# ****Pizza Time – 15 minutes****

**“Hello, everyone! Thank you for joining us today. We invite you to enjoy some pizza at the tables in the back. In 15 minutes, we will start the Teaching Together workshop where you will have fun and learn with your family.”**

# ****Welcome – 1**** minute

“Welcome to Teaching Together STEM. My name is \_\_\_\_\_\_\_\_. Today's workshop is ‘Dream It, Build It.’ This workshop has been developed in partnership with the Children's Learning Institute and The Children's Museum of Houston. It is the fifth of a series of workshops that will guide you and your children to exploring science and math ideas in a safe and fun environment.”

# Housekeeping ****–**** 30 seconds

“Please be sure to sign in and pick up a handout. Parents, please monitor your child’s behavior and tend to your child’s needs so that everyone can have a positive experience.”

# Introduction – 2 minutes

“In the previous workshops, we have talked about what the word ‘STEM’ means. STEM stands for Science, Technology, Engineering, and Math. Also, we have learned about how we use STEM in our everyday activities. Can anyone share one idea or activity in which we can apply STEM learning or develop STEM skills?” (Example: While cooking for our family, we develop creativity and problem-solving skills; while shopping at the grocery store, we need math skills.) “In the previous workshop, called ‘Show What You Know,’ we learned the benefits of gathering information and interpreting the data collected as your children explore, to help them understand how and why things work or happen. Today we will take another step in the scientific method. In addition to observing and analyzing, we want to encourage your children to create: creating through imagination and creating by doing. For that, we will be looking at two new strategies: Take on a Challenge and Test and Repeat.”

# Agenda – 30 seconds

“Today we will watch a video, sing a song together, read a story, and then you'll have an opportunity to try out the activities. Also, you will receive free passes for six people to enjoy the Children's Museum of Houston.” Pass out the handouts.

# Play Video – 4 minutes

# Objective/Strategies – 6 minutes

“As we just heard in the video, the objective of ‘Dream It, Build It!’ is to help your child become a young engineer by tinkering with objects and coming up with creative solutions to problems at home and in their world. This workshop is based on two important strategies:

* “Strategy 1: **Take on a Challenge:** Thinking as an engineer teaches us that it's normal and good to look for many ways to solve problems. It's important for kids to see they can solve complex and challenging problems if they keep trying new ideas. Have any of your children tried to build a fort or a castle using chairs, boxes, pillows, and blankets? They are thinking like engineers and dealing with similar challenges that engineers face to build a house!
* “Strategy 2: **Test and Repeat:** It's important for children to see that things do not always go as expected in the first attempt and don't turn out the same way every time we try them. We can learn more by repeating the same test over and over again to see what happens. This helps your child to stay engaged and curious until the end. For example, when children are playing with cars, you can challenge them to build ramps to make the cars move farther. Your children develop trial and error and critical thinking when they try several times until building the perfect ramp.”

# Handout – 30 seconds

“In this handout, you can find more ideas for developing STEM skills in different environments, like in the Children’s Museum, the library, in the park, and at home. You can scan the QR (Quick Response) code to get online activities through the CIRCLE Activity Collection: Family.”

# Song and Read Aloud – 8 minutes

“A great way to stimulate your child's curiosity and imagination to create and build something is through reading.” Read the book *Three Little Pigs and the Somewhat Bad Wolf* by Mark Teague. When you finish reading, ask, “Are you ready to sing a song?” Sing “If You’re Happy and You Know It”

# Activity: Material Mix-Up – 1 minute

Talk about materials and how to use them properly. “Your child will face the challenge to build an object with a specific material and will find if it is the best material for the job. For this game, you need to spin both spinners. Take only the material indicated by the material spinner and make the item that the object spinner landed on.”

# Activities Intro – 1 minute

“Other ways to encourage your child to act like a scientist is through activities like the ones we bring you today. Each activity is based on a challenge to build something, and if the first try doesn't result as planned, you can try to improve your design or try out new ideas. Also, the activities are connected with books, where you can find stories about developing STEM skills and have fun with them.”

* Activity: “Lego Dog House - Build a house for a toy dog, with the right size for this pet. If the house is too small or too big for the toy, you can try a new construction. With this activity, your children explore through tests and repeat and develop problem-solving skills and creativity as they play.”
* Activity: “Bridge Builders - Use different materials to build a bridge and use small toys to test how your bridge holds up. With this activity, your child faces the same challenges that an engineer confronts during a building process. When children engage in constructive play using blocks develop engineering skills, better language, math, and problem-solving skills.”
* Activity: “Invent-a-Tool - Invent a tool for painting in place of a paintbrush. Gather household items like rollers, sponges, straws, or anything else that you might want to use to make your tool. Artists are inventors and they develop STEM skills such as creativity, solving problems, and engineering-design thinking.”
* Activity: “Hoop Gliders - This is a way children can make an object that glides using household materials like paper strips and straws. With this activity, children develop creativity and engineering skills by tinkering with objects and finding out the paper hoops on the Hoop Glider act like wings and can fly like a paper airplane.”

# Stations – 30 minutes

Invite parents to rotate to the stations. “I'll be around to guide you if you have any questions. Remember, you can take the crafts you make, but please leave the supplies at the table.”

# Closing & Survey – 5 minutes

“Thank you for joining us! We hope that you have learned useful strategies that will encourage more STEM in your everyday activities. Your feedback is important! Please help us by filling out a survey. We would love to get your input on today's workshop!”