



Bridges

Standard Connection:
 ELA.RL.PK4.7
 ELA.SL.PK4.1a,1b
 M.MD.PK4.3
 M.G.PK4.5
 S.ES.PK4.3
 S.ES.PK4.3b
 SS.OW.PK4.5
 PD.FM.PK4.5
 PD.SHS.PK4.5
 VA.CR2a.2.PK
 VA.CR2a.3.PK

Enduring Understanding(s):

- People impact their environments in different ways.

Essential Question(s):

- How do people impact the environment in positive or negative ways?

Materials	Vocabulary	Books
<ul style="list-style-type: none"> • <i>Make Way for Ducklings</i> • Beautiful Stuff (including natural materials) • images of bridges (see Resource) • rope • string • craft sticks • adhesives 	<p>blueprint: a picture of an engineer's plans</p> <p>engineer: a designer or builder of bridges</p> <p>(highway-)(foot-) bridge: a roadway or path that goes over water or land</p> <p>stable: strong and sturdy; not moving</p>	

Intro to Centers	
Preparation: Set up materials.	
"In <i>Make Way for Ducklings</i> , Mr. and Mrs. Mallard made nests by the water. What do you notice?"	Show illustrations. Children respond.
"Their first nest was near a large highway bridge - a bridge that connects two cities. Their nest in the Boston Public Garden was near a smaller footbridge - a bridge for people to walk on."	
"Here are images of other bridges . What do you notice?"	Show images. Children respond.
" Bridges are different shapes, sizes, and colors. Engineers - people who design and construct bridges - use blueprints to plan and decide what materials are needed for a stable – strong and sturdy - bridge ."	
"Today in Blocks, you can be engineers and design and construct bridges using these materials. What do you notice?"	Show materials. Children respond.
"You could construct a bridge like the bridges in <i>Make Way for Ducklings</i> or like the bridges in the images."	

During Centers:

Encourage children to create blueprints to plan their bridges. Compare and contrast constructing bridges to constructing block towers. Encourage children to write signs and/or descriptions of their bridges. Compare and contrast their bridges to the illustrations and images. Encourage children to make similar bridges with different materials/numbers of blocks. Encourage children to test the stability/strength of their bridges by putting people, animals, or vehicles on the bridges.

Guiding Questions During Centers:

- How did you use these materials to construct your bridge?
- How is your bridge helpful to people or animals?
- How will you make your bridge stable?
- How is your bridge similar to or different from the bridges in *Make Way for Ducklings/Nana in The City/The Seven Chinese Sisters*/images, etc.?

Thinking and Feedback:

Invite children to share their processes. Encourage children to describe any challenges they might have encountered.

Documentation:

Collect samples of the children's work as well as photographs of their process; use the documentation to launch a discussion during Thinking and Feedback.

Provocation:

Encourage children to create bridges on a smaller scale (using LEGOs, cube blocks, etc.) on a table. Observe and document bridges around the area.

Differentiation/Accommodation:

For Intro to Centers, children with limited verbal skills can use a pre-programmed voice output device to answer questions about the story. (Keep in mind these will likely be closed-ended questions, as those are easiest to program into devices.) This can also be used to help children answer Guiding Questions. During Centers, provide a variety of writing and building materials to meet the children's various fine motor and sensory needs.