

Preparative Actions

Overview

This plan introduces Rigamajig, through exploration, naming, and play through trial and error. This plan highlights skills and/or attributes of collaboration and problem solving. These are precursor lesson suggestions that could work well at drop-off time in the mornings or during short free time pockets throughout the day.

Level: Beginner

Age Group: All

Time: 20-25 minutes

Main Goal: Collaboration, problem solving

Guiding and supporting play:

- Observe, observe, observe!
- Allow children to explore their own Rigamajig play ideas. There is no set formula for “right” or “wrong” outcomes.
- Children may produce a variety of Rigamajig ideas to meet the basic objectives of the lesson plan. No two creations or play sessions are alike. Be comfortable with letting children’s play evolve.
- There are no mistakes, let them explore and problem solve.
- Resist the urge to “fix” things for children and to show or tell children how to do things. Observe, and pay attention to children’s ideas and actions. Support play in ways that focus children on their own ideas. Ask about what students are planning to do, what they are making, and what they can change to make their Rigamajig work better?
- Discover insights into children’s creative thinking, and foster creativity!

Materials needed:

- Rigamajig Basic Builder Kit

Getting started:

As one group, ask the students to describe the parts, the screws, how different planks fit together, and how they look in relation to one another. Talk about how one long plank can be created by

using two or three smaller ones, how they could potentially all connect, and what does that look like? Name the parts so you have a common vocabulary for collaborating. Once the whole group completes this exploration, ask students to look at the following in 20–25 minute investigations.

While play is underway:

Observe with an interested and supportive attitude and, as needed, encourage problem solving thinking, creativity, collaboration, discussion, and questions.

Possible comments:

- Answering these questions and problem solving these challenges in advance with your students will prevent many obstacles that could potentially keep children from moving forward with their explorations. By initially addressing these logistical concepts as a group, children will have minimal frustration and can focus on the tasks at hand.
 - Can you create a joint?
 - Can you make something stand up?
 - Can you make something balance?
 - Can you make something swing?
 - Can you make something go up and down, roll or turn from side to side?
 - If you wanted to use a circular piece as a “wheel” which of the holes would you use?
 - How would you secure an axle using 2 bolts?

Vocabulary

Post some of the following words on a White Board, SmartBoard, sheet of chart paper or have the students make their vocabulary lists or posters of the key words. Encourage children’s use of these words as they design and build. Encourage children to label the physical components of their creations.

- Wheel
- Balance
- Joint
- Swing
- Goal
- Design

- Solve Problem
- Evaluate
- Teamwork

What to look for:

- Watch for children's collaborations in their thinking and construction. Offer encouraging words about working together to build something.
- Pay particular attention to how children go about their construction process. Do they seem to have a specific goal? Or, do they seem more focused on learning about the properties of the materials and different things they can do with them?
- Pay attention to the language. What do their words reveal about their knowledge of objects, physical processes, design, and/or social collaboration?
- When children indicate they accomplished something, give them a chance to demonstrate their construction and how it works, and share with other children.

What if the children "stall"?

- Sit with the group and ask them to discuss their ideas for what to build. Can they agree on something?
- Reinforce that any kind of construction is OK, it's whatever they want to do!
- Pick up a few pieces and put them together for children to see. Don't be afraid to model taking a risk, exploring, or changing an initial idea.

Wrapping up & reflecting:

- The answers to these follow up questions can be recorded on chart paper and then referred to when children are working on future explorations. If the challenges are done in small groups, provide an "answer box" that can be reviewed with the entire group at a later time.
 - What are you (were you) curious about?
 - Tell us about a problem you encountered and what was the group's solution?
 - What worked well and what didn't?
- Create drawings and descriptions or photographs and descriptions of work, including step by step as preferred
- Share and present work, include discuss about how and why construction decisions were made

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With the help our Captain of Play and Learning Ngina Johnson, we've put together a few project plans to get you started.