

Lesson Plan 7 Title: "Let's show our ideas"

Concept / Terminology / Topic to Teach: Design representations, drawing, sketch, floor plan, model.

Class Goal(s)/Objectives: Engineers are using different representations in order to communicate their ideas with clients/other engineers/constructors etc. Today you will introduce children to these types of representations

Required Materials: 2 gender neutral puppets, different types of representations of a building (use various images, but include pictures of models that the children have built in prior sessions too), popsicle sticks and glue, a set floor plans of a simple building (one per child)

Setting: Classroom, Large group time, small group time.

Step-By-Step Procedures: During large group time you will start with revisiting what happened in the last classes (always using the puppets that are talking about it). Sam is going to tell Andy that during the last classes the children came up with some great models in order to help her with the toys situation. Andy will then tell Sam that it would be nice if other engineers could see these models too, so that they can give their opinions about them too. When engineers share their thoughts they use different design representations, so Andy can mention the sketch, drawing, photos of models, and floor plans. Present the design representations in that order since they go from more simple and abstract to more complex ones and closer to reality. The floor plans should go last since they are the connection to the small groups' activity. Since the floor plan is a 2D representation, after showing the floor plan the teacher can ask the children if this looks like a house. After the discussion the teacher can show the children the floor plan with the Popsicle sticks glued on it to give the 3D dimension.

Plan For Independent Practice: During small group time Andy asks the children to try to create their own popsicle building (don't mention the future usage of the building at this point). Every child should get a floor plan, popsicle sticks and glue.

Closure (Reflect Anticipatory Set): End the class by asking the children to explain what exactly they have been building. Take photos.

Assessment Based On Objectives: Children should come up with some 3D construction that will be used by at least one of Sam's toys.

Possible Connections To Other Subjects: motor skills improvement, language (while discussing the representations and while explaining their construction), art (while constructing and in case they will decide to color or construct anything to use in their construction).

Floor plans children can use to stick their popsicle sticks on:

