COACHING TO SUPPORT EARLY MATH INSTRUCTION PRESENTER NOTES

This guide walks you through presenting *Coaching to Support Early Math Instruction*. This in-service suite includes PowerPoint slides and supporting materials. The main PowerPoint presentation and optional slides were developed for coaches and other staff working with colleagues to improve their practice. Learning activities, tip sheets, and activity sheets are labeled for their intended audiences.

MATERIALS NEEDED:

- Presenter PowerPoint slides
- Projector and audio equipment
- Flip chart or similar large paper
- Markers

BEFORE YOU BEGIN:

- This presentation describes how to use Practice-Based Coaching to build early math teaching practices. It provides strategies that support coaches in helping coachees to improve their early math teaching practices (including differentiated instruction), or support families as they implement early math experiences at home. This suite includes materials for both classroom-based and home-based education staff.
 - In the presentation, you will:
 - Understand why coaching is a powerful approach to professional development
 - Learn how to establish a collaborative coaching relationship in the context of coaching to support early math teaching practices
 - Understand and practice methods for engaging in effective PBC coaching cycles around early math teaching practices
 - Learning activities offer participants opportunities to understand the process of coaching educators in early math instruction.

LIST OF AVAILABLE CONTENT:

HANDOUTS

- Tips for Education Staff: An Introduction to Practice-Based Coaching for Early Math
- Tips for Education Staff: Needs Assessment Formats
- Learning Activity for Education Staff: Sample Needs Assessment-Teaching Practices to Support Counting and Cardinality
- Learning Activity for Home Visitors: Sample Needs Assessment- Home Visiting Practices to Support Counting and Cardinality
- Tips for Education Staff: Action Plan Form
- Tips for Education Staff: Sample Action Plan Form
- Tools for Supervisors and Coaches: Data Collection Form
- Tools for Supervisors and Coaches: Focused Observation of Early Math
- Tools for Home-Based Supervisors and Coaches: Focused Observation of Early Math
- Helpful Resources



OPTIONAL SLIDES

- Optional Slide 1: Why Share Math Experience?
- Optional Slide 2: Focused Observation Plan
- Optional Slide 3-6: Scenario 1
- Optional Slide 7: Teaching Practice Action Plan
- Optional Slide 8: Focused Observation Plan
- Optional Slide 9-12: Scenario 2
- Optional Slide 13: Teaching Practice Action Plan
- Optional Slide 14: Focused Observation Plan

PRESENTATION OUTLINE

SLI	DE	HANDOUTS	HOME VISITOR HANDOUTS	OPTIONAL SLIDES		
1.	Title Slide and Introduction					
2.	House Framework for Effective Teaching Practices					
3.	House Framework for Effective Teaching Practices: Left Pillar					
4.	Objectives					
5.	Why Use Coaching?					
6.	What is Practice-Based Coaching?	Tips for ES: An Introduction to Practice- Based Coaching for Early Math				
7.	Practice-Based Coaching Components					
8.	Collaborative Coaching Partnerships					
9.	Establishing a Collaborative Partnership					
10.	Sharing Math Experiences			 Insert Optional Slide 1 		
11.	Shared Goals and Action Planning					
12.	Shared Goals and Action Planning					
13.	Teaching Practices					
14.	Needs Assessment	 Tips for ES: Needs Assessment Formats Learning Activity for ES: Sample Needs Assessment 	 Learning Activity for HV: Sample Needs Assessment 			

SLIDE	HANDOUTS	HOME VISITOR HANDOUTS	OPTIONAL SLIDES		
15. Needs Assessment	 Learning Activity for ES: Sample Needs Assessment 	 Learning Activity for HV: Sample Needs Assessment 			
16. Needs Assessment	 Learning Activity for ES: Sample Needs Assessment 	 Learning Activity for HV: Sample Needs Assessment 			
17. Identify Priorities and Set Goals					
18. Develop an Action Plan	Tips for ES: Action Plan Form				
19. Action Plan	Tips for ES: Sample Action Plan Form				
20. Focused Observation	 Tools for Supervisors and Coaches: Data Collection Form Tools for Supervisors and Coaches: Focused Observation Forms 	 Tools for Home-Based Supervisors and Coaches: Focused Observation Forms 	 Insert Optional Slides 2-14 		
21. Focused Observation					
22. Focused Observation	Tools for Supervisors and Coaches: Focused Observation Forms	 Tools for Home-Based Supervisors and Coaches: Focused Observation Forms 			
23. Focused Observation	Tools for Supervisors and Coaches: Data Collection Form				
24. Reflection and Feedback					
25. Reflection and Feedback					
26. Reflection and Feedback					
27. Reflection and Feedback					
28. Reflection and Feedback					
29. Reflection and Feedback Practice Scenario					
30. The Cycle Continues!					
31. Review	Helpful Resources				

