Supporting Concept Development: *Extending Exploration*

WHAT'S IN THIS PD2GO PACK?

This pack helps teachers/providers extend children's thinking, deepen their learning, and strengthen concept development. Participants will learn how to use appropriately selected materials to support children's exploration and investigations.

Your Participants Will...
increase their capacity to select materials and objects that encourage active exploration and guide children through the investigation process.

SUPPORTING MATERIALS

Facilitator's Guide Everything you need to facilitate this PD2GO presentation on *Extending Exploration*, including an interactive presentation page along with step-by-step presenter's notes.

Coaching Corner One-page resource with self-reflection and practice opportunities that can be explored individually, with peers, and in professional development sessions.

Additional resource materials related to this pack provide opportunities to explore and expand your skills and knowledge through **Digging Deeper**, **Resource Links**, and **Family Connections**.

HOW TO USE THIS FACILITATOR'S GUIDE

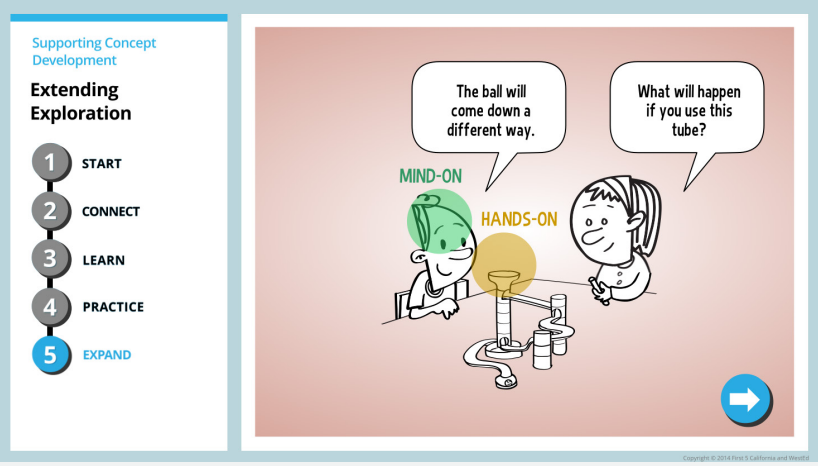
This Facilitator's Guide will provide you with step-by-step information on how to present this session using the interactive presentation page and downloadable materials specific to this PD2GO pack. We recommend opening the pack presentation as you go through this Facilitator's Guide.

THE INTERACTIVE PRESENTATION PAGE

The presentation page includes the following elements:

Steps

Click on each number icon to begin the section of the presentation—use the presenter's notes in this guide to facilitate each step of the presentation.



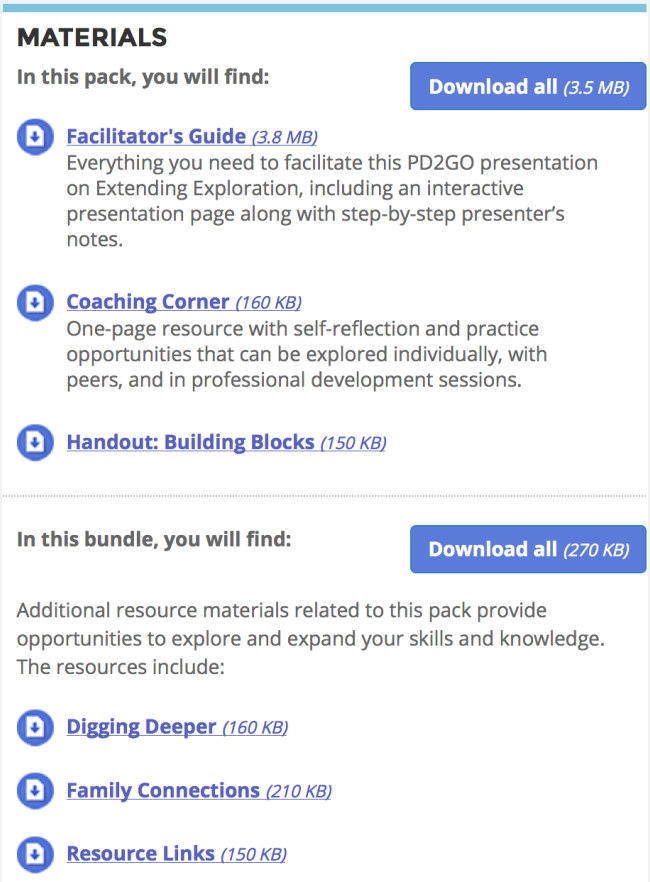
DOWNLOADABLE MATERIALS

In This Pack

Click on the downloadable materials hyperlink to access all materials related to this presentation.

