

Three Little Pigs STEM Challenge: Build the Strongest House!

Led by Charlee for 1st Grade Students (Approx. 25-30 minutes)

Introduction (5 minutes)

Hi everyone! Do you remember the story of the Three Little Pigs? *(Allow short responses)* What kinds of houses did they build?

That's right! One used straw, one used sticks, and one used bricks. Today, YOU get to be the builders! We're going to have a challenge to see who can build a house that the Big Bad Wolf can't blow down. We'll use materials similar to the pigs: some 'straw' (straws/toothpicks), some 'sticks' (craft sticks), and some 'bricks' (LEGOs/sugar cubes).

Which material do you THINK will make the strongest house? Why? *(Briefly gather predictions)*

Design & Build Time! (15 minutes)

Okay builders, let's get started! We're going to work in small groups (or individually). Each group will get one type of material: straw, sticks, or bricks. You'll also get a base (plate/cardboard) and some glue/tape.

Your mission: Build the best, strongest little house you can with your materials in 15 minutes! Think about how you can make it sturdy. *(Charlee demonstrates simple joining techniques if needed and distributes materials)*

(Charlee sets the timer and circulates, offering encouragement and asking questions like 'How are you making the walls strong?' or 'What shape seems sturdy?')

Five more minutes, builders! Make sure your house is ready for the Big Bad Wolf!

Testing Time - Huff and Puff! (5-7 minutes)

Time's up! Put your tools down. Wow, look at all these amazing houses!

Now, it's time to see how strong they are. Here comes the Big Bad Wolf! *(Charlee brings out the hairdryer/fan)* We will test each house fairly. I'll turn on the 'wolf's huff' (low, cool setting) for just 5 seconds, from the same spot for each house.

(Charlee carefully tests each house one by one. Encourage students to observe closely. Use safety glasses if using a hairdryer.)

What happened to the straw house? The stick house? The brick house?

Wrap-up & Discussion (3-5 minutes)

Great job, everyone! Which houses stood up the best to the Big Bad Wolf's huff and puff? *(Guide discussion towards the 'brick' houses).*

Why do you think the brick houses were the strongest? *(Encourage simple answers like 'they are heavier,' 'they stick together better,' 'they are solid').* Just like in the story, stronger materials can stand up better to forces like wind!

You all did an awesome job being engineers today, thinking about materials and how to build strong structures. Give yourselves a big clap!