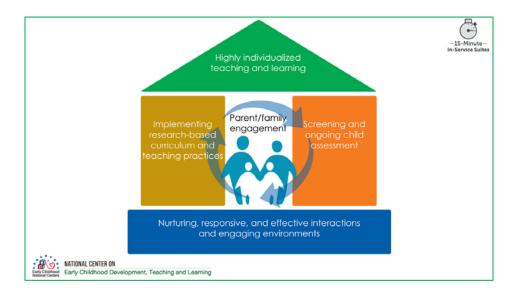
ES indicates tips/activity sheet for education staff and HV indicates tips/activity sheet for home visitors.



SLIDE 1:

WELCOME AND INTRODUCTIONS:

- Begin the training by giving participants background information about yourself.
- Provide an opportunity for participants to introduce themselves.

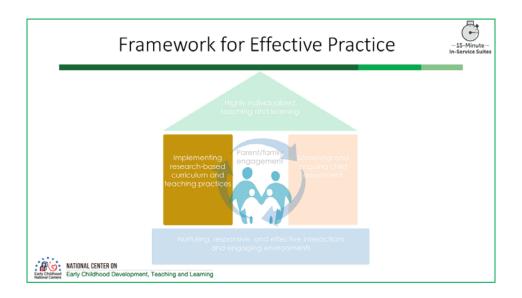


SLIDE 2:

The Framework for Effective Teaching Practices is known as the House. The House represents five integral components of quality teaching and learning.

- The foundation: Nurturing, responsive, and effective interactions and engaging environments
- The first pillar: Implementing research-based curricula and teaching practices
- The second pillar: Screening and ongoing child assessment
- The roof: Highly individualized teaching and learning
- The center: Parent and family engagement

When connected with one another, they form a single structure—the House Framework—that surrounds the family in the center because as we implement each component of the house, in partnership with parents and families, we foster children's learning and development.



SLIDE 3:

Here, we focus on the left pillar—implementing research-based curriculum and teaching practices. Practice-Based Coaching, as we will discuss in this suite, is a professional development strategy that supports education staff, including home visitors, in using effective practices—leading to positive outcomes for children.

Objectives



- Understand why Practice-Based Coaching (PBC) is a powerful approach to professional development
- Understand how PBC components can be used to coach education staff on early math teaching practices
- Understand and practice methods for engaging in effective PBC cycles around early math teaching practices



SLIDE 4:

- By the end of this presentation you should be able to: (Read the objectives.)
- Ask: Is there anything else you'd like to be able to do by the end of this session?

Why Use Coaching?

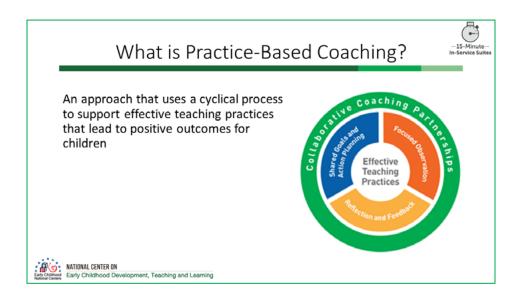


- Coaching is an evidence-based professional development strategy that has been shown to:
 - · Effectively support education staff in improving their practices
 - · Result in increased learning in young children



SLIDE 5:

Coaching is an evidence-based professional development strategy that has been shown to increase education staff's use of high-quality teaching practices and also increase young children's learning.

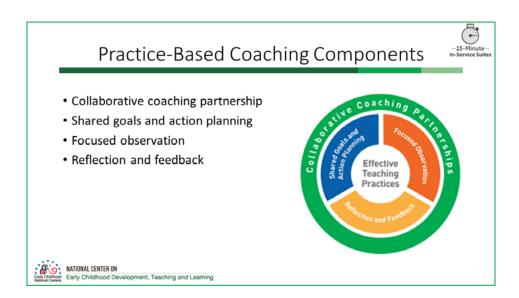


SLIDE 6:

Read the slide.

