

BUILD IT YOURSELF

Clown Around With Center of Gravity

Supplies: clown pattern (online at nomadpress.net/templates), scissors, pencil with eraser, file folder, colored markers, tape, 2 pennies, 2 chairs with upright backs, string

Use trial and error to create a balancing clown. Will it balance on a tightrope?

1 Go to nomadpress.net/templates and print the clown pattern template. Cut out the template and trace it onto the file folder. After you decorate your clown with markers, cut it out.

2 Try balancing the clown on your fingertip. Maneuver the clown on your fingertip until you locate its center of gravity. You'll find it's probably near the tip of the clown's chin. Will it balance on the pencil eraser? A pencil tip?

3 Figure out where to tape the pennies so the clown balances with **counterweights**. They should be in the exact same place on opposite sides. Do you think it will be better to tape pennies on the hands or feet? Explain your thinking. Then test it. And be sure to use the same amount of tape with each penny because the tape's weight impacts balance.

4 If you can't get the clown to balance, use trial and error. Adjust the pennies and re-tape them until you find the "sweet spot."

5 Turn the chairs back-to-back. Cut off a length of string and tie it between the chair backs to make a tightrope. Adjust the chairs to keep the string taut. Predict whether the clown will balance on the string and test your prediction.



WORDS to KNOW

counterweights: equal weights that cause an object to be balanced.