the front matter or overview provided by the publisher/developer as an important source of information for each of the three elements of the progressions component.

To gather evidence specifically for the appropriateness of student engagement with DCIs, we recommend checking whether materials help students make connections across disciplines and that this be noted as a strength.
To gather evidence specifically for the extent to which the teacher materials make clear how the performance expectations are addressed in the program, we recommend checking for any “alignment” or “coverage” information provided in the teacher materials against what actually happens in the unit that was evaluated using the first four rubrics of the paperscreen (Foundations, Student Thinking, Student Progress, and Teacher Support). In other words, validate the claims made in the teacher materials by checking what happens with students.

**Coherence Sampling**

The coherence component focuses primarily on student materials. Use the teacher materials as needed. We recommend

- an examination of the front matter or overview provided by the publisher/developer as an important source of information.
- sampling the program by examining the unit before and the unit after the one that was examined using the first four rubrics of the paperscreen.
- scanning student materials from the designated units for the use of phenomena/problems. To the extent that concerns about quality are raised, the team may choose to develop a path of student learning from the Student Thinking process to better assess quality.
- scanning the transitions between the sampled units to determine the extent to which the materials make explicit connections from unit to unit.
- using information in the teacher materials (e.g, scope and sequence, table of contents, alignment chart) to determine three examples of at least one practice in three instances over the course of the program to provide an indication of how well students are supported in more sophisticated development of the practice. Candidate practices to target include the following: developing and using models, constructing explanations and designing solutions, and engaging in argument from evidence.

**Assessment Sampling**

The assessment sampling focuses primarily on teacher materials. We recommend an examination of the front matter or overview provided by the publisher/developer as well as any ancillary assessment materials provided as important sources of information.

We recommend testing claims about assessment of performance expectations made by the publisher/developer in the teacher materials by evaluating the unit that was evaluated in the previous four rubrics in the Paperscreen Process for the quality of their claim.
Part 3: Meta moment and connections to NextGen TIME (20 minutes)

Slide 9  Score Sheet: Program (60 min)

a. Use consensus-building strategies to score materials.

b. Refer to P-C1 (Program Score Sheet) This handout found on p._____. Have groups complete this form for each row as they score or immediately after they score.

c. Note that strengths and limitations are already recorded in the evidence charts.

d. Reach consensus on the one or two programs that will be piloted in classrooms.

Slide 10  Meta Moment (5 min)

Provide instructions for the meta moment.

Slide 11  Goals and Outcomes (5 min)

a. Note that the entire Paperscreen Phase has been completed.

b. You may want to invite participants to share their thoughts about the extent to which they think the goals and outcomes have been met.

Slide 12  Paperscreen and Pilot Phases (5 min)

a. This concludes the Paperscreen Phase, and the team will continue working with NextGen TIME by applying the Pilot Tools and Process to one or two programs that have passed through the paperscreen.

b. Forecast that in the Pilot Phase, the materials will be evaluated based on evidence about student learning and teacher support collected as teachers use the materials to teach at least one unit in their classrooms.
## Slide 13  Our Work (5 min)

- **a.** Note that to apply the Pilot Phase, the team will need to identify the unit of instruction to test in the classroom for each program still under consideration.

- **b.** The team may choose to test the unit that was evaluated in the paperscreen or choose to test a different unit. Another factor may be more practical: What unit fits the timeframe and where teachers are in the existing scope and sequence during the time of year when the pilot test will occur?

- **c.** If they choose to pilot a unit that did not go through the Paperscreen, then they will need to read the unit and develop a quick conceptual flow similar to what they did in the first round of the Student Thinking process. The representation will help them determine which learning experiences will be most fruitful to test in the pilot.

## Slide 14  Full Programs to Evaluate (TBD)

- **a.** Lead an evidence-based discussion to determine the one or two programs that will be piloted.

- **b.** Determine who, how, and when other decisions about the units to pilot will be made. The planning for the pilot will take a full-day (or nearly) for each program, so it’s important to determine the program or programs, units, and who will pilot the materials prior to meeting to plan for the pilot.