RESPeCT Summer Institute Professional Development Leader Guide (PDLG)

Grade Level	6	**Day**	2	**STeLLA Strategy**	STL Strategies 1, 2, 3: Elicit, Probe, and Challenge Questions	**Subject Matter Focus**	Genetics
Focus Questions	• How can lesson analysis help us better understand how elicit, probe, and challenge questions can reveal and challenge student thinking? • How can traits appear and disappear in a family? • How can we represent DNA, genes, and chromosomes to make sense of trait-variation patterns?						
Main Learning Goals	Participants will understand the following: • Student thinking can be made more visible in science classrooms when the teacher asks questions that elicit and probe student ideas and predictions and challenge student thinking. • Lesson analysis allows us to slow down teaching so we can clarify our understandings of the distinct purposes of elicit, probe, and challenge questions and how they can be used effectively in science lessons. • Sexually reproducing organisms have two sets of genes, one set inherited from each parent. Knowing how the two genes interact, and how chromosomes (and the genes they carry) move when egg and sperm are produced and unite to make a new individual allows us to describe inheritance patterns and the likelihood of certain traits appearing among offspring.						

Preparation	**Materials**	**Videos**
Daily Setup Tasks • Check that video clips are correctly linked to PowerPoint (PPT) slides. • Set up PowerPoint. • Make sure video clips play correctly with good sound. • Arrange furniture and food. • Arrange participant materials. • Put up posters and charts. **Planning and Preparation Tasks** • Study the PDLG, PowerPoint slides (PPTs), video clips, and handouts. Make changes to the PPTs, if needed. • Review the reflections from day 1 and create a summary slide. • Cut apart the elicit-question cards from the PD leader master to pass out for practice interviews.	**Posters and Charts** • STeLLA Framework and Strategies poster • Day-2 Agenda (chart) • Day-2 Focus Questions (chart) • Norms for Working Together (chart) • Effective Science Teaching chart (from day 1) • Strategy charts from day 1 (STL strategies 1–3) • Common Student Ideas chart • Parking Lot poster **Handouts in RESPeCT PD Binder Front Pocket** • Z-fold summary chart: Student Thinking Lens Strategies **Handouts in RESPeCT PD Binder, Day 2** • 2.1 Transcript for Video Clip 2.1 • 2.2 Transcript for Video Clip 2.2 • 2.3 Transcript for Video Clip 2.3 • 2.4 Daily Reflections—Day 2	Video clips from one Genetics lesson: • Video Clip 2.1: Tiernan interview, Kawamura classroom (elicit and probe questions); 2.1_stella_GEN_kawamura_pre_tiernan_c1 • Video Clip 2.2: Kawamura classroom (probe and challenge questions); 2.2_stella_GEN_kawamura_L2.1_c4 • Video Clip 2.3: Kawamura classroom (probe and challenge questions); 2.3_stella_GEN_kawamura_L2.2_c5

• Watch video clips and anticipate participant responses. • Prepare charts for the day's agenda and focus questions. • Review the activity for Genetics lesson 2a (lesson plans binder). • On chart paper, create a Common Student Ideas chart (see resources section in lesson plans binder) and post it at the front of the class. Make sure to leave space in the left-hand margin to apply sticker dots. This chart will be used during lesson analysis (slide 19).	**PD Leader Masters, Days 1–4** • PD Leader Master: Elicit Question Cards—Genetics (for practice interviews) **Supplies** • Science notebooks • Chart paper and markers • Red and blue sticker dots (or pencils) • Sticky notes (for Parking Lot poster) **PD Resources** • STeLLA strategies booklet • RESPeCT PD program binder • RESPeCT lesson plans binder **Resources in Lesson Plans Binder** *Resources section:* • Genetics Content Background Document • Common Student Ideas about Variation and Inheritance of Traits *Pretabs section:* • Genetics: Learning Goals for Students and Teachers	

DAY 2 SESSION OUTLINE

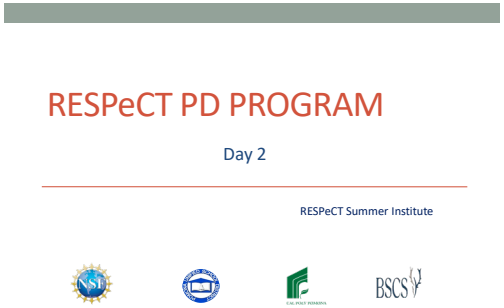
Time	Activities	Purpose
8:00–8:30 30 min	**Getting Started: Housekeeping, Day-1 Reflections, Norms, Agenda, Focus Questions, Review STL Strategies**	• Build community by sharing participants' reflections from day 1 and reviewing/revising the norms. • Set the stage for a day of learning by introducing the focus questions for day 2 and reviewing the purposes and key features of elicit, probe and challenge questions. (These strategies will be the focus of today's lesson analysis work.)
8:30–9:20 50 min	**STL Lesson Analysis: Elicit and Probe Questions**	• Begin to develop an understanding of the RESPeCT lesson analysis process. • Deepen understandings of elicit and probe questions (STL strategies 1 and 2) and how they reveal student thinking. • Deepen science-content knowledge of genetics through lesson analysis.
9:20–11:30 130 min (Includes 10-min break)	**STL Lesson Analysis: Probe and Challenge Questions**	• Develop a deeper understanding of the RESPeCT lesson analysis process. • Deepen understandings of probe and challenge questions (STL strategies 2 and 3), how they reveal student thinking, and how they move student thinking forward. • Deepen science-content knowledge of genetics through lesson analysis. • Understand that science-content knowledge is essential for using probe and challenge questions effectively in the classroom.
11:30–12:00 30 min	**Practice Using Elicit and Probe Questions: Interviews**	• Deepen understandings of elicit and probe questions. • Begin to develop the ability to ask elicit and probe questions effectively. • Appreciate that science-content knowledge is essential for using elicit and probe questions effectively in the classroom.
12:00–12:45 45 min	**LUNCH**	
12:45–3:15 150 min (Includes 10-min break)	**Content Deepening: Genetics**	• Deepen participants' understandings of trait variation and inheritance patterns.
3:15–3:30 15 min	**Wrap-Up: Summary, Homework, and Reflections**	• Summarize and reflect on the day's learning, including progress made in understanding genetics and the relationship between lesson analysis and asking effective elicit, probe, and challenge questions.

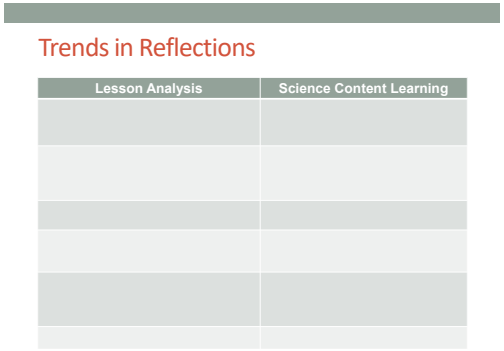
DAY 2

<table>
<tr><th>PD Model:
Time/Phase</th><th>Purpose, Content, and
What Participants Do</th><th>Slides</th><th>Process</th></tr>
<tr><td rowspan="2">8:00–8:30
30 min

Getting Started

Slides 1–8</td><td rowspan="2">Purpose
• Build community by sharing participants' reflections from day 1 and reviewing/revising the norms.
• Set the stage for a day of learning by introducing the focus questions for day 2 and reviewing the purposes and key features of elicit, probe, and challenge questions. (These strategies will be the focus of today's lesson analysis work.)

Content
• Norms enable the group to build trust and productivity.
• Probe questions seek to understand what students are saying/writing and encourage them to explain their ideas more clearly or fully (not to change their thinking).
• Challenge questions seek to engage students in ways that will challenge them to think, reconsider their ideas, change their initial ideas, and move toward more-scientific understandings.</td><td> 
</td><td>Display Slide 1. RESPeCT PD Program (3 min)

a. Take care of any housekeeping issues.</td></tr>
<tr><td> 
</td><td>Display Slide 2. Trends in Reflections (5 min)

a. Give participants time to review your summary of their reflections from day 1 and offer reactions and comments or ask follow-up questions.</td></tr>
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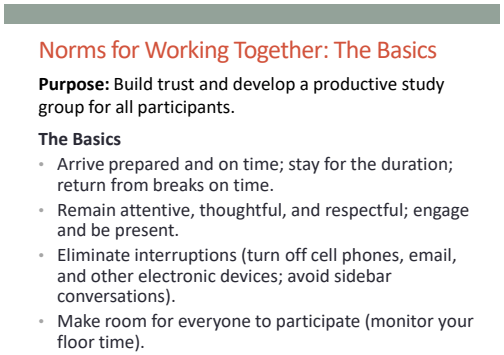
PD Model: Time/Phase	Purpose, Content, and What Participants Do	Slides	Process
	What Participants Do • Discuss the reflections from day 1 and how the group is doing with the norms. • Study a short transcript example from the STeLLA strategies booklet to identify probe and challenge questions. • Review and contrast the purposes and key features of probe and challenge questions. **Posters and Charts** • STeLLA Framework and Strategies poster • Norms for Working Together (chart) • Day-2 agenda (chart) • Day-2 focus questions (chart) **PD Resources** • STeLLA strategies booklet • Half-page sheet of norms (pasted into science notebooks)		**Display Slide 3.** Norms for Working Together: The Basics (5 min) a. **Provide context:** "Since we'll be working together throughout the Summer Institute and the academic year, we need norms that will enable us to build trust and productivity as a group. Today we'll start our analysis of other teachers' classroom videos. In the fall, we'll analyze videos from each other's classrooms. For this work to be meaningful, we'll need to push and challenge each other. This will require mutual respect and a common understanding of our goals." b. "Do you want to clarify or revise any of these norms?" **Note:** Have participants locate the half-page sheet of norms they pasted into their science notebooks on day 1. Remind them to leave space for revising the norms. c. Encourage participants to ask clarifying questions regarding the meaning of any of the norms and jot notes in their science notebooks. d. Ask participants if they're willing to live with these norms today, and let them know they'll have an opportunity to revise them tomorrow. Remind them of this at the end of the session.