MATERIALS NEEDED:

■ Handout: Tips for Education Staff: An Introduction to Practice-Based Coaching for Early Math



SLIDE 7:

There are four components to Practice-Based Coaching:

- Collaborative coaching partnerships
- Shared goals and action planning
- Focused observation
- Reflection and feedback



SLIDE 8:

Practice-Based Coaching occurs in the context of a collaborative partnership. This is the green circle that is around all the other components of PBC. The collaborative coaching partnership is foundational and essential.

Establishing a Collaborative Partnership



- A collaborative partnership involves a teacher, family child care provider or home visitor (a coachee) and a coach planning and working together.
- It is developed over time by developing reciprocal and respectful relationships, shared vision, and trust.
- Establishing a collaborative partnership includes:
 - · sharing professional experiences and backgrounds,
 - · developing shared expectations, and
 - · reaching a mutual understanding of the coaching process and purpose.



SLIDE 9:

- A collaborative partnership involves a teacher, family child care provider, or home visitor (a coachee) and a coach planning and working together.
- It is developed over time by developing reciprocal and respectful relationships, shared vision, and trust.
 - "Reciprocal" means that ideas and information are shared from the coachee to the coach and from the coach to the coachee.
- Establishing a collaborative partnership includes
 - sharing professional experiences and backgrounds,
 - developing shared expectations, and
 - reaching a mutual understanding of the coaching process and purpose.
- A collaborative partnership develops over time, but we are presenting an activity you can do to begin to establish that partnership.

Sharing Math Experiences





As a coach, how would you use this activity with coachees?

- What is the earliest math experience that you can remember?
 - What did you feel during this experience?
- How has that influenced how you feel about math now?
- How do you think your feelings and previous experiences might be expressed in the classroom?



SLIDE 10:

Notes for presenter:

- Ask participants to think to themselves about the questions [click]
- Then talk to a neighbor about their responses [click]
- Invite some participants to share out with the group
- This is an activity you can do with education staff. [click]

You can have coaches discuss doing this activity with coachees as a group or use think-pair-share again.

OPTIONAL MATERIALS:

■ Insert Optional Slide 1



SLIDE 11:

The next component of Practice-Based Coaching is "Shared Goals and Action Planning."

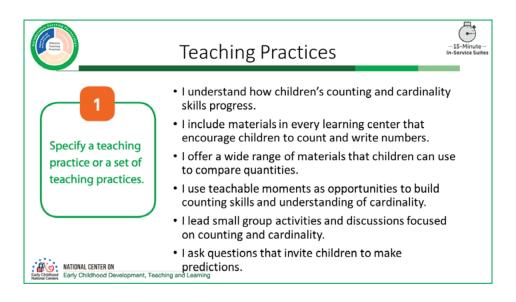


SLIDE 12:

There are five steps to "Shared Goals and Action Planning."

- 1. Specify a teaching practice or set of teaching practices.
- 2. Gather information about implementation of teaching practices through a needs assessment.
- 3. Use the information gathered about implementation and identify priorities for coaching.
- 4. Set specific, observable, achievable goals based on priorities.
- 5. Develop an action plan for use as the coaching roadmap.

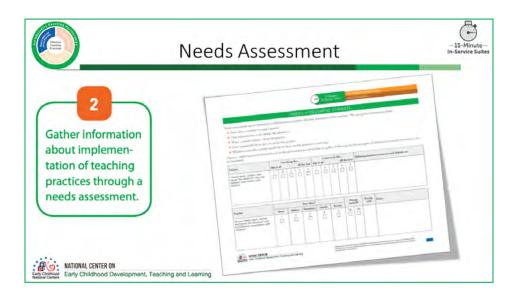
We are now going to talk through an early math example.



SLIDE 13:

Practiced-Based Coaching focuses on effective teaching practices. The specific teaching practices chosen to focus on are often driven by programmatic decisions or data. For example, Northlake Head Start, which is a preschool center, has decided one of their program goals will be better supporting children's early math learning—specifically focused on the counting and cardinality section of the Early Learning Outcomes Framework.

