



# SPAGHETTI BRIDGE



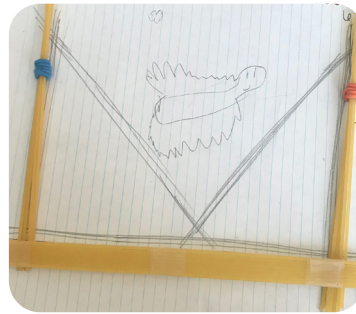
We'll need engineers to help build the world of tomorrow. From bridges to buildings and from homes to entire cities, engineers understand what it takes to build something that lasts. Can you do the same?

## WHAT YOU'LL NEED:

- Pencil
- Paper
- Uncooked Spaghetti Noodles
- Rubber Bands or Hair Ties
- Scissors
- Clear Tape
- Small Weights (like coins or disc magnets)

## WHAT YOU'LL DO:

1. When building anything, the first step should always be to **come up with a plan**. With the help of a parent or other grownup, find images online of different types of bridges.
2. Using your pencil and paper, **draw what you want your bridge to look like**. Make sure your drawing is the same size as the bridge you want to build considering the length of the spaghetti noodles that you will be using. (Tip: You can use a ruler to measure and keep your lines straight.)
3. **Grab a bundle of spaghetti noodles, and wrap a rubber band or hair tie around the noodles** to hold them together. Make a bundle for each piece of your bridge. (Tip: The more noodles you use in a bundle, the more weight your bridge will support; but keep in mind you'll need to cut them in the next step.)



4. Using your drawing as a guide, **measure and cut each bundle of spaghetti noodles** to the size you want. Be sure to ask a grownup to help you cut the bundles of spaghetti.
5. Once your bundles have been cut to the right size, **lay them down on top of your drawing**. This will help you put the bundles in the right spot when building your bridge.
6. Wherever two bundles come together to form a joint, **use tape to hold them in place**. Once taped, these joints should be hard to bend or move. Make sure that you use enough tape to support your bridge.
7. Once all bundles have been taped together, **it's time to put your bridge to the test**. Lay it across two flat surfaces of equal height. These can be two stacks of books or two chairs.
8. Little by little, place small weights on your bridge to see how much weight it can hold before breaking. (Tip: If you don't have coins or disc magnets, you can use refrigerator magnets or plastic baggies filled with dried rice.)

### Write down your results:

- How much weight did your bridge support?
- What can you do next time to make it even stronger?

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