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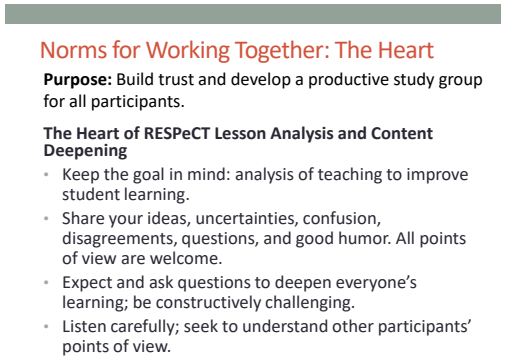
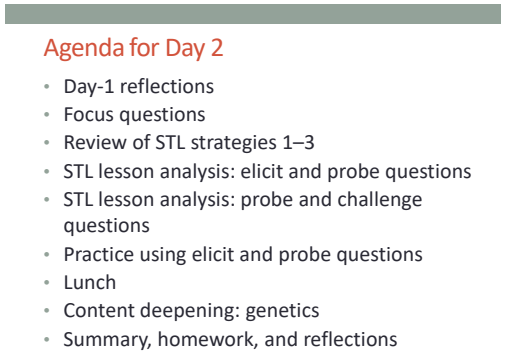
			**Display Slide 4.** Norms for Working Together: The Heart (5 min) a. "Now let's review the norms at the heart of the RESPeCT PD program." b. "Do you want to clarify or revise any of these norms?" c. "Do you want to add any norms to this list?" d. Ask participants if they're willing to live with these norms today, and announce that they'll have an opportunity to revise them tomorrow.
			**Display Slide 5.** Agenda for Day 2 (Less than 1 min) a. Talk through the agenda for the day.

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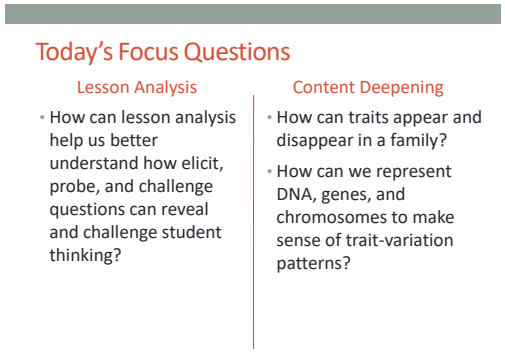
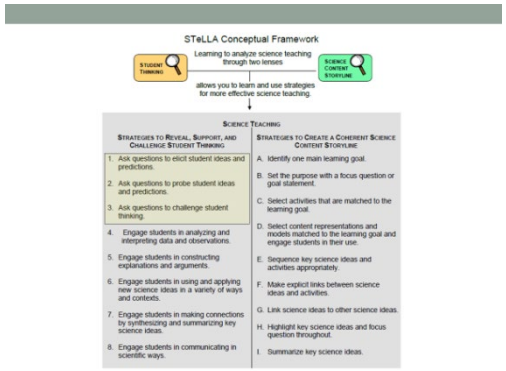
			**Display Slide 6.** Today's Focus Questions (1 min) a. Introduce the focus questions that will guide today's session. b. "Each day we're going to have at least one lesson analysis focus question and one content deepening focus question." c. "Here are our focus questions for today's session."
			**Display Slide 7.** The STeLLA Conceptual Framework (1 min) a. Point out the strategies highlighted on the slide. b. "During today's session, we'll focus again on the first three Student Thinking Lens strategies: elicit, probe, and challenge questions."

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		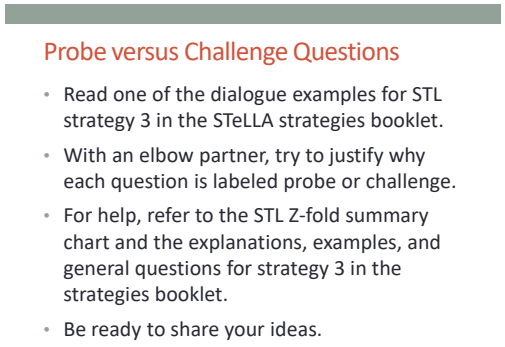	**Display Slide 8.** Probe versus Challenge Questions (10 min) a. Have participants look in the STeLLA strategies booklet at a dialogue example for STL strategy 3 that highlights probe and challenge questions. b. The purposes of this activity are as follows: 1. To get participants' heads back into the questioning strategies discussed on day 1. 2. To make sure participants understand the distinct purposes of probe and challenge questions: • **Probe questions** seek to understand what students are saying/writing and encourage them to explain their ideas more clearly or fully (not to change their thinking). • **Challenge questions** seek to engage students in ways that will challenge them to think, reconsider their ideas, change their initial ideas, and move toward more-scientific understandings.

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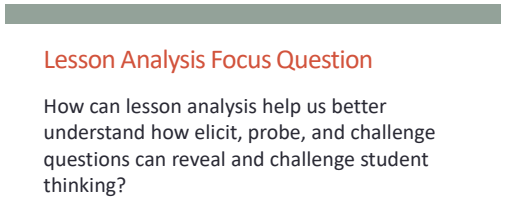
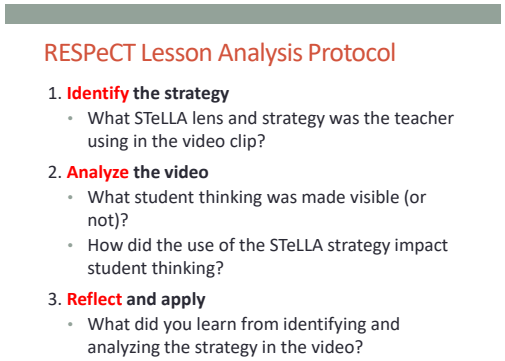
8:30–9:20 50 min **STL Lesson Analysis: Elicit and Probe Questions** Slides 9–15	**Purpose** • Begin to develop an understanding of the RESPeCT lesson analysis process. • Deepen understandings of elicit and probe questions (STL strategies 1 and 2) and how they reveal student thinking. • Deepen science-content knowledge of genetics through lesson analysis. **Content** • Elicit questions are designed to reveal a variety of ideas, misconceptions, and experiences that students bring with them when learning new science content. • Probe questions follow up on student statements to find out more about what students are trying to say. • Lesson analysis involves a three-step protocol: (1) Identify the strategy, (2) analyze the use of the strategy in classroom videos, and (3) reflect on learning from the lesson analysis. • The lesson analysis protocol follows a five-step process: (1) Review the lesson content, (2) identify and discuss the STeLLA strategy in focus, (3) watch the video clip, (4) analyze the clip	 	**Display Slide 9.** Lesson Analysis Focus Question (Less than 1 min) a. "Today we'll explore this focus question: How can lesson analysis help us better understand how elicit, probe, and challenge questions can reveal and challenge student thinking?" b. "But first let's discuss what lesson analysis involves." **Display Slide 10.** RESPeCT Lesson Analysis Protocol (3 min) a. "This is the three-step protocol that will guide our video-based lesson analysis work. Although we'll follow the protocol a bit more loosely during the Summer Institute, we'll rely heavily on this explicit three-step format as we move into the fall study groups." b. Review the steps on the slide; then tell participants, "Framing our analysis in this way and following specific steps will help us focus more holistically on the teaching and the impact of the STeLLA strategies on student thinking and learning and the storyline students are constructing (i.e., the Student Thinking Lens and the Science Content Storyline Lens)."

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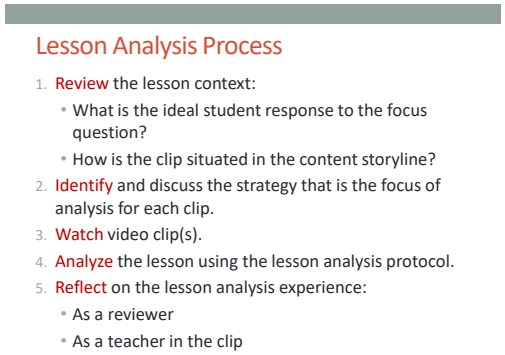
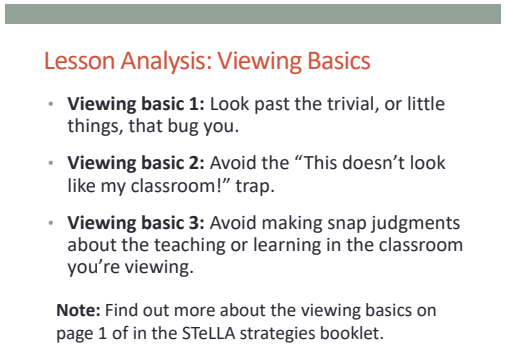
	using the three-step protocol, and (5) reflect on the lesson analysis experience. • The analysis phase of lesson analysis involves making claims related to the STeLLA framework and providing evidence and reasoning to support the claims. **What Participants Do** • Review the lesson analysis video viewing basics. • Use the five-step lesson analysis process to identify and analyze the use of elicit and probe questions in a student interview (video clip 1). **Videos** • Video Clip 2.1, Tiernan interview **Handouts in PD Binder** • 2.1 Transcript for Video Clip 2.1 **Supplies** • Science notebooks **PD Resources** • STeLLA strategies booklet • STL Z-fold summary chart		**Display Slide 11.** Lesson Analysis Process (3 min) a. "The lesson analysis protocol includes this five-step process." b. Review the steps on the slide and note that in the study groups, these steps will be followed more explicitly than they will be during the Summer Institute.
			**Display Slide 12.** Lesson Analysis: Viewing Basics (2 min) a. **Ask:** "Why is each of these viewing basics important? Which will be hardest for you?" b. Tell participants they can find further details on the viewing basics in the STeLLA strategies booklet and refer to this information later. c. **Highlight:** "The videos we'll be viewing throughout the program aren't necessarily exemplary, but rather they provide real-world examples of teachers implementing the STeLLA strategies. Examples like these deepen our thinking because we can see the sometimes unintended results of teacher decisions and consider missed opportunities." d. **Honor the videocase teachers!** All of these courageous teachers are not only working hard to improve their own teaching practice but are also willing to make their practice public so that others can learn from it. None of them would claim to be