- Read step 1 of Shared Goals and Action Planning.
- It is important to select an effective math teaching practice that will translate to improved learning outcomes for children.
- Read bullet 1.
- Providing individualized support for children's math learning is an effective math teaching practice and determining a child's level in a learning trajectory is the first step to delivering individualized support.
 Individualized support includes deciding which tasks and teaching strategies to use based on children's levels.
 - Home visitors can also support families as they implement math learning strategies at home with their children. They work with families to determine their child's developmental level and use interactions and learning opportunities to support children's math learning.
- Read bullets 2 & 3.
- A learning trajectory includes a math goal for the child (e.g., what you want the child to be able to do), a developmental progression, and associated activities for supporting the child in moving towards the goal.
- In math, it's especially important to provide instruction that is at children's appropriate level because it is more sequential.



SLIDE 14:

- The next step is to use or develop a needs assessment for education staff to reflect and report on their use of teaching practices to support early math learning. Needs assessments can be designed in a variety of ways—a handout with different formats is provided.
- Coaches at Northlake Head Start created a needs assessment based on the Effective Practice Guides, specifically the section on counting and cardinality.
- Although this module works through one example in a group setting, you can use the Home-Based Needs Assessment to tailor an approach for coaching on math practices in home-based programs.

- Handout: Tips for Education Staff Needs Assessment Formats
- Handout: Learning Activity for Education Staff: Needs Assessment
- Handout: Learning Activity for Home Visitors: Needs Assessment Home-Based

Practice 1. I understand how children's counting and cardinality skills progress.	How well/how often					Change needed?		Priority renk	Notes
	Not gt off	Slightly	Moderately	Very	Extremely	Yes	No.		
I include materials in every learning center that encourage children to count and to write numbers.	Nover	Seldom	Sometimes	Often	Always	Yes	No.		
 l offer a wide range of materials that children can use to compare quantities. 	Never	Seldom	Sometimes	Offen	Always	Yes	No	1	
I use teachable moments as apportunities to build counting skills and understanding of cardinality.	Never	Seldom	Sometimes	Often	Always	Yes.	No.		
I lead small group activities and discussions focused on counting and cardinality.	Never	Saldon	Sometimes	Offen	Always	Yes	No.		
I ask questions that invite children to make predictions	Never	Seldom	Sometimes	Offen	Always	Yes	No		
Lask open-ended questions to better understand a child's mathematical thinking.	Nover.	Seldom	Sometimes	Often	Alwoys	Yes	No		
I collect data on children's demonstrations of math knowledge in the context of the math activities and discussions I provide.	Never	\$eldom	Sometimes	Often	Always	Yes	No.		
I provide instruction and feedback to children based on their individual needs.	Never	Seldom	Sometimes	Offen	Always	Yes	No		

SLIDE 15:

- Here is the needs assessment they created. Each teacher at Northlake Head Start completed this needs assessment. The coaches also collected data based on their observations in the classrooms.
- The home-based needs assessment in this module focuses on practices a home visitor uses to encourage family members to support their child's skills related to counting and cardinality.

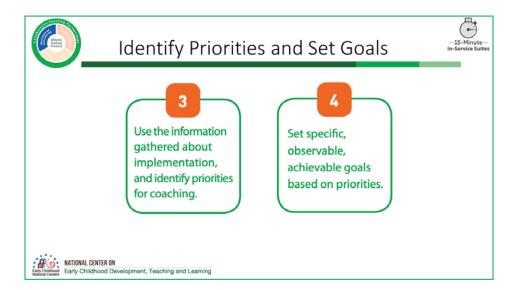
- Handout: Learning Activity for Education Staff: Sample Needs Assessment
- Handout: Learning Activity for Home Visitors: Sample Needs Assessment Home-Based

Practice	How well/how often					Change needed?		Priority rank	Notes
I understand how children's counting and cordinality skills progress.	Not at all	Slightly	Moderately:	Very	Extremely	You	No.	1	
include materials in every learning center that encourage children to count and to write numbers.	Never	Seldom	Sometimen	Chm	Always	Yes	No		
I offer a wide range of materials that children can use to compare quantities.	Never	Seldon	Sometimes	Offen	Always	Yes.	No		
I use teachable moments as apportunities to build counting stills and understanding of cardinality.	Never	Seldom	Sometimes	Often	Always	Yes	No.	-	
 I lead small group activities and discussions focused on counting and cordinality. 	Never	Seldom	Sometimes	Often	Always	Yos	No.	3	
 I ask questions that Invite children to make predictions. 	Never	Saldom	Sometimes	Offen	Always	Vos.	No 🗆	ä	
I ask open-ended questions to better understand a child's mathematical thinking.	Never .	Seldom	Sometimes	Ohen	Always	You	No.	5.	
I callect date on children's, demonstrations of math knowledge in the context of the math activities and discussions I provide.	Never	Seldom	Sometimes	Ohen	Always	Vat.	No.	2	
I provide instruction and heedback to children based on their individual needs.	Never	Seldom	Sometimus	OBen	Always	Vat.	No.	6.	