In This Bundle

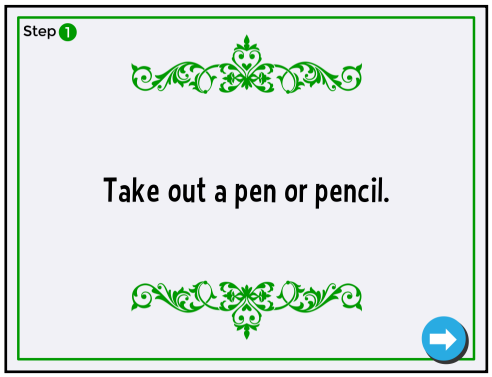
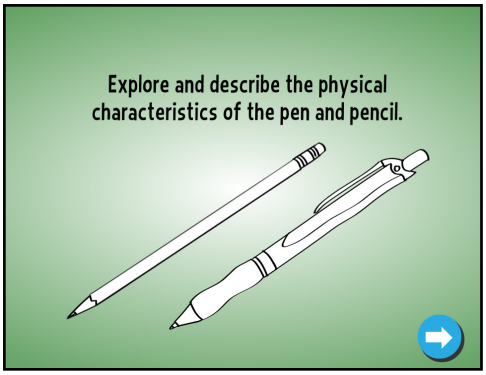
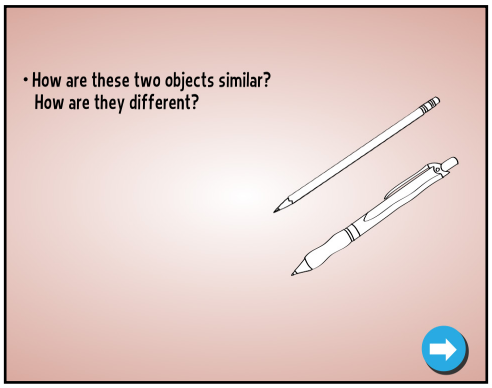
Click on the downloadable materials hyperlink to access all additional resources and materials that can be used with this presentation and other related packs.



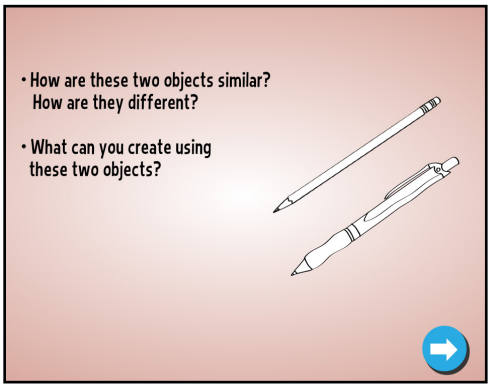
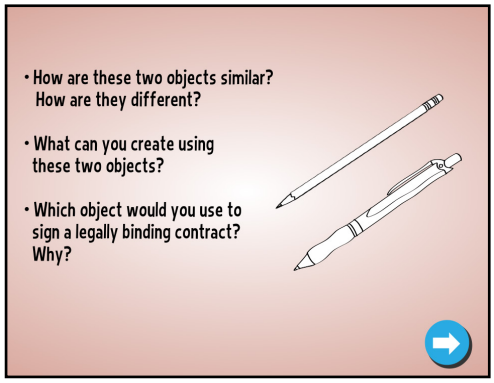
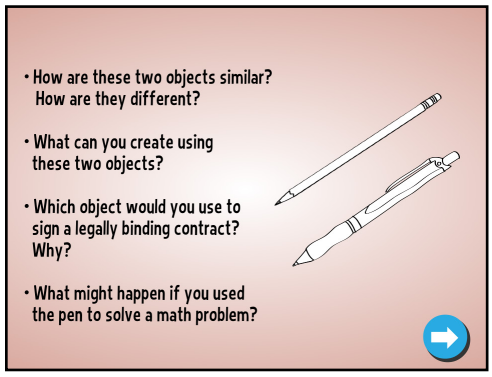
EXPANDING ON THIS PD2GO PACK

