

Balancing Act

A NEAT TRICK WITH A CARPENTER'S TOOL

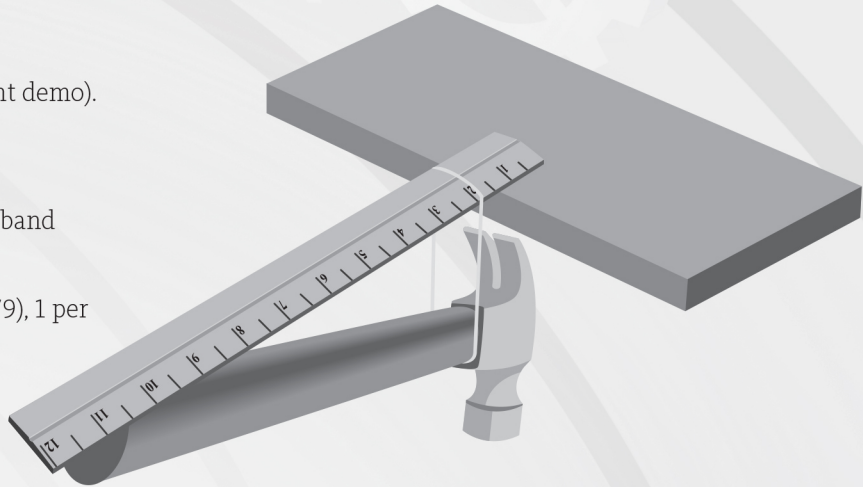
Materials

Prepare 1 per table (or only 1 for an upfront demo).

- Hammer
- 12-inch ruler
- 9-inch piece of string or large rubber band
- Tape
- God Thought of It First cards (11-6-079), 1 per child

Pre-Prep

Cut the string into 9-inch pieces.



Class Time Directions

When Jesus came to earth as a baby 2,000 years ago, he was born to his mother Mary. Her husband Joseph worked as a carpenter. He built things and fixed things.

In the books of Matthew and Mark, found in the New Testament, we find a description of Jesus and his father. Read Matthew 13:55 and Mark 6:3. **What did people think that Jesus did while he was here on earth?** They called him a carpenter. He was called the son of a carpenter.

In the book written by a man named Isaiah about 700 years before Jesus came to earth, we find a description of what a carpenter might do. Read Isaiah 44:13. **And Jeremiah, a prophet of God, mentions more tools people used thousands of years ago.** Read Jeremiah 10:4.

Carpenters worked with stone, iron, copper, and wood. According to some tradition (this isn't found in the Bible so we don't know for sure that it's true), Jesus may have worked with his father making plows and yokes. Carpenters during that time also may have made keys and locks out of wood, and items for houses such as doors, window frames, tables, chairs, utensils, bowls, cups, beds, and storage chests. It's likely that Jesus started learning carpentry when he was 15 years old, which is the age boys in Israel at that time began their training.

Archaeologists are people who dig up and study civilizations that existed many years ago. They have found many bronze and iron nails and also hammers made from stone.

Today, we are going to use some of the tools that Jesus may have used while he worked in the carpentry shop to do a seemingly impossible experiment! We have a hammer, a ruler, and a piece of string. And we are going to try to balance these on the edge of a table.

Pass out the supplies to each group. Be sure to have a responsible adult with each group to monitor the use of the hammer and ensure everyone's safety!

First, demonstrate how to find the center of mass of the ruler (in the middle) by balancing it horizontally on the tip of your finger. Have them try it with their ruler. Then, try to balance the ruler over the edge of the table. How far can they push it off the edge before it falls off the table?

When God created the world, he created it to operate within certain laws in an orderly way. We can study and describe those laws through observational science. One of those laws is the law of gravity. Gravity is what holds us to the earth and keeps us from flying off into space. When you balance the ruler on your finger, you're finding the point where gravity is operating equally on both sides. Do you think the center of gravity will be the same for the hammer?

With an adult, find the center of mass (center of gravity) on the hammer by trying to balance it horizontally. This will be closer to the head of the hammer, not in the middle of the handle.

Now, we are going to combine the ruler and the hammer to see if we can shift the ruler's center of

gravity so that it will balance on the edge of the table at near the 0-inch mark!

Tie the string in a loop and then slide the hammer through the loop. Tape one end of the loop to the middle of the hammer. Or, loop the rubber band around the hammer handle and hold it in place with tape. Slide the ruler through the string or rubber band to about the 2-inch mark on the ruler and let the hammer hang under the ruler. The handle of the hammer should point up toward the 12-inch end of ruler, and the hammer head should be down toward the ground.

Place the 0-inch end of the ruler on the edge of the table and allow the hammer to hang under the table.

Make adjustments to the position of the hammer in the string until the system balances. How close to the edge of the table can you slide the end of the ruler?

God's laws are amazing, just like God is! And because Jesus is the same yesterday, today, and forever, we can know that the laws he created in the beginning will operate the same throughout time! We don't need to worry that tomorrow when we wake up, we'll float off into space because gravity quit working. Jesus is constant and faithful and the laws he created are constant and faithful, too.

Pass out the God Thought of It First kingfishers cards, 1 per child.