SLIDE 16:

Stephen, a teacher at Northlake Head Start, filled out this needs assessment. He reflected that he does a good job providing materials and capitalizing on teachable moments. However, he doesn't really collect data or provide more targeted and individualized instruction. He also does not fully understand how counting and cardinality skills progress for preschool-aged children.

- Handout: Learning Activity for Education Staff: Sample Needs Assessment
- Handout: Learning Activity for Home Visitors: Sample Needs Assessment Home-Based



SLIDE 17:

- Read the last 2 steps.
- Based on the results of the needs assessment and other data collected, the coach and coachee jointly identified priorities for coaching. Stephen and his coach, Miranda, used the information from the needs assessment to guide their identification of priorities and set a coaching goal. The goal they developed was "I will provide small group instruction to children to support their learning of counting, cardinality, and quantity comparison. I will collect data during these activities."

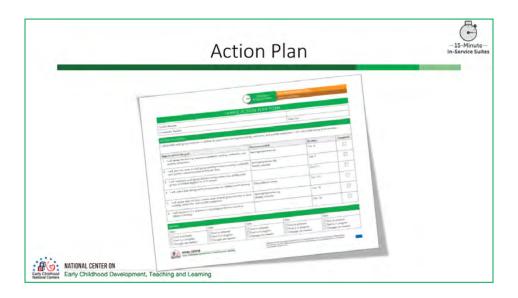


SLIDE 18:

- The next step is to develop an action plan.
- An action plan is a working document that guides coaching activities.
- Actions plans clarify how the coachee will meet their goal.
- Action plans are specific and measurable.

MATERIALS NEEDED:

Handout: Tips for Education Staff: Action Plan Form

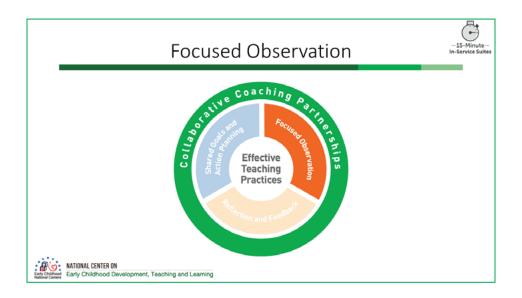


SLIDE 19:

- Here is Stephen's action plan.
- He starts by reviewing learning trajectories for counting, cardinality, and quantity comparison. He uses the learning trajectories.org website to do so.
- Then, he plans a week of small group activities to help children learn counting, cardinality, and comparison.
- He implements these activities and collects data on children's learning.
- Then, he reviews the data and plans another week of activities, this time planning specific questions to encourage predictions and find out what children are thinking.
- After Stephen meets this action plan goal, he and Miranda create another one focusing on providing more specific instruction and feedback to individual children, which was also identified as a need on the needs assessment.

MATERIALS NEEDED:

Handout: Tips for Education Staff: Sample Action Plan Form



SLIDE 20:

■ The next component of Practice-Based Coaching is "Focused Observation."

MATERIALS NEEDED:

- Handout: Tools for Supervisors and Coaches: Data Collection Form
- Handout: Tools for Supervisors and Coaches: Focused Observation Form
- Handout: Tools for Home-Based Supervisors and Coaches: Focused Observation Form

OPTIONAL MATERIALS:

■ Insert Optional Slides 2-14



Focused Observation

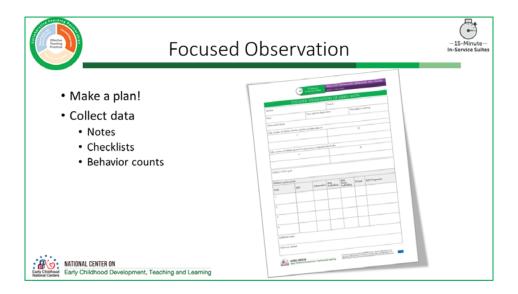


- · Observations centered on action plan
- · Coach collects notes/data
- Coach uses other coaching strategies as needed (and agreed to by coachee)



SLIDE 21:

- Focused observations must be centered around the action plan.
- When doing the focused observation, the coach writes notes and collects data about the coachee's demonstration of the action plan steps.
- The coach may also use other coaching strategies, such as modeling a practice with a child or parent or providing verbal suggestions to the coachee.
- The coachee must agree to any coaching strategies the coach uses prior to the focused observation.