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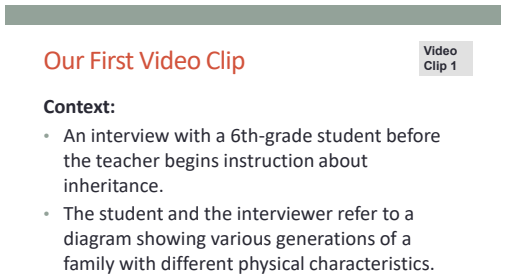
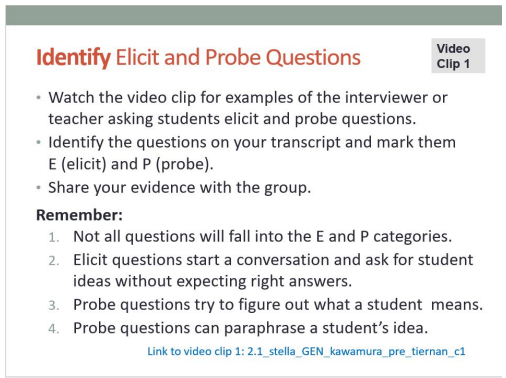
			exemplary science teachers.
			**Display Slide 13.** Our First Video Clip (2 min) a. Describe the context of the first video clip participants will watch. (See the top of the transcript—handout 2.1 in the PD program binder.) b. "This student interview showcases the use of elicit and probe questions. Even though this clip doesn't take place in the context of an actual classroom, the idea is to look at the quality and form of the questions. Our second video clip will feature probe and challenge questions in a classroom context."
			**Display Slide 14.** Identify Elicit and Probe Questions, Video Clip 1 (20 min) a. Provide instructions for watching video clip 1 and using the transcript to identify questions that elicit (E) and probe (P) student ideas and predictions. b. Remind participants that the purpose of watching the video clip is to deepen their shared understandings of these strategies and to build their individual and collective lesson analysis skills. c. **Individuals:** Allow time for participants to review the video transcript and mark E and P questions. d. **Whole group:** Discuss what participants found in the transcript. Encourage them to use evidence from the transcript and reasons from their Z-fold summary charts or the STeLLA strategies booklet to support their ideas. Participants should work to differentiate elicit and probe questions and distinguish them from other types of teacher

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			questions or statements. **Examples of elicit questions:** • **Video segment 0:00:12.9:** "So here, orange hair was dominant. Here, it wasn't. So how do you explain that?" • **Segment 0:00:21.6:** "Why wouldn't this orange hair be dominant over that [dark hair]?" **Note:** Although elicit questions are typically used in a classroom setting to elicit a variety of student ideas, this video clip shows an interview with a student conducted before the Genetics unit began. The interviewer in the clip asks the student questions to elicit ideas about hair-color dominance. These two questions framed the entire discussion in this portion of the interview. **Examples of probe questions:** • **Video segment 0:01:25.2:** "Oh, how's that happen?" • **Segment 0:02:11.6:** "OK. Talk about that a little." • **Segment 0:03:36.0:** "So which genes are fighting?" • **Segment 0:03:43.4:** "Do you mean, like, one from the father and one from the mother?" **Note:** This video clip contains other questions and comments that probe student thinking, but they aren't as clear cut. For example: "Why?" (segment 0:01:11.8) and "So they had two brown-haired parents, but they could have an orange-haired—?" (segment 0:01:42.6).

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		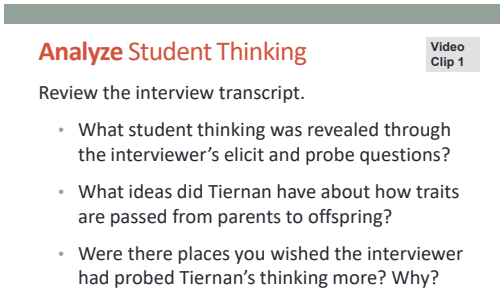	**Display Slide 15.** Analyze Student Thinking, Video Clip 1 (20 min) a. Give participants time to review the video transcript and develop an answer to one of the analysis questions on this slide. Encourage them to write down their answers in their science notebooks. b. For this first video analysis, do a round-robin and have each participant share. Ask probe and challenge questions to support participants in communicating their ideas clearly and completely: • **Probe question:** "Can you say more about what you mean by …?" • **Challenge question:** "Can you point to a specific place in the transcript that supports your idea?" c. As participants share, encourage others to respond by asking questions like these: • Do others have additional evidence to support (or challenge) this idea? • Do others have a different interpretation?

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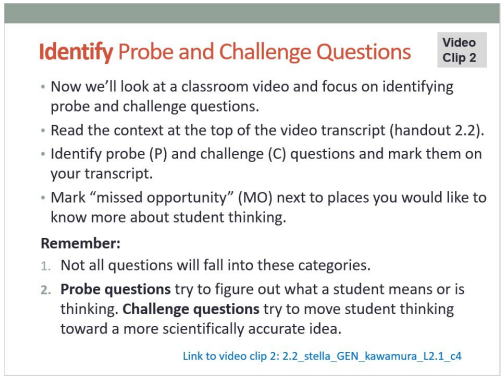
9:20–11:30 130 min (Includes 10-min break) **STL Lesson Analysis: Probe and Challenge Questions** Slides 16–26	**Purpose** • Develop a deeper understanding of the RESPeCT lesson analysis process. • Deepen understandings of probe and challenge questions (STL strategies 2 and 3), how they reveal student thinking, and how they move student thinking forward. • Deepen science-content knowledge of genetics through lesson analysis. • Understand that science-content knowledge is essential for using probe and challenge questions effectively in the classroom. **Content** • Probe questions follow up on student statements to find out more about what students are trying to say. • Challenge questions are designed to push students to think hard, make new connections, change their ideas, and move toward more-scientific understandings. • The lesson analysis process involves making claims related to the STeLLA framework and providing evidence and reasoning to support those claims. • Viewing basics and analysis		**Display Slide 16.** Identify Probe and Challenge Questions, Video Clip 2 (20 min) a. Provide instructions for watching video clip 2 and using the transcript (handout 2.2) to identify questions that probe student ideas and predictions and challenge student thinking. b. Encourage participants to refer to the strategy charts from day 1 (STL strategies 1–3), their Z-fold summary charts, and the STeLLA strategies booklet for help differentiating probe and challenge questions. Remind them that other types of questions (such as elicit questions) may appear in this video clip. c. **Set the context:** Read the context for video clip 2 (at the top of the transcript). d. Emphasize that the students in this class haven't yet studied anything about genetics. e. Show the video clip and allow time for participants to study the transcript before advancing to the next slide.

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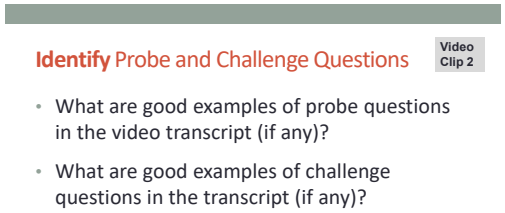
	basics guide the lesson analysis process. **What Participants Do** • Identify probe and challenge questions in a classroom video (video clip 2). • Review common student ideas about genetics. • Analyze the use of probe and challenge questions in a classroom video (video clip 2). • Identify and analyze the use of probe and challenge questions in another classroom video (video clip 3). • Discuss the importance of science-content knowledge in using probe and challenge questions effectively in the classroom. **Posters and Charts** • Strategy charts from day 1 (STL strategies 1–3) • Common Student Ideas chart • Parking Lot poster **Videos** • Video Clip 2.2, Kawamura classroom • Video Clip 2.3, Kawamura classroom **Handouts in PD Binder** • 2.2 Transcript for Video Clip 2.2		**Display Slide 17.** Identify Probe and Challenge Questions, Video Clip 2 (5 min) a. After each suggested probe or challenge question, ask participants the following: • "What makes this a probe/challenge question?" • "Did others mark this as a probe/challenge question?" • "Can you point to any of our resources (the Z-fold summary chart, our strategy charts from day 1, or the STeLLA strategies booklet) to support your answer?" b. Don't worry about debate and lack of agreement on some questions. **The important thing** is that participants clearly understand the difference between the purposes of probe and challenge questions. Sometimes it's hard to tell whether the teacher in the video intended to find out what a student meant (probe) or move student thinking toward more-scientific understandings (challenge). The teacher may also be asking elicit questions to reveal student ideas and misconceptions. **Possible example of an elicit question:** • **Video segment 0:00:01.8:** "What do you think happened to the long hair?" [*Justification:* The teacher asked the whole group this question, expecting many students to share their ideas.] **Possible examples of probe questions:** • **Video segment 0:01:27.6:** "Now, Chloe, you did think that the hair was going to be medium [length]. So what are your thoughts on what

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	• 2.3 Transcript for Video Clip 2.3 **Supplies** • Red and blue sticker dots (or pencils) • Sticky notes **PD Resources** • STeLLA strategies booklet • STL Z-fold summary chart **Resources in Lesson Plans Binder** *Resources section:* • Common Student Ideas		happened to the long hair?" [*Justification:* Earlier, Chloe predicted that the offspring of parents with long and short hair would have medium-length hair. The teacher probes to better understand her thinking.] • **Segment 0:02:23.9:** "So what are you saying? What do you think [the dachshund] puppies would then look like?" [*Justification:* After a student talks about the possible genes of parent dachshunds, the teacher probes to clarify how this relates to their offspring.] • **Segment 0:02:34.2:** "So you said two short-hairs maybe mate. So what could happen, do you think?" [*Justification:* The teacher returns to the same student for additional clarification.] • **Segment 0:02:42.9:** "And what if two long-hairs mate? What could happen?" [*Justification:* The teacher returns to the same student to further explore his existing thinking without challenging him to reconsider or make a new connection.] **Note:** Some participants might consider this a challenge question because the teacher asked the student to consider the scenario of two long-hairs mating.