This presentation on *Extending Exploration* can be used individually or in conjunction with related packs in the bundle, including *Designing Learning Experiences, Deep Learning,* and *Integrated Learning*. Additional resources and materials in this bundle (*Digging Deeper, Resource Links,* and *Family Connections*) are designed to extend skills and knowledge around these related packs, provide links to resources, and promote partnerships with families.

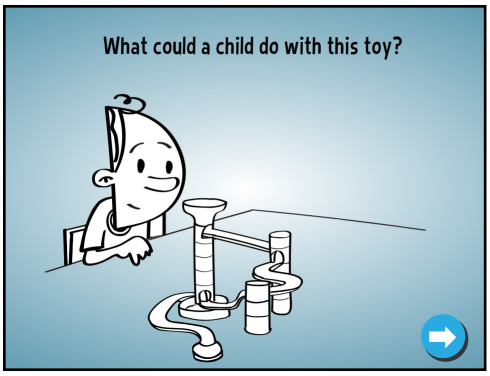
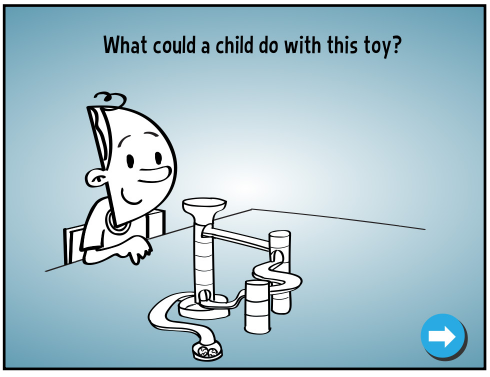
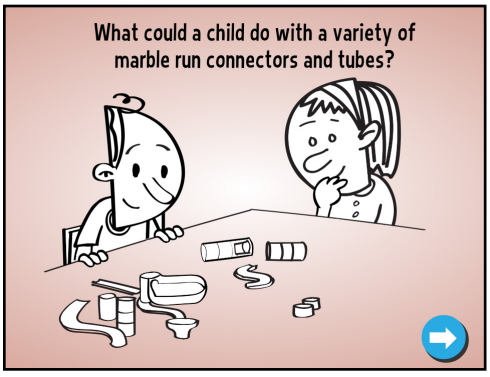
STEP 1: START

PRESENTATION SEQUENCE	FACILITATOR'S NOTES
	[3 min] CLICK **Step 1 - Start** **Facilitator:** *Take out a pen or pencil. If you have a pen, pair up with someone who has a pencil.* Pause while participants find a pen/pencil and pair up. You can join a pair if there are an odd number of participants. Be sure to have pens and pencils on hand so that every pair has one of each. CLICK
	**Facilitator:** *Spend a few moments exploring and describing the physical characteristics of first the pen and then the pencil.* Give participants a few moments to explore the pens and pencils. Ask for volunteers to share their observations of the pens and pencils. **Facilitator:** *You've shared some of your observations about these objects from your hands-on exploration. Here are a few more questions to consider.* CLICK
	**Facilitator:** *How are these two objects similar? How are they different?* Pause for one or two responses from the group. CLICK