SLIDE 22:

The coach should plan what they will do in the focused observation. Have an idea of what practices to look for (from the action plan) and decide how to collect notes or other data. For example, Miranda plans to take running notes about Stephen's teaching practices related to the action plan. She does this with the observation log.

- Handout: Tools for Supervisors and Coaches: Focused Observation Form
- Handout: Tools for Home-Based Supervisors and Coaches: Focused Observation Form



SLIDE 23:

- Stephen and Miranda also decided, prior to the focused observation, that it would be helpful for Miranda to collect data on how many times Stephen provides instruction to each child in the classroom by counting opportunities to respond.
- Miranda creates a form to collect data on this.
- She also includes a spot to note whether Stephen is collecting data on children's behaviors.

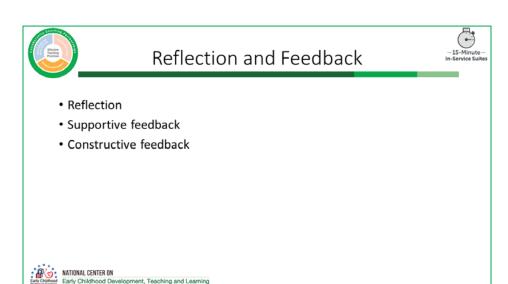
MATERIALS NEEDED:

Handout: Tools for Supervisors and Coaches: Data Collection Form



SLIDE 24:

The last component of Practice-Based Coaching is "Reflection and Feedback."



SLIDE 25:

- The reflection and feedback component of the PBC cycle typically takes place in a meeting between the coach and coachee.
- Provide opportunities for the coachee to reflect on their practices.
- Provide supportive and constructive feedback.



Reflection and Feedback



- · Reflection questions:
 - "How did math small groups go today?"
 - · "What happened when Birdie made an error when counting?"
 - "What could you share with her mom to help's Birdie count with greater accuracy?"
 - "What do you think you could do to support Tyrone in learning from his peers?"



SLIDE 26:

- The coach can ask reflection questions that are general, such as, "How did math small groups go today?"
- The coach should always be prepared to ask more specific questions, as needed, however. This could include questions like, "What happened when Birdie made an error counting?" "What could you share with her mom to prepare her to provide feedback that help's Birdie count with greater accuracy?" or "What do you think you could do to support Tyrone in learning from his peers?"



Reflection and Feedback



- · Supportive feedback should be:
 - · Related to the action plan
 - Specific
 - Data-based
 - Non-attributive
- Examples:
 - "I noticed that when Robbie counted incorrectly, you reminded him to touch each object only one time as he counted. You suggested he move the objects so he could keep track of the ones he already touched. After you gave him that suggestion, he was able to count correctly without help! When you gave him a high five, he had a big smile on his face!"
 - "Wow—you did a really nice job collecting data on each child's counting skills during small groups today. That will really help you plan your next small group activity and the type of instruction you will provide!"



SLIDE 27:

- Supportive feedback should be related to the action plan, specific, and data-based. That means you should refer to what you saw in your observations or the data you collected. Supportive feedback should also be non-attributive, meaning that you should not make broad judgments about your coachee, such as, "You are such a clever teacher!" or "You are great with those parents!" Instead, provide specific information about the positive practices you saw the teacher or home visitor demonstrate.
- This is more helpful to the coachee than broad generalizations because specific feedback highlights what they should keep doing. It also is helpful to provide evidence for how the practices impacted child learning.
- Consider these examples of supportive feedback that Miranda provided to Stephen:
 - "I noticed that when Robbie counted incorrectly, you reminded him to touch each object only one time as he counted. You suggested he move the objects so he could keep track of the ones he already counted. After you gave him that suggestion, he was able to count correctly without help! When you gave him a high five, he had a big smile on his face!"
 - "Wow—you did a really nice job collecting data on each child's counting skills during small groups today. That will really help you plan your next small group activity and the instruction you provide!"