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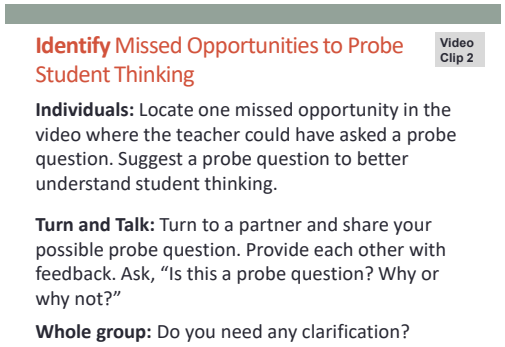
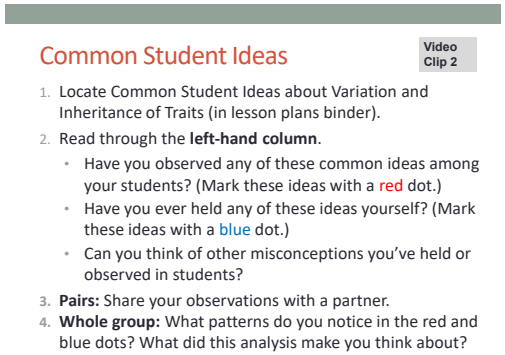
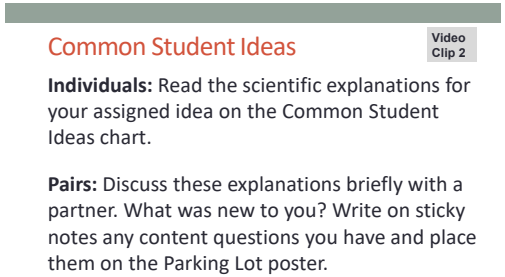
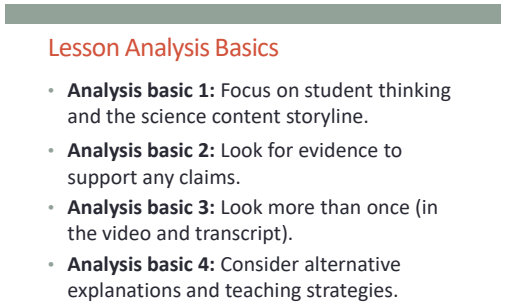
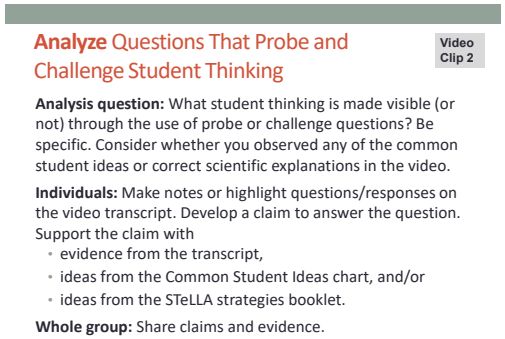
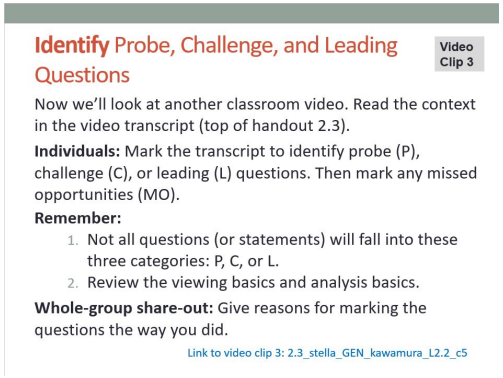
			**Display Slide 18.** Identify Missed Opportunities to Probe Student Thinking, Video Clip 2 (10 min) a. **Individuals:** "Identify a missed opportunity for a probe question in the video transcript." b. **Turn and Talk:** Have participants pair up and discuss their suggested probe questions. Listen to their conversations to assess whether they truly comprehend that a probe question is designed to help them understand what students are thinking. c. **Whole-group share-out:** Participants may need guidance about when to ask probe questions. Remind them that probe questions are appropriate when students make vague or abbreviated statements, or when they simply use a vocabulary term without saying what it means. Do they really understand the term or concept, or do they have misconceptions? Ask a probe question to find out! d. **Remind participants:** "Don't probe everything a student says. Just probe responses that seem relevant to the lesson's main learning goal and might reveal interesting student thinking." **Possible missed opportunities:** • **Video segment 0:00:29.1:** After this description of stronger or weaker genes, the teacher might have posed a probe question asking the student to describe what might make one gene stronger or weaker than another. • **Segment 0:01:23.6:** A second student refers to a gene being stronger (0:00:44.2). The teacher might have probed to find out what this student means by a "stronger" gene. • **Segment 0:01:52.6:** The teacher might have

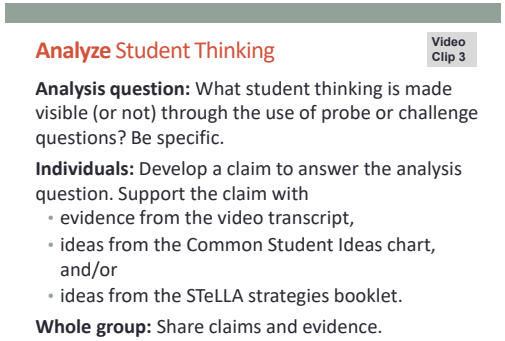
PD Model: Time/Phase	Purpose, Content, and What Participants Do	Slides	Process
			asked the student a probe question to better understand how she thinks genes disappear, or whether she means that a trait disappears. The teacher might also have probed to find out how the student envisions a gene disappearing and reappearing in subsequent generations.
	10-MINUTE BREAK		
			**Display Slide 19.** Common Student Ideas, Video Clip 2 (15 min) a. "Now let's consider some commonly held student ideas (misconceptions). Then we can analyze whether any of these ideas appear in our video clips." b. Have participants locate the Common Student Ideas chart in the resources section of their lesson plans binders. c. "This Common Student Ideas chart shows some commonly held student ideas that are interesting but aren't scientifically accurate." d. **Individuals:** Have participants mark with a red sticker dot any ideas they've observed among their students, and mark with a blue sticker dot any ideas they've had themselves. e. **Pairs:** Have participants discuss their observations with a partner. f. **Whole group:** Ask participants to share which ideas they've observed in their students and themselves. During this share-out, apply sticker dots to the Common Student Ideas chart at the

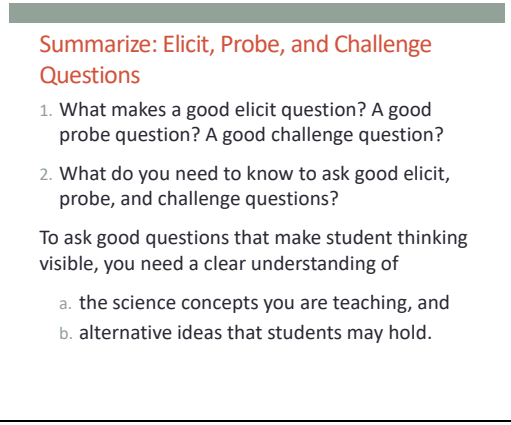
PD Model: Time/Phase	Purpose, Content, and What Participants Do	Slides	Process
			front of the room as participants to highlight patterns in the results. Then discuss the following questions: • "What conceptual patterns do you notice in the red and blue dots?" • "What reactions do you have to this analysis? What did it make you think about?" **Note:** If time is short, skip this pattern analysis and discussion. g. "We've recognized these common ideas in students or held them ourselves. It's important to be aware of them when we're analyzing student thinking in the video clips or planning and teaching lessons in the future." h. "Now let's look for evidence of these common student ideas in a video clip."
			**Display Slide 20.** Common Student Ideas, Video Clip 2 (10 min) a. Have participants count off in ones, twos, and threes (1, 2, 3, 1, 2, 3). "Ones" will focus on idea 1 on the Common Student Ideas chart, "twos" will focus on idea 2, and "threes" will focus on idea 3. b. **Individuals:** "Read the scientific explanations for your assigned idea on the Common Student Ideas chart." c. **Pairs:** "Discuss these explanations briefly with a partner. What was new to you? Write on sticky notes any content questions you have and place the notes on the Parking Lot poster."

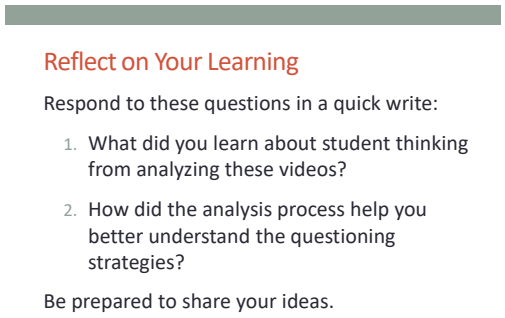
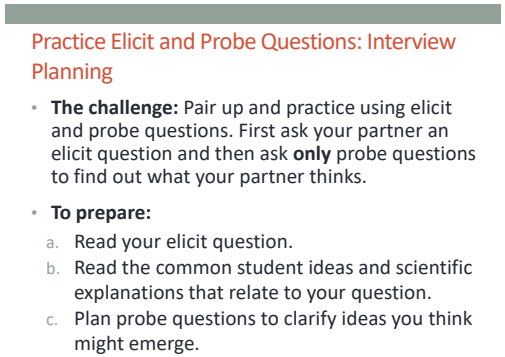
PD Model: Time/Phase	Purpose, Content, and What Participants Do	Slides	Process
			**Display Slide 21.** Lesson Analysis Basics (5 min) a. "Before we analyze the video clip, let's think about our lesson analysis process." b. Review the analysis basics on the slide. **Note:** Direct participants to page 2 in the strategies booklet if they have specific questions that require more information. c. **Why the analysis basics are important:** "The analysis basics will help us dig deeper and learn more from our videocase analyses while keeping us focused on the ultimate goal of improved student learning." **Note:** This lesson analysis process is **not** about critiquing teachers but about improving student learning. d. "We'll use a more structured lesson analysis protocol when we begin reviewing each other's videos in the fall study-group sessions."
			**Display Slide 22.** Analyze Questions That Probe and Challenge Student Thinking, Video Clip 2 (15 min) a. Remind participants of the purposes of video analysis: to deepen understandings of STeLLA strategies; to develop their ability to analyze student thinking; and, ultimately, to improve student learning. b. **Tell participants:** "Remember to refer to your Common Student Ideas chart as you analyze the video clip."

PD Model: Time/Phase	Purpose, Content, and What Participants Do	Slides	Process
			c. **Individuals:** Review the slide instructions before participants begin working independently on the tasks. d. **Whole group:** • Have several participants share their claims and evidence. • **Ask:** "Did you recognize any of the common student ideas in the students' responses?" • **Ask:** "What probe or challenge questions might you ask to better understand student thinking?" **Note:** Remember to use probe and challenge questions as you interact with participants. **Visible misconception:** Dominant traits are the "stronger" traits. **Possible claim:** In video segments 0:01:34.4–0:01:52.6, the student seems to equate a visible trait with the gene that produces that trait. She seems to think that if the trait isn't expressed, the gene must have disappeared (or isn't present in that individual). **Reasoning:** By the end of the lesson series, it will be important for students to have a clear understanding of the difference between a visible trait and the *combination* of genes that lead to the visible trait. They should also understand that if a gene isn't present in either parent (even if it was present in a more distant relative), the trait cannot magically resurface in the descendants.