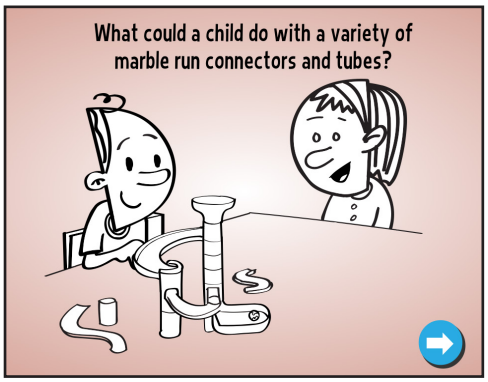
STEP 1: START *Continued*

PRESENTATION SEQUENCE	FACILITATOR'S NOTES
	**Facilitator:** *What can you create using these two objects?* Pause for one or two responses from the group. CLICK
	**Facilitator:** *Which object would you use to sign a legally binding contract? Why?* Pause for one or two responses from the group. CLICK
	**Facilitator:** *What might happen if you used the pen to solve a math problem?* Pause for one or two responses from the group. **Facilitator:** *Beyond your hands-on exploration, I offered you "deeper thinking" prompts to:* ▪ *compare and contrast characteristics* ▪ *brainstorm all that you could create* ▪ *analyze which object would serve a particular purpose* *Helping children consider these kinds of questions is an important way adults help children investigate their environment and learn more deeply.* CLICK
	**Facilitator:** *Both hands-on exploration and adult-guided investigation contribute to active learning experiences for children.*

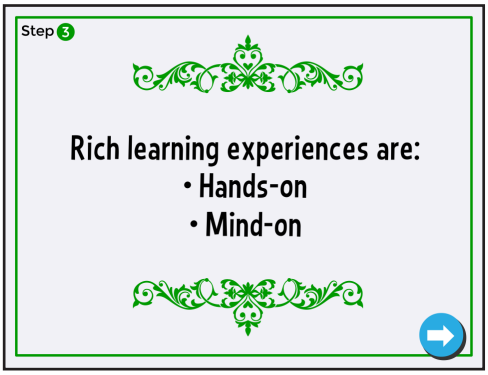
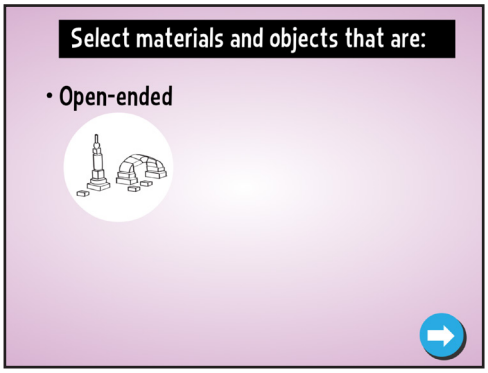
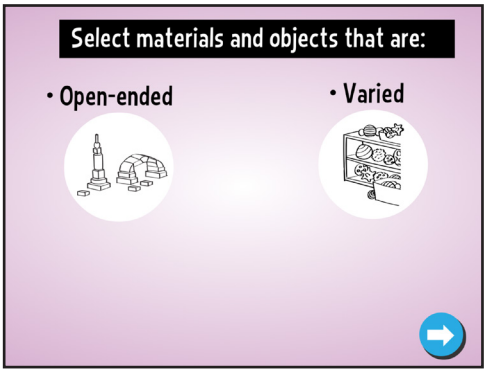
STEP 2: CONNECT

PRESENTATION SEQUENCE	FACILITATOR'S NOTES
	[3 min] CLICK **Step 2 - Connect** **Facilitator:** *Let's take a look at different opportunities for children's hands-on exploration.*
	CLICK **Facilitator:** *Look at this marble run. What could a child do with this toy?* Pause for responses from the group.
	CLICK **Facilitator:** *The child can drop the marble down the marble run and watch where it rolls. Because the marble run is already assembled, it offers limited opportunities to explore and experiment.*
	CLICK **Facilitator:** *Now consider, what could a child do with a variety of unassembled marble run connectors and tubes?* Pause for responses from the group. CLICK

