

Tower of Pasta

For this activity, students work in pairs of two. You may need an assistant to help keep track of timing, measuring, scoring and how well the team members are working together.

Instructor:

Give each team 40 pieces of spaghetti
15 pieces of elbow macaroni
25 miniature marshmallows
10 toothpicks
4 straws
5 inches of cellophane tape or masking tape
5 pounds of 16-penny nails to use as weights
a pint-sized plastic container.



Have a table or desk available for the teams to build their structures.

Give each team 5 pounds of 16-penny nails to use as weights, and a pint-sized plastic container.

Read "The Problem" and "Scoring the Solutions" to the students. (See below)

Give the students 30 minutes to develop their solutions. They must stop working on their structures at the end of the 30 minutes.

The team will place the container on its structure before having it measured.

Once the structure is measured, the team may start the 2-minute testing period.

The Problem:

You have 30 minutes to make a structure. The structure will be scored on height and strength.

You may talk to your team members at any time.

You may use only the materials given to you.

The structure must rest on the surface of the table. It may not lean against a wall or be supported by anything else.

Once your structure is finished, you will place the container on top of it. It will then be measured from the surface of the table to the top of the container. It must measure at least 8 inches high to receive a score.

Once your structure is measured, you will begin placing weights in the container one at a time.

A weight must be held for 3 seconds to count for score.

You will be finished when your structure breaks.

Scoring the Solutions:

You will receive 10 points if the structure supports the container.

You will receive 3 points for each inch of the height of the structure, including the container.

Each weight supported by the structure for 3 seconds is worth 1 point.

You will receive 1 to 10 points for how well your team works together.