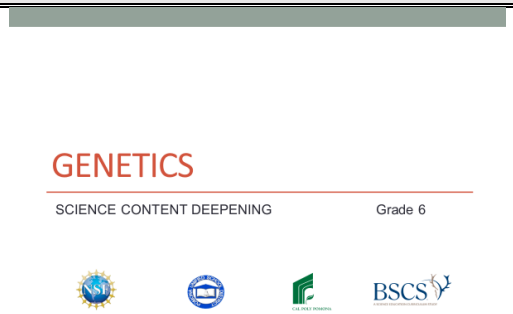
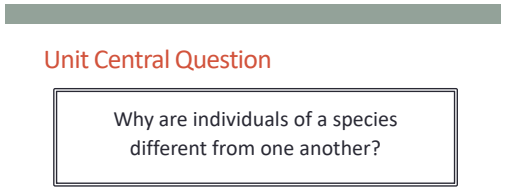
PD Model: Time/Phase	Purpose, Content, and What Participants Do	Slides	Process
			**Display Slide 23.** Identify Probe, Challenge, and Leading Questions, Video Clip 3 (20 min) a. Read the context for this video clip at the top of the transcript (handout 2.3). Make sure participants understand that the students in this clip are continuing to wrestle with the three claims from the previous lesson. b. Provide instructions for watching video clip 3 and using the transcript to identify questions that probe student ideas and predictions and challenge student thinking. **Participants should also be on the lookout for leading questions and missed opportunities.** (**Note:** Leading questions provide hints or make it easy for students to give the "right" answer.) Remind participants that other types of questions (such as elicit questions) may appear in this video clip. c. **Individuals:** Review the slide instructions before participants begin working independently on the tasks. d. **Whole group:** • Challenge participants to clearly state their reasons for identifying a question as probe, challenge, or leading. • Encourage participants to provide evidence from the STeLLA strategies booklet to support their claims. **Possible probe questions:** • **Video segment 0:00:18.2:** "Why do you think most likely?" [*Justification:* The student has just given an opinion, and the teacher wants to know

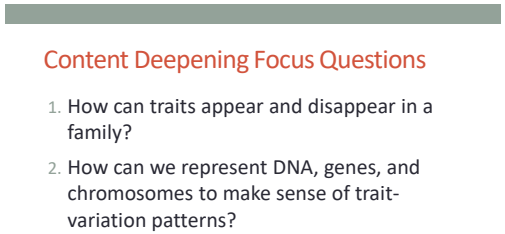
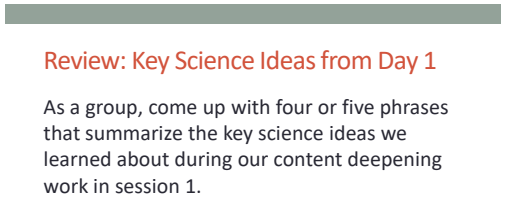
PD Model: Time/Phase	Purpose, Content, and What Participants Do	Slides	Process
			more about what the student is thinking.] • **Segment 0:01:00.6:** "So are you saying that short hair is dominant?" [*Justification:* The student told a "story" of what might be happening with the genes, and the teacher summarizes and clarifies by asking if the story means that the short-hair gene is dominant.] **Possible challenge questions:** • **Video segment 0:01:59.9:** "Can you explain what '*dominant*' means to you today?" [*Justification:* Students are describing what they think happens if a gene is dominant, and the teacher moves them beyond what they might see to how they define the word dominant.] • **Segment 0:04:08.2:** "When you look at this picture of the puppies, did any of them have long hair?" [*Justification:* After students describe what they think happens when an individual has one dominant and one recessive gene, the teacher challenges them to link what they describe to evidence from the observations they made.]
			**Display Slide 24.** Analyze Student Thinking, Video Clip 3 (10 min) a. **Emphasize:** "Remember to refer to your Common Student Ideas chart as you analyze the video." b. **Individuals:** Review the slide instructions before participants begin working independently on developing a claim to answer the analysis question. c. **Whole group:** • Have several participants share their claims

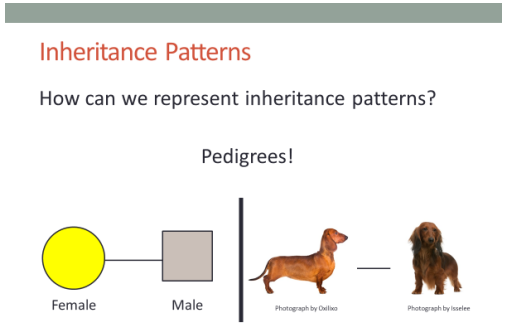
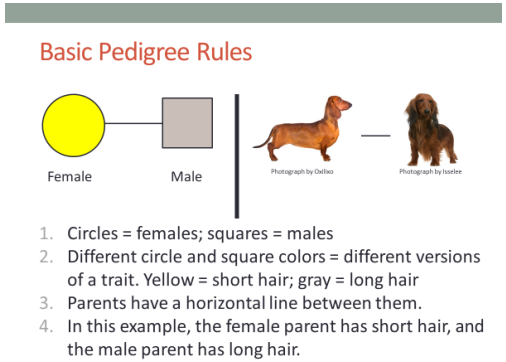
PD Model: Time/Phase	Purpose, Content, and What Participants Do	Slides	Process
			and evidence. • **Ask:** "Did you recognize any of the common student ideas in the students' responses?" • **Ask:** "What probe or challenge questions might you ask to better understand student thinking?" **Note:** Remember to use probe and challenge questions as you interact with participants. **Example of a common student idea in the video clip:** • In the video, students continue thinking of dominance as strength or control to the point that they personify the action or process of gene interaction. Evidence of this is found at video segments 0:00:23.2, 0:02:25.7, and 0:03:22.1. The teacher gently tries to shift this thinking by asking a question suggesting that *dominant* simply means the trait "shows up" (0:04:15.3). This is an initial attempt to address a possible misconception that genes go to battle to establish dominance, or that dominance is linked to the strength of a gene.
			**Display Slide 25.** Summarize: Elicit, Probe, and Challenge Questions (5 min) a. Pose the first question on the slide. If participants need support, point them to the descriptions of strategies 1, 2, and 3 in the STeLLA strategies booklet (especially the Summary of STeLLA Student Thinking Lens Strategies). b. Pose the second question. Do participants come up with the idea that science-content knowledge is essential for asking good elicit, probe, and challenge questions?

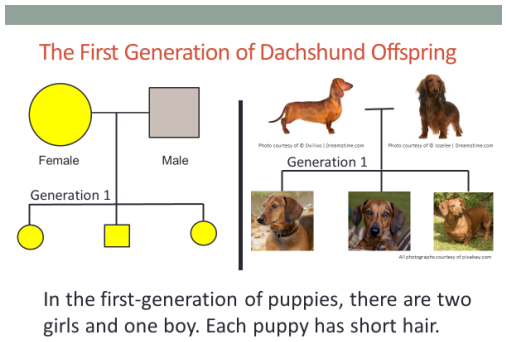
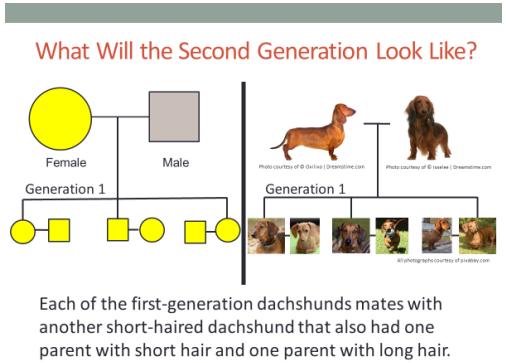
PD Model: Time/Phase	Purpose, Content, and What Participants Do	Slides	Process
			c. Use the rest of the time to highlight the importance of knowing science content and being aware of common student ideas.
			**Display Slide 26.** Reflect on Your Learning (5 min) a. Ideally, participants will first respond to the questions in a quick write and then share their ideas with the group. But if time is running short, you can have them simply think for a minute and then share their ideas. But be sure to give them time to think before opening up the discussion.
11:30–12:00 30 min **Practice Using Elicit and Probe Questions: Interviews** Slides 27–29	**Purpose** • Deepen understandings of elicit and probe questions. • Begin to develop the ability to ask elicit and probe questions effectively. • Appreciate that science-content knowledge is essential for using elicit and probe questions effectively in the classroom. **Content** • Understanding the purposes and key features of elicit and probe questions is essential for implementing the STeLLA		**Display Slide 27.** Practice Elicit and Probe Questions: Interview Planning (12 min) a. **Describe the challenge:** "Next, you and a partner will practice using elicit and probe questions by interviewing each other. The challenge is to ask your partner an elicit question and then follow up by asking **only** probe questions." b. Give each participant a different elicit question (from the PD leader master cards). c. Direct participants to prepare for the interviews by following the slide instructions. **Note:** Participants may refer to the Common Student Ideas chart as a resource for this activity.