STEP 2: CONNECT *Continued*

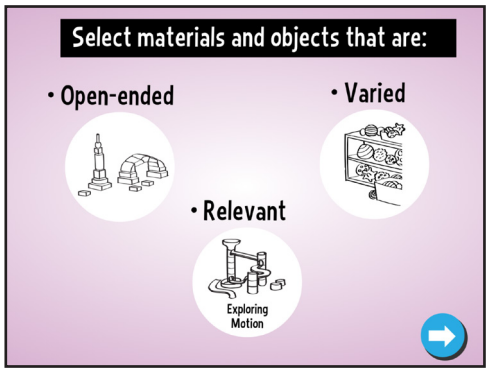
PRESENTATION SEQUENCE	FACILITATOR'S NOTES
	**Facilitator:** *How are these two experiences similar? How are they different?* Pause for responses from the group. **Facilitator:** *The tubes and connectors allow children greater opportunity to experiment with motion, gravity, and cause and effect. When children decide which tubes to use and how to put them together, they create an environment for the marbles and then have the opportunity to see what happens.* *When children try to figure out why their marble gets stuck, they are problem solving. If children need help solving a problem, teachers/providers can step in to scaffold the learning process by asking questions like, "What's another way you can make this marble go down?"*
	CLICK **Facilitator:** *Small changes in children's play materials can open up big opportunities for concept development.*

STEP 3: LEARN

PRESENTATION SEQUENCE	FACILITATOR'S NOTES
	[3 min] CLICK **Step 3 - Learn** **Facilitator:** *Rich learning experiences are hands-on and mind-on.* ▪ *In hands-on experiences, children physically explore objects and the environment.* ▪ *Mind-on experiences help children think about specific aspects of their hands-on explorations and contribute to concept formation.* *The materials and objects in your learning environment are critical for hands-on exploration. The right materials and objects can support children's concept development.* *Select materials and objects that are:*
	CLICK **Facilitator:** ▪ ***Open-ended*** *and can be manipulated and used by children in more than one way. For example, children can build lots of different structures with blocks.*
	CLICK **Facilitator:** ▪ ***Varied*** *to provide children with access to different materials and objects. For example, provide various balls of different textures.*
	CLICK

STEP 3: LEARN *Continued*

PRESENTATION SEQUENCE	FACILITATOR'S NOTES



Facilitator:

- ***Relevant*** *to the concept of interest in the classroom.*

In pack 4, Scaffolding, we learned about scaffolding. Here are some specific scaffolding strategies you can use to elevate children's activities into hands-on and mind-on learning experiences.

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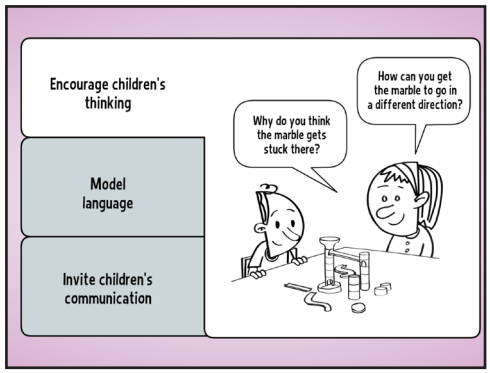
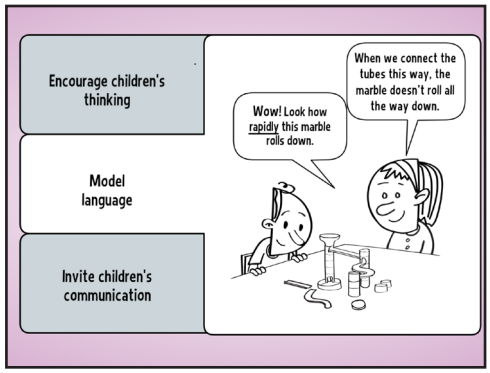


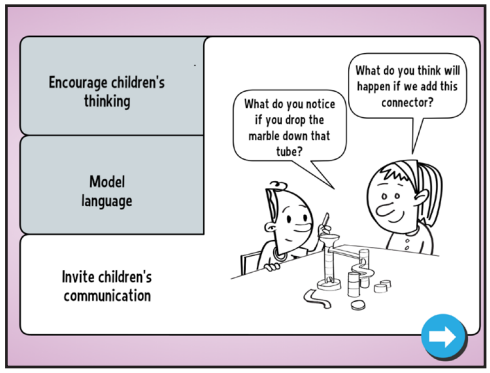
Facilitator: ***Encourage children's thinking****. Prompt children to think more deeply, analyze, and reason. For example, an adult challenges the child's thinking while the child is building a marble run, "Why do you think the marble gets stuck there?" or "How can you get the marble to go in a different direction?"*