Reflection and Feedback



- · Constructive feedback should be:
 - · Related to action plan
 - Specific
 - · Data-based
- Non-attributive
- Examples:
 - "I observed you giving at least three opportunities to respond to almost every child in your small groups today. Tabitha and William both engaged in some disruptive behavior during the small groups, and I noticed that they each got only one opportunity to respond. Next time, make sure all children get several opportunities to respond. That can help keep them more engaged and prevent challenging behavior."
 - "I noticed that when you played the counting game in one of your small groups, Arnie
 counted eight objects correctly. However, when you then asked him how many buttons there
 were (to assess his cardinality understanding), he said, "Five," and you didn't respond. It
 would be helpful to provide Arnie with specific feedback when he makes a mistake. You
 could say, "The last number you said was 'eight'. That means there are eight buttons.").



SLIDE 28:

- Just like supportive feedback, constructive feedback should be related to the action plan, specific, data-based, and non-attributive. Additionally, constructive feedback should help the coachee grow by meeting the coachee where they are. The coach should always provide more supportive feedback than constructive feedback.
- Consider these examples of constructive feedback Miranda provided to Stephen:
 - "I observed you giving at least three opportunities to respond to almost every child in your small groups today. Tabitha and William both engaged in some disruptive behavior during the small groups, and I noticed that they each got only one opportunity to respond. Next time make sure all children get several opportunities to respond. That can help keep them more engaged and prevent challenging behavior."
 - "I noticed that when you played the counting game in one of your small groups, Arnie counted eight objects correctly. However, when you then asked him how many buttons there were (to assess his cardinality understanding), he said, "Five," and you didn't respond. It would be helpful to provide Arnie with specific feedback when he makes a mistake. You could say, "The last number you said was 'eight.' That means there are eight buttons.").
- You can use additional coaching strategies in reflection and feedback meetings. These include having a problem-solving discussion, role playing, graphing data, and more.





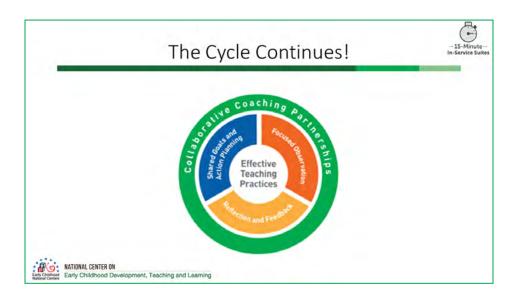
- · Consider this scenario:
 - · Mary, a toddler classroom teacher, has an action plan related to providing more teaching related to one-to-one correspondence. During snack time in this classroom, the teachers work to set the table—giving each child one bowl, one spoon, one cup, and one napkin. Tyson notices that there aren't enough spoons for every child and says, "More spoons!" The teacher smiles and says, "Yes, we need more spoons."
- What questions could you ask Mary to promote reflection?
- · What supportive feedback could you give Mary?
- · What constructive feedback could you give Mary?



SLIDE 29:

Consider this scenario:

- Mary, a toddler classroom teacher, has an action plan to help her provide more teaching related to one-toone correspondence. During snack time in this classroom, the teachers work to set the table—giving each child one bowl, one spoon, one cup, and one napkin. Tyson notices that there aren't enough spoons for every child and says, "More spoons!" The teacher smiles and says, "Yes, we need more spoons."
 - What questions could you ask Mary to promote reflection?
 - What supportive feedback could you give Mary?
 - What constructive feedback could you give Mary?



SLIDE 30:

- Once coachees meet their action plan goals, it is time to create a new action plan, building off the progress the coachee has already made. For Stephen, this will include working on providing individualized instruction and feedback to children in the context of his small groups.
- For more specifics on math instruction, see *Differentiating Learning Opportunities in Early Math* In-Service Suite; *Math Learning Trajectories* (short videos that depict children's math activities and teachers' supportive interactions); and *High Five Mathematize*. These resources and tools help supervisors and coaches support education staff in how to "mathematize" in four areas: numbers and operations, geometry and spatial sense, patterns, and measurement. All of these and more are on the ECLKC.



SLIDE 31:

- Remember, Practice-Based Coaching is a four-component process that includes establishing a collaborative coaching partnership, developing shared goals and an action plan, conducting a focused observation, and providing opportunities for reflection and feedback.
- To coach early math teaching practices effectively, coaches must be familiar with the components and procedures of Practice-Based Coaching and must understand how early math learning develops.
- Ask coaches for their take-aways.

MATERIALS NEEDED:

Handout: Helpful Resources