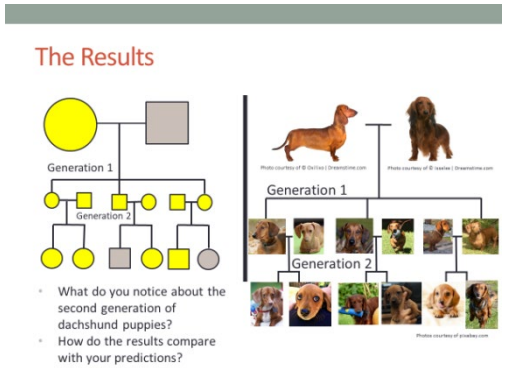
PD Model: Time/Phase	Purpose, Content, and What Participants Do	Slides	Process
	questioning strategies effectively in the classroom. **What Participants Do** • Consider possible responses an elicit question (related to genetics) might produce, and plan probe questions to follow up on these responses. • Work in pairs, taking turns being the interviewer and asking each other an elicit question and then following up with only probe questions. • Participate in a group discussion afterward that focuses on the difficult aspects of the pairs work and the interesting thinking it revealed. **Posters and Charts** • Common Student Ideas chart **PD Leader Masters** • PD Leader Master: Elicit Question Cards (cut apart) **Resources in Lesson Plans Binder** *Resources section:* • Common Student Ideas	Practice Elicit and Probe Questions: Interview Process 1. Ask your partner the elicit question. 2. Probe your partner's thinking without providing any new information. (Keep going for at least 2 minutes!) 3. Debrief with your partner: • What probe questions did you ask? • Did you ask questions that weren't probe questions? • What did your probe questions reveal about your partner's understanding of the concept? 4. Switch roles and repeat the interview process, with the other partner asking the questions.	**Display Slide 28.** Practice Elicit and Probe Questions: Interview Process (12 min) a. Review the instructions on the slide. b. "Each interviewer will have 5 minutes to ask questions. Try to keep going with your probe questions for at least 2 minutes." c. **Interviewees:** "Don't pretend to be an elementary student; be yourself. Help your partner by pushing yourself to explain things in more depth than you actually understand. Try to come up with possible explanations that go beyond the surface vocabulary. Don't worry about being wrong; this will actually make the task more like what you might encounter in the classroom."
		Group Discussion 1. How did the interviews go? What did you find difficult as an interviewer? As a responder? 2. Which probe questions revealed some interesting clarifications or elaborations? 3. Did any of your questions end up challenging your partner's thinking? (Did your questions move your partner's thinking toward a more scientifically accurate response?)	**Display Slide 29.** Group Discussion (6 min) a. **Whole group:** Discuss the questions on the slide. b. If there's time, ask participants, "How might it help your teaching to do more of this type of practice (with a partner or small group)?"
12:00–12:45 45 min	**LUNCH**		

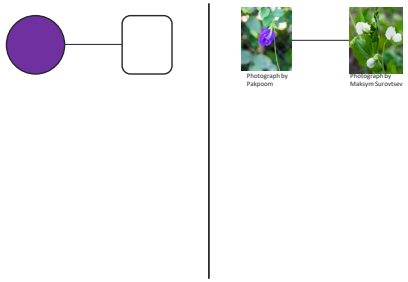
PD Model: Time/Phase	Purpose, Content, and What Participants Do	Slides	Process
12:45–3:15 150 min (Includes 10-min break) **Content Deepening: Genetics** Slides 30–65	**Purpose** • Deepen participants' understandings of trait variation and inheritance patterns. **Content** • Link patterns in Mendelian inheritance to the production of proteins. **What Participants Do** • Use the results from Mendel's experiments on trait inheritance and other more recent experiments with dogs to better explain why individuals are different. • Use pedigrees to help identify inheritance patterns. • Explain how inheritance works by exploring the actual protein changes that result in the white versus purple flower color. **Posters and Charts** • Common Student Ideas chart **Supplies** • Science notebooks **PD Resources**		**Display Slide 30.** Content Deepening: Genetics (Less than 1 min) a. "Let's begin today's content deepening work on genetics." **Note:** Throughout this content deepening phase, refer as needed to the Genetics Content Background Document, and Common Student Ideas about Variation and Inheritance of Traits.
			**Display Slide 31.** Unit Central Question (Less than 1 min) a. Revisit the unit central question that students will answer in the Genetics lesson sequence. b. "Today we'll continue exploring the key science ideas that will help us answer this question."

PD Model: Time/Phase	Purpose, Content, and What Participants Do	Slides	Process
	• RESPeCT lesson plans binder **Resources in Lesson Plans Binder** *Resources section:* • Content background document • Common Student Ideas *Pretabs section:* • Genetics: Learning Goals for Students and Teachers		**Display Slide 32.** Content Deepening Focus Questions (Less than 1 min) a. Read the focus questions on the slide. b. "We'll begin our content deepening work by investigating the first focus question."
			**Display Slide 33.** Review: Key Science Ideas from Day 1 (5 min) a. Assign the task on the slide. Sample phrases include the following: • Genetics and the environment influence many traits. • Some traits exhibit simple patterns of inheritance; others exhibit more complicated patterns. • If two parents with different forms of a certain trait have offspring, all of them will have only one form of the trait. • Data can be used to eliminate the explanation that all offspring exhibit a blending of the parents' traits. • Histograms or frequency diagrams can be used to demonstrate trait variation. **Note:** Participants may refer to their notes and resources as needed.

PD Model: Time/Phase	Purpose, Content, and What Participants Do	Slides	Process
	Purpose • Understand how pedigrees can be used to trace certain traits from generation to generation in a family.		**Display Slide 34.** Inheritance Patterns (1 min) a. Display only the top portion of the slide and keep the answer to the question and the pedigree diagram hidden for now. b. "What kind of content representation could we use to trace inheritance patterns in a family from one generation to the next?" c. Quickly lead participants to the idea of using a pedigree to trace traits in parents and offspring.
			**Display Slide 35.** Basic Pedigree Rules (Less than 1 min) a. Ask a volunteer to read the pedigree rules on the slide. b. Note that students learn about these rules in Genetics lesson 2a.

PD Model: Time/Phase	Purpose, Content, and What Participants Do	Slides	Process
			**Display Slide 36.** The First Generation of Dachshund Offspring (1 min) a. "Based on what you learned during yesterday's content deepening work, do you think this pedigree is accurate?"
	Purpose • Formulate predictions about the hair-length trait in the second generation of dachshunds.		**Display Slide 37.** What Will the Second Generation Look Like? (5 min) a. "Let's imagine that the first-generation puppies grew up and mated with short-haired dachshunds just like them that had one parent with long hair and one parent with short hair." b. "What do you think the second-generation offspring will look like and why? Discuss this question with a partner and then write your predictions in your science notebooks. Make sure to include your reasoning." c. Have a pair of participants share their predictions with the group. Then pose the following questions and ask for a show of hands to find out what participants believe the offspring will look like: • "How many predict that all the offspring will have short hair?" • "How many predict that all the offspring will have long hair?" • "How many predict that all the offspring will

PD Model: Time/Phase	Purpose, Content, and What Participants Do	Slides	Process
			have medium-length hair?" • "How many predict that some of the offspring will have long hair, and some will have short hair?"
			**Display Slide 38.** The Results (10 min) a. "What do you notice about the second generation of dachshund puppies? How do the results compare with your predictions?" b. After a brief share-out, ask participants to reflect on the following questions and discuss them as a group: 1. If you saw the pedigree diagram without the pictures of the dogs, would you be able to tell whether the three generations of dogs have long or short hair? 2. What does this content representation tell you about the dogs in this family? 3. What information does this content representation not provide about the dogs in this family?

PD Model: Time/Phase	Purpose, Content, and What Participants Do	Slides	Process
	Purpose • Provide additional context showing a pattern of inheritance similar to the dachshund pedigree.	Mendel's Pea Plants In the 1850s and 1860s, a monk named Gregor Mendel noticed a similar inheritance pattern while he was growing pea plants in his garden.	**Display Slide 39.** Mendel's Pea Plants (Less than 1 min) a. Share the background information on the slide and then reveal the pea-plant pedigree on the next slide.
		A Pedigree of Pea Plants 	**Display Slide 40.** A Pedigree of Pea Plants (Less than 1 min) a. "Many plants have both male and female sex parts, so they can't be easily described as male or female." b. "For simplicity, we'll designate one plant in this pedigree as male and the other as female. The male plant, represented by the white square, provides the pollen, and the female plant, represented by the purple circle, provides the egg."

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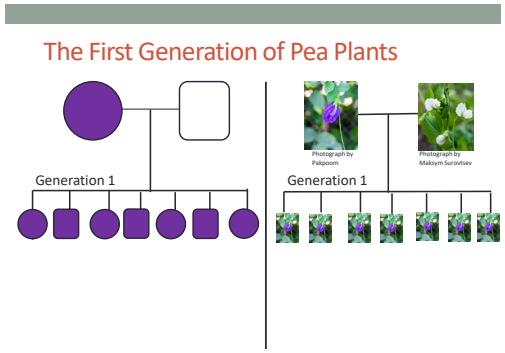
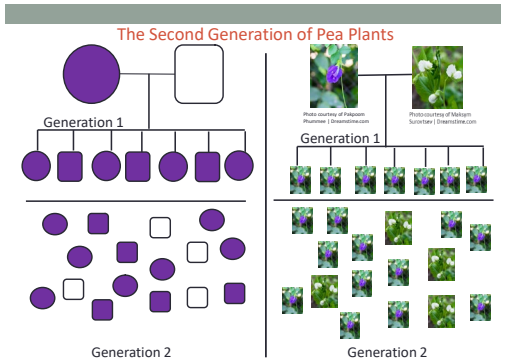
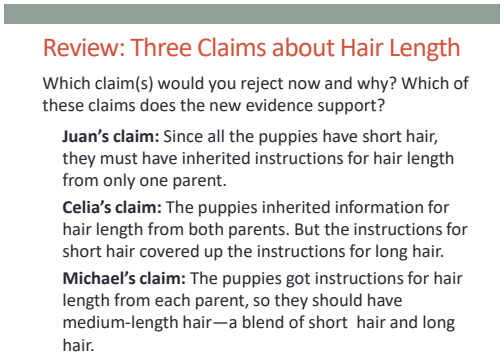
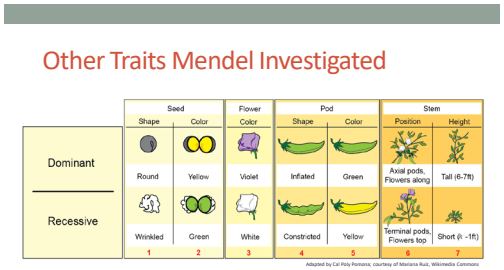
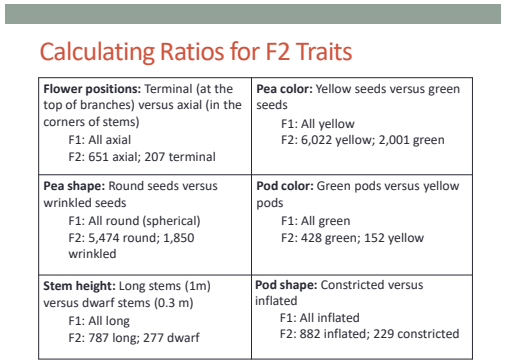
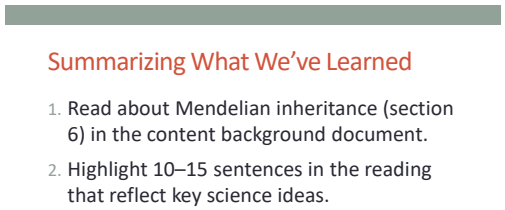
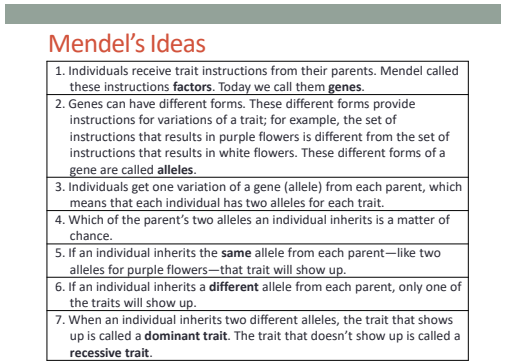
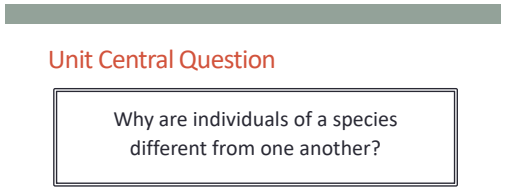
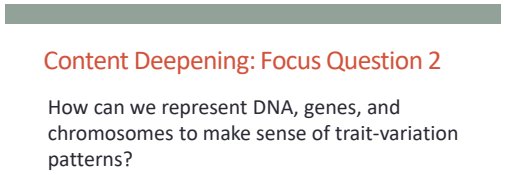
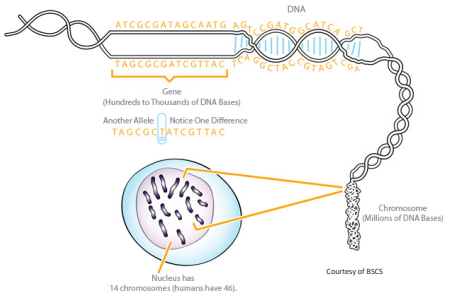
			**Display Slide 41.** The First Generation of Pea Plants (4 min) a. "What do you notice about the first generation of pea plants?" b. "If we cross these first-generation plants, what do you think the second-generation offspring will look like?" c. Invite participants to share their predictions about Generation 2; then reveal the results on the next slide.
			**Display Slide 42.** The Second Generation of Pea Plants (4 min) a. "What do you notice about the second-generation pea plants?" b. Invite participants to share their observations and their initial ideas for explaining how the white-flower trait reappeared in the second generation.