CLICK TAB Model Language



Facilitator: ***Model language.*** *Label and describe a problem/question or introduce new vocabulary. For example, an adult describes a problem by saying, "When we connect the tubes this way, the marble doesn't roll all the way down." An adult introduces new vocabulary sparked by the marble run activity by saying, "Wow! Look how rapidly this marble rolls down."*

CLICK TAB Invite children's communication



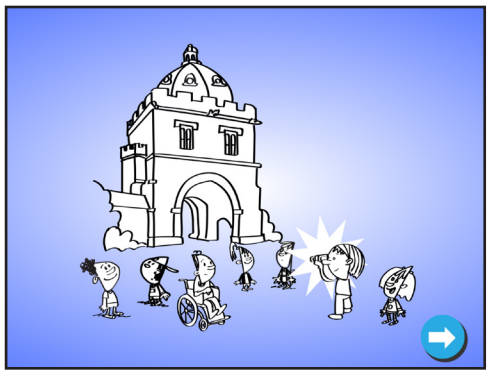
Facilitator: ***Invite children's communication.*** *Ask children to share their observations, predictions, and ideas. For example, an adult might ask a child "What do you notice if you drop the marble down that tube?" or "What do you think will happen if we add this connector?"*

CLICK

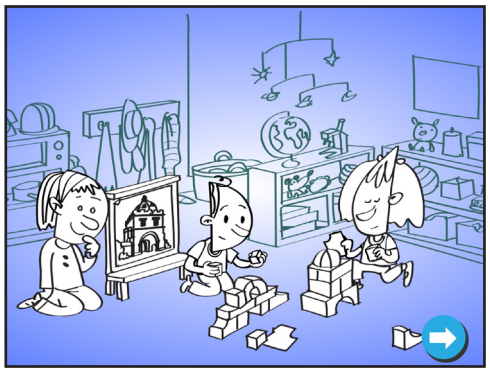
STEP 3: LEARN *Continued*

PRESENTATION SEQUENCE	FACILITATOR'S NOTES
	**Facilitator:** *Hands-on and mind-on exploration and investigations support children's concept development and readiness for school.*

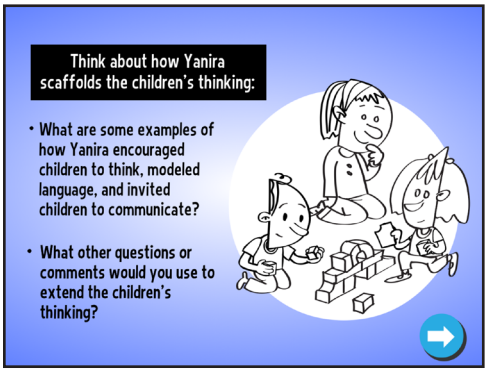
STEP 4: PRACTICE

PRESENTATION SEQUENCE	FACILITATOR'S NOTES
	[5 min] CLICK **Step 4 - Practice** Reference handout. ***"Building Blocks"*** **Facilitator:** *Let's look at some examples of materials and teacher support. As I read the vignette, follow along on your Building Blocks handout. Underline examples of materials used and of the teacher supporting the children's investigations.* CLICK **Facilitator:** *While on a weekly walk, preschool children become interested in a large, historic building. Their teacher, Yanira, takes a picture of the building to bring back to the classroom.*
	CLICK

STEP 4: PRACTICE *Continued*

PRESENTATION SEQUENCE	FACILITATOR'S NOTES
	**Facilitator:** *The next morning, Yanira places the picture in the block area with the usual wooden blocks. Because the historic building has a dome in the middle, she makes sure to include blocks with rounded edges and arches. She also adds some pieces of cardboard to the block area.* *Many children go to the block area and create their own buildings. Yanira observes and extends the children's thinking by asking questions that require the children to analyze materials:* ▪ *"Which blocks would work for making this rounded dome on the top?"* ▪ *"How can you build a strong roof?"* *After the children build their structures, she engages them in evaluating their work:* ▪ *"Tell me about your structure."* ▪ *"How did you figure out how to balance those blocks like that?"* CLICK
	**Facilitator:** *Pair up with a partner and think about the materials.* ▪ *How did the materials promote exploration and investigation?* ▪ *In what ways were the materials open-ended, varied, and relevant?* ▪ *If you were going to continue this learning experience, what materials would you add to this space?* Ask for volunteers to share their responses to the last question about what materials they would add to the space. CLICK

