# **ENGINEERING CHALLENGE**

#### **DIRECTIONS**

The Joker has wreaked havoc on Gotham City's bridge. Now it's up to Batman and Robin and some super friends to save the day! They've teamed up to rebuild the bridge...except they have no idea how to build a bridge! But that won't stop them. Batman and Robin plan to work together, sharing their ideas and learning from their mistakes until they get it right.

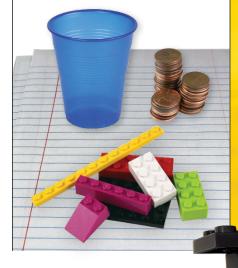


### DIRECTIONS

- Using LEGO® bricks, wood, or other materials, build two support towers for your bridge. Each support tower should measure 2" x 4" x 6".
- 2 Place the two support towers about 5" apart.
- Begin Engineering Trial 1 by arranging the piece of paper so that it rests on the towers. You may manipulate the paper any way you see fit, but you may not add any materials, such as tape, glue, clips, etc.
- 4 Place the cup on the paper and add pennies until the bridge collapses.
- Record the number of pennies the bridge held before it collapsed and complete the **Engineering Trial 1** section of the Engineering Challenge Recording Sheet.
- Refine your design for Engineering Trial 2 and retest to see how many pennies the new design can hold. Complete the **Engineering Trial 2** section of the Engineering Challenge Recording Sheet.

### MATERIAL PER GROUP

- LEGO® bricks, wood, or other available materials
- One sheet of 8.5" x 11" paper
- 50-100 pennies
- · Small paper or plastic cup



## TEAMWORK TIPS

LISTEN • EXPLAIN • ASK • SUPPORT

# ENGINEERING CHALLENGE

#### **RECORDING SHEET**

As you build your bridge, use this sheet to record the results of your engineering trials. Remember to listen and share ideas with your teammates to help build a stronger bridge. Sometimes it takes a few tries to solve a problem—don't give up!



ENGINEERING TRIAL 1	ENGINEERING TRIAL 2
Number of Pennies Held:	Number of Pennies Held:
Describe how you designed your first bridge:	Describe how you improved your bridge: