Help your students develop their motor skills and learn about structures with this lesson that has them build structures out of pipes and connectors. This activity will also encourage team work and let students use their imagination.

**Learning Objectives**

Students will learn how to put pieces of pipes together to make a structure.

**Materials and Preparation**

- Plastic construction hats, optional
- A book about construction
- Plastic pipes, in varying lengths, with their edges smoothed
- T and L pipe connectors
- Small marbles or balls

**Key Terms**

**Introduction (5 minutes)**

- Put on a play construction hat and invite your students to circle time to construct a super structure.
- Read a book about construction that shows how things are put together to make a structure.
- Tell students that today they are going to be construction engineers and build a structure out of plastic pipes.

**Explicit Instruction/Teacher Modeling (10 minutes)**

- Bring out the box with the pieces of pipes and connectors.
- Show students how the connectors attach pipes together.
- Caution your students about watching how they connect the pipes so as to not get their fingers pinched.
- Construct a structure with a few pipe pieces and connectors. Start out with a simple structure and when they gain more confidence, more complex structures can be designed.

**Guided Practice/Interactive Modeling (10 minutes)**

- Hand each student a pipe and a connector.
- Go around the circle, having students add their pieces one at a time until all students have contributed.
- Give assistance to struggling students.

**Independent Working Time (10 minutes)**

- Divide students in to small teams.
- Have the teams build simple structures together. Allow them to think where to affix the pipe using the connector.
- Tell them it is okay if the structure falls down because it allows them to think of a better way to fix it.
- Provide suggestions if necessary. Ask the teams to use the pieces in a new way to see if the structure will hold up.
- Listen to their conversations to see how they are trying to solve problems.

Get more lesson plans at [https://www.education.com/lesson-plans/]
• Ask questions to get them to think about a better solution.

Differentiation

• **Enrichment:** Encourage students to build a vehicle, like a scooter. Ask students to see if a structure is more sturdy with a wide base or narrow base
• **Support:** Struggling students can make more simplistic structures. Alternatively, they can build small structures to work like a marble run, making the marble or small ball move from one end to another.

Related Books and/or Media

• **BOOK:** *Building a House* by Byron Barton
• **BOOK:** *When I Build with Blocks* by Niki Alling
• **BOOK:** *How a House is Built* by Gail Gibbons

Assessment (5 minutes)

• Observe and take notes as the students are working on their own.
• Make a note of issues that come up in their conversations, and how students solved them.
• Ask questions on what the teams are building and how are they are ensuring that their structure won’t fall apart.
• If you have to provide a lot of assistance, it means more practice is needed.

Review and Closing (5 minutes)

• Ask students to join you for group time.
• Ask them questions about how they worked to build new things. Encourage them to talk about their structures and how they made it work.
• If you noticed some areas the students struggled in, go over those concepts.