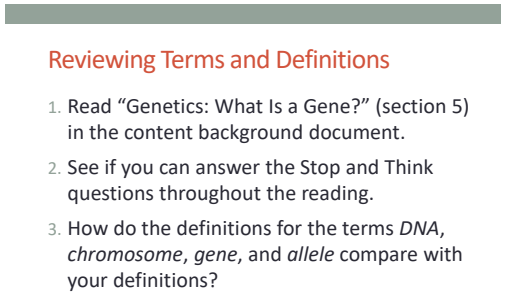
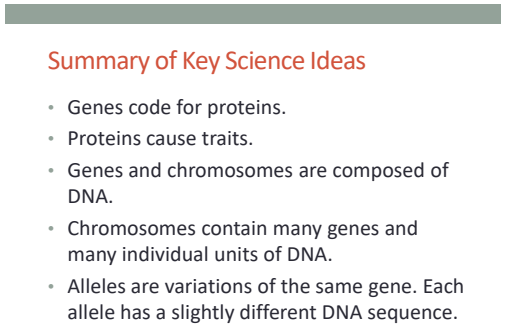
PD Model: Time/Phase	Purpose, Content, and What Participants Do	Slides	Process
	Purpose • Practice revising explanations of inheritance patterns as new data becomes available.		**Display Slide 43.** Review: Three Claims about Hair Length (5 min) a. "Let's review the three claims about the dachshund hair-length trait from session 1. In light of the dachshund pedigree evidence, which of these claims would you now reject and why? Which claim or claims does this new evidence support?" b. Based on the pedigree data, participants should eliminate Juan's claim about the dachshund hair-length trait.
			**Display Slide 44.** Other Traits Mendel Investigated (2 min) a. "In addition to his experiment with pea plants, Mendel studied six other distinct traits. This slide shows all seven of the traits he investigated." b. Highlight each of the dominant and recessive traits on the slide.

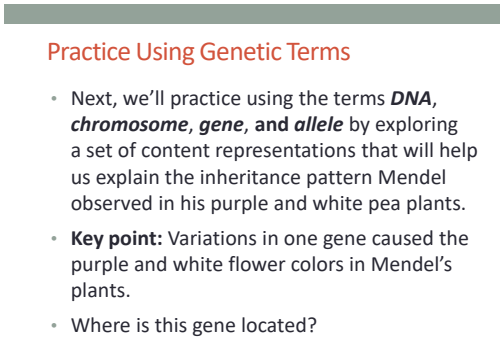
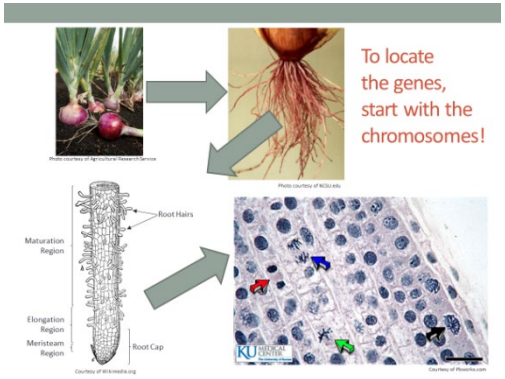
PD Model: Time/Phase	Purpose, Content, and What Participants Do	Slides	Process
	Purpose • Practice calculating and comparing ratios for different traits.		**Display Slide 45.** Calculating Ratios for F2 Traits (10 min) a. Ask participants to calculate ratios for one or two of the F2 traits Mendel investigated. Emphasize that F1 on the slide represents the first filial generation, and F2 represents the second filial generation. b. After participants have calculated ratios for the traits on the slide, write them on the board and then discuss the results. c. Emphasize that the ratios for all of these traits are very close to 3:1. d. "Next, we'll explore the physical basis for this 3:1 trait ratio by tracing the movement of alleles on chromosomes."
			**Display Slide 46.** Summarizing What We've Learned (10 min) a. Ask participants to read the section on Mendelian inheritance (section 6) in the Genetics Content Background Document and then complete the task on the slide.

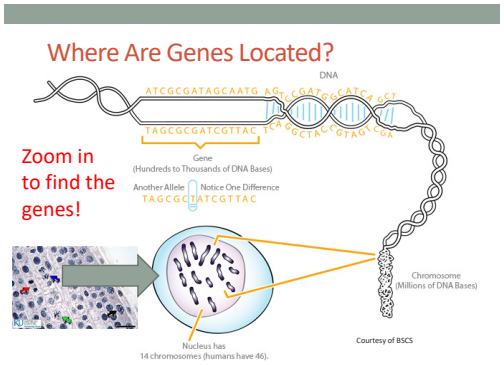
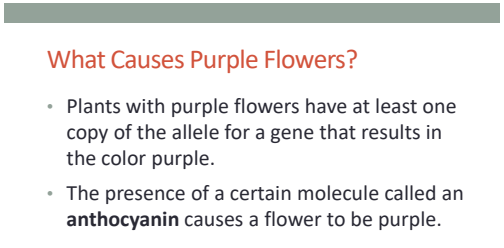
PD Model: Time/Phase	Purpose, Content, and What Participants Do	Slides	Process
			**Display Slide 47.** Mendel's Ideas (10 min) **Note:** This table comes from handout 2.1 in Genetics lesson 2a. a. "What similarities or differences do you notice between Mendel's ideas and the key ideas you highlighted in the content background document?" b. Have participants read through the activity in lesson 2a, which explains how this table is used in the lesson.
			**Display Slide 48.** Reflect: Content Deepening Focus Question 1 (3 min) a. Ask participants to reflect on the first content deepening focus question. **Note:** If time allows, have participants answer the question in their science notebooks. b. "What questions do you still have about how traits can disappear in one generation and reappear in the next?"
	10-MINUTE BREAK		

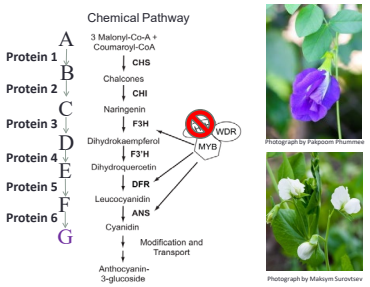
PD Model: Time/Phase	Purpose, Content, and What Participants Do	Slides	Process
			**Display Slide 49.** Unit Central Question (3 min) a. "What progress have we made in answering our unit central question?" b. Invite participants to share a few ideas.
			**Display Slide 50.** Content Deepening: Focus Question 2 (Less than 1 min) a. Introduce the second content deepening focus question.

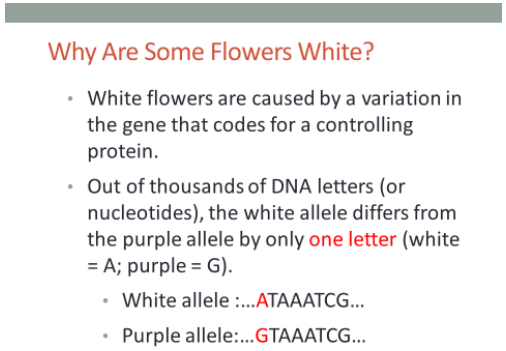
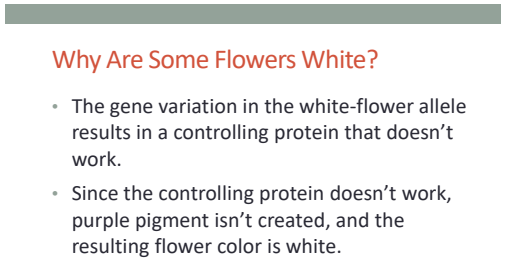
PD Model: Time/Phase	Purpose, Content, and What Participants Do	Slides	Process
	Purpose • Explore current understandings of genetics terms and the relationships among them.	Genetics Terms and Relationships In your notebook, list as many ideas as you can that define each of the following genetics terms. Then make a diagram showing the relationships among the terms. • DNA • Gene • Chromosome • Allele	**Display Slide 51.** Genetics Terms and Relationships (10 min) a. Ask participants to complete the task on the slide. Encourage them to refer to their note and other resources as needed to refresh their memories. b. Walk around the room while participants are working and see if they're correctly representing the relationships among these terms. Address any confusion or misconceptions that arise.
		DNA, Chromosomes, and Genes  	**Display Slide 52.** DNA, Chromosomes, and Genes (5 min) a. "This diagram is from the content background document. Look it over carefully and write down any questions you have about the content. We'll revisit this diagram later in the PD program."

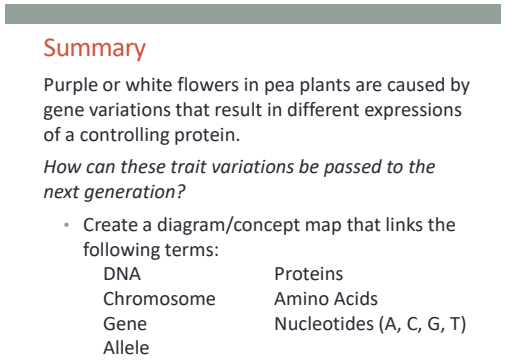
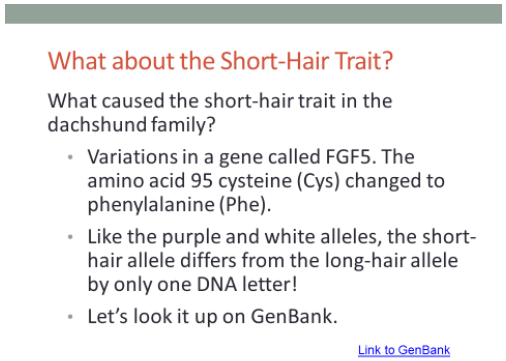
PD Model: Time/Phase	Purpose, Content, and What Participants Do	Slides	Process
	Purpose • Deepen participants' understandings of genetics terminology.		**Display Slide 53.** Reviewing Terms and Definitions (10 min) a. Ask participants to read "Genetics: What Is a Gene?" (section 5) in the content background document and complete the tasks on the slide. b. "How did you define the terms *DNA*, *chromosome*, *gene*, and *allele*? How do your definitions compare with the definitions in the content background reading?" c. "We'll revisit the definition of a gene to better understand and explain the patterns we've observed throughout our content deepening work."
			**Display Slide 54.** Summary of Key Science Ideas (5 min) a. Read through the summary slide and ask participants if they have any questions.

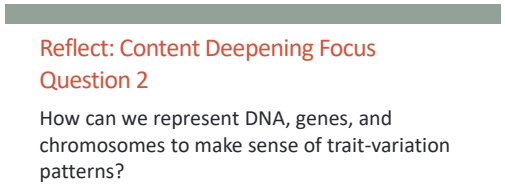
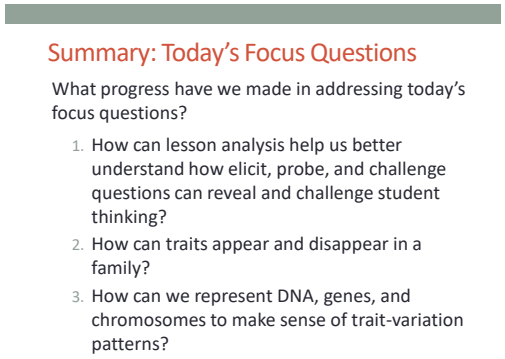
PD Model: Time/Phase	Purpose, Content, and What Participants Do	Slides	Process
			**Display Slide 55.** Practice Using Genetics Terms (1 min) a. Read the information on the slide and highlight the key point. b. "Next, we'll practice using the genetic terms we've been discussing by examining a series of content representations. These diagrams will help us explain the inheritance patterns Mendel observed in his pea plants." c. "Variations in just one gene caused the purple and white flower colors in Mendel's plants. Let's find out where that gene is located."
	Purpose • Orient participants to the location of chromosomes and genes in living organisms.		**Display Slide 56.** To Locate the Genes, Start with the Chromosomes! (7 min) a. Orient participants to where chromosomes are located in relation to the whole onion in this series of slide images. Point out that the root tip of an onion is magnified so the chromosomes within the dividing cells are visible. A similar series of images might show chromosomes within the cells of a pea plant. b. "Keep in mind that chromosomes are found in every cell, but they're visible only in cells that are in the process of dividing. In the magnified image of the onion's root tip, the blue arrow points out highly visible chromosomes in a dividing cell." c. After showing the images, tell participants that pea plants have seven different chromosomes. Cells in an adult plant have two copies of each chromosome for a total of 14 chromosomes. By

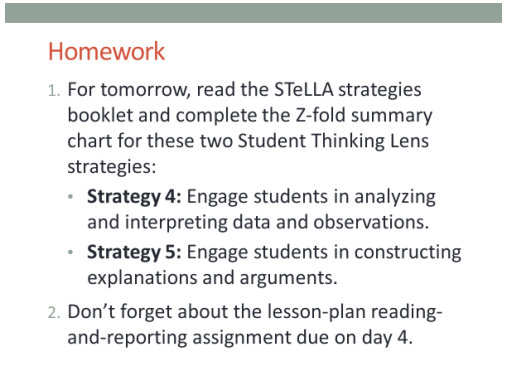
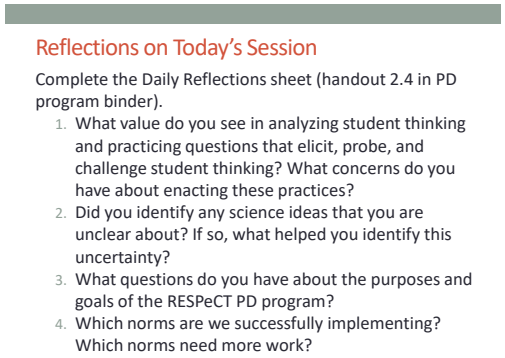
PD Model: Time/Phase	Purpose, Content, and What Participants Do	Slides	Process
			contrast, humans have 23 pairs of chromosomes for a total of 46.
			**Display Slide 57.** Where Are Genes Located? (5 min) a. Draw participants' attention to the chromosome magnified on the slide and the genes that are located along the strand of DNA in a chromosome. Point out that a single gene represents a very small segment of a chromosome. There are two versions of a gene, each of which is called an *allele*.
			**Display Slide 58.** What Causes Purple Flowers? (1 min) a. Read through the information on the slide.

PD Model: Time/Phase	Purpose, Content, and What Participants Do	Slides	Process
		How Do Genes Determine Flower Color? So how do genes determine whether the anthocyanin molecule shows up in a pea plant? • Genes code for certain proteins. • Proteins help control chemical pathways.	**Display Slide 59.** How Do Genes Determine Flower Color? (1 min) a. Read the question on the slide and the corresponding information about proteins.
	Purpose • Understand how a series of reactions and changes in proteins cause physical traits like flower color.	What Makes a Flower Purple?  	**Display Slide 60.** What Makes a Flower Purple? (5 min) a. Display only the first part of the slide (proteins 1–6 and molecules A–G). b. "Flower cells have a certain molecule called an *A molecule*. To eventually form the G molecule that results in purple flowers, a series of chemical reactions are required." c. Next, display the actual names of the molecules in the right-hand column on the slide. d. "For the flower cells to make the six proteins needed for these chemical reactions, these additional proteins are needed." e. "In pea plants, the dominant allele codes for a controlling protein that turns on the other proteins. The recessive allele codes for a controlling protein that doesn't work."

PD Model: Time/Phase	Purpose, Content, and What Participants Do	Slides	Process
	Purpose • Understand how a protein change is linked to alleles.		**Display Slide 61.** Why Are Some Flowers White? (1 min) a. Read through the information on the slide.
			**Display Slide 62.** Why Are Some Flowers White? (1 min) a. Read through the information on the slide.

PD Model: Time/Phase	Purpose, Content, and What Participants Do	Slides	Process
			**Display Slide 63.** Summary (7 min) a. Ask participants to complete the task on the slide. Refer them to the learning goals (Genetics Learning Goals for Students and Teachers) in the Genetics pretabs section of the lesson plans binder if they need help with their diagrams/concept maps.
			**Display Slide 64.** What about the Short-Hair Trait? (5 min) **Note:** This is an optional slide highlighting the gene that causes the hair-length phenotype in dachshunds. a. Read through the information on the slide and look up the FGF5 gene in GenBank, the genetic sequence database available through the National Institutes of Health.

PD Model: Time/Phase	Purpose, Content, and What Participants Do	Slides	Process
			**Display Slide 65.** Reflect: Content Deepening Focus Question 2 (Less than 1 min) a. "The science ideas and genetics terms we explored during today's content deepening work will help you develop an answer to this focus question. We'll revisit this question in our next content deepening session."
3:15–3:30 15 min **Wrap-Up: Summary, Homework, and Reflections** Slides 66–68	**Purpose** • Summarize and reflect on the day's learning, including progress made in understanding genetics and the relationship between lesson analysis and asking effective elicit, probe, and challenge questions. **What Participants Do** • Synthesize key ideas about the science content, questioning strategies, and lesson analysis.		**Display Slide 66.** Summary: Today's Focus Questions (8 min) a. Divide participants into three groups. Have Group 1 come up with some conclusions/key ideas related to focus question 1. Have Group 2 come up with conclusions/key ideas for focus question 2, and have Group 3 do the same thing for focus question 3. b. Give each group 2 minutes to come up with ideas and conclusions. c. Allow a 2-minute share-out for each group.

PD Model: Time/Phase	Purpose, Content, and What Participants Do	Slides	Process
	• Copy down the homework assignment for day 3. • Write reflections on STeLLA strategies 1, 2, and 3, and the science content. **Handouts in PD Binder** • 2.4 Daily Reflections—Day 2 **Supplies** • Science notebooks		**Display Slide 67.** Homework (1 min) a. Forecast that tomorrow you'll tackle two new, closely interconnected Student Thinking Lens strategies. b. Have participants copy the homework assignment into their science notebooks. c. Remind participants about their homework for Friday (becoming experts on the lesson plans assigned to them).
			**Display Slide 68.** Reflections on Today's Session (6 min) a. Make sure participants have **at least 5 minutes** to think about the questions on the reflections sheet (handout 2.4 in the PD program binder) and write down their reflections.