

# 70 - Skyscrapers

Did you know skyscrapers sway up to 6 inches in each direction? But how are skyscrapers built so high? Why do they sway? And does time actually go FASTER at the top?

The world's first tall building was nothing like the buildings of today. Scientists say it was built about 11-thousand years ago in Jericho, in a region of the world called the Middle East. Compared to today's skyscrapers, the Tower of Jericho wasn't big: only 28 feet high, about the size of a three floor building. That tower is now in ruins, but another ancient structure that was once the world's tallest for nearly 4000 years is still standing in another Middle Eastern Country. From ancient times to the 1200's, Egypt's 481-foot tall Great Pyramid of Giza stood as the world's tallest structure.

It wasn't until the late 1800's that skyscrapers as we know them today started popping up. For the buildings you see today to be built, there needed to be two breakthroughs in architecture -- which is the practice of designing and building buildings... The first was the development of steel in the 1860's. Steel was lighter and stronger than the iron and heavy stone previously used to make buildings. With the creation of steel frameworks, architects could design buildings taller than before. But, getting people quickly up and down a tall building required a second invention, the elevator! The invention of elevators made living in tall buildings practical. At the same time all this inventing was happening, cities were growing -- but the amount of land to build on was limited. So, instead of building outward -- architects began building *upward*.

## Things You Will Learn

1. How tall was the first skyscraper? And what is the current tallest skyscraper?
2. What inventions allowed architects to design super tall buildings?
3. Why are skyscrapers designed to sway back and forth?

## Activities

1. How tall can you build a tower with cups? Ask an adult for 50 plastic cups and see how far you can stack! Does a wide base and narrow top work best or is it the same width all the way up? Did you use all of your cups? Ask for another 50 and see how far you can go this time!
2. Any young architects out there? Try building a skyscraper with blocks or legos! Blocks can help develop a sense of spatial relations and shapes.

3. Ready to build your own elevator? Grab an adult and follow [these](#) directions. You might need to visit a hardware store or order supplies online. Modern day elevators work on a pulley system but this awesome STEM activity will teach you about hydraulics. After you complete the project, experiment with adding weight to the platform. How much can it move?

## Additional Resources

Check out the Museum of Science and Technology in Chicago! They have a great [activity](#) for building. One of the best ways for kids to learn is to make mistakes. Let them try to build an upside down building or make something round. They will learn as they problem solve!

## Kid News

Scientists in England found part of a meteor in a driveway! According to News for Kids, "Millions of meteors hit Earth's atmosphere every day, but most are quite tiny – about the size of a grain of sand. These burn up into dust. However, some parts of larger meteors actually hit the Earth without burning up. These pieces are called meteorites." While scientists around the world track meteorites, it is rare to find them in people's driveways. Read more about this unique event [here](#).<sup>1</sup>

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<sup>1</sup> This activity guide is for the Who Smarted? podcast [www.WhoSmarted.com](http://www.WhoSmarted.com)