STEP 4: PRACTICE *Continued*

PRESENTATION SEQUENCE	FACILITATOR'S NOTES
	**Facilitator:** *Now, think about how Yanira scaffolds the children's thinking as they create their structures. Discuss with your partner:* ▪ *What are some examples of how Yanira encouraged children to think, modeled new vocabulary, and invited them to communicate their own ideas?* ▪ *What other questions or comments would you use to extend the children's thinking?* Ask for volunteers to share their responses to the last question about what questions or comments they would use to extend the children's thinking.
	CLICK **Facilitator:** *Both the materials and Yanira's scaffolding extend children's exploration and learning. The children learn about concepts such as shape, balance, and characteristics of different materials. They create their own structures, experiment with different blocks and materials, and engage in problem solving when certain blocks do not work, all of which contribute to deeper thinking and learning.*

STEP 5: EXPAND

PRESENTATION SEQUENCE	FACILITATOR'S NOTES

[1 min] CLICK **Step 5 - Expand**

Facilitator: *Plan your next learning experience relevant to children's interests. Think about something the children in your program are interested in exploring. What are some open-ended and varied materials related to this interest? How could you get these materials and use them to extend children's exploration and learning in the next week?*

Ask for a few volunteers to share their ideas.

Facilitator: *Put your plans into practice this week.*

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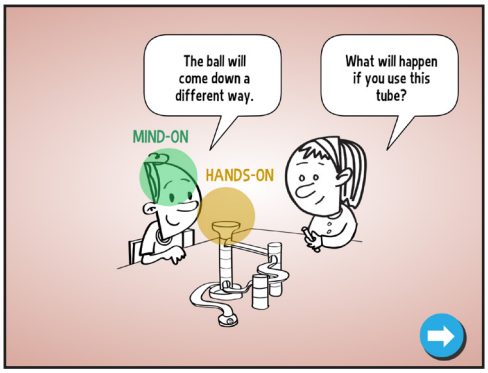

Facilitator: *When we support children's exploration of materials and objects, we elevate children's activities into hands-on and mind-on learning experiences. For example, this teacher/provider might ask the child to think, "What will happen if you use this tube?" The child then predicts, "The ball will come down a different way."*

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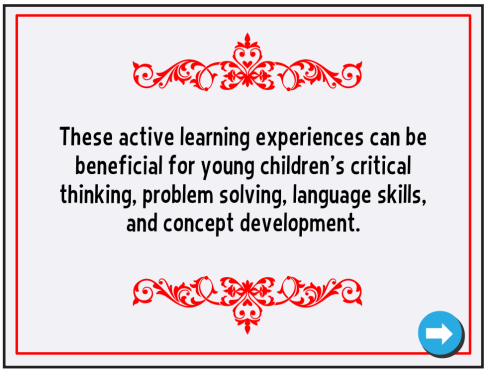

Facilitator: *These active learning experiences can be beneficial for young children's critical thinking, problem solving, language skills, and concept development.*

THIS PD2GO PACK WAS INFORMED BY THE FOLLOWING RESOURCES:

Copple, C. & Bredekamp, S. (2009). *Developmentally appropriate practice in early childhood programs serving children birth through age 8*. Washington, DC: National Association for the Education of Young Children.

Gelman, R., Brenneman, K., MacDonald, G., & Roman, M. (2010). *Preschool pathways to science*. Baltimore, MD: Paul H. Brookes Publishing Co.

Jacobs, G. M. (2001). Providing the scaffold: A model for early childhood/primary teacher preparation. *Early Childhood Education Journal, 29*(2), 125–130.

Rushton, S. & Larkin, E. (2001). Shaping the learning environment: Connecting developmentally appropriate practices to brain research. *Early Childhood Education Journal, 29*(1), 25–33.

Rushton, S., Juola-Rushton, A., & Larkin, E. (2010). Neuroscience, play and early childhood education: Connections, implications and assessment. *Early Childhood Education Journal, 37*(5), 351–361.