

RAPUNZEL

“Rapunzel, Rapunzel, let down your hair, so I may climb the golden stair!”

A wicked witch trapped Rapunzel in a tall tower without a door or stairs. The only opening was a high window. The witch used Rapunzel’s long hair to pull herself through the window to visit her captive. Rapunzel had been there for years and was a little bored. One day she decided that it was too much work to care for that long hair. She also wanted a more modern hair style! Rapunzel cut off her hair and threw it out the window onto the compost pile. Oops! Now the witch (and also Rapunzel’s new boyfriend, The Prince) had no way to visit her in the tower. Rapunzel had been bored before, now she was really lonely! Can your team help her build a device to pull a visitor up into the tower?

Set-Up: The top of a table will be the “tower” and the floor below will be the “ground.”

Challenge: Invent a device that can be lowered from the tower window to the ground and then used to lift a visitor up into the tower.

Time: Part One: You will have 4 minutes to develop a device that extends from the table to the floor and can haul a stuffed animal back up to the top of the table. You may test your device during this part.

Part Two: You will have 1 minute to lower your device and use it to raise a stuffed animal to the table top. Team members’ hands may not extend below the top of the table during this part, except to place the toy on the device.

Materials: three sheets of plain paper
three mailing labels
three straws
one foot of string
one small stuffed animal (“The Prince,” of course)

Scoring: up to 20 points for the innovation of the device
20 points if the device can reach the floor from the top of the table
40 points if the device can lift the stuffed animal to the top of the table
up to 20 points for positive team work