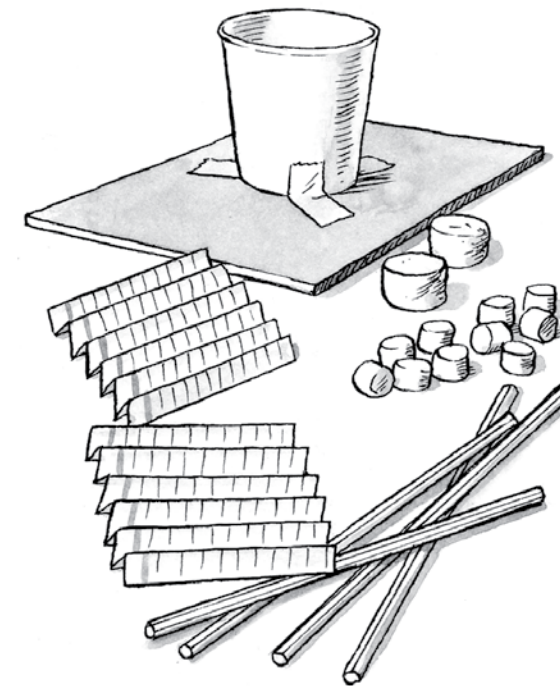


TOUCHDOWN

WHAT YOU'LL NEED (per lander)

- 1 piece of stiff paper or cardboard (approximately 4x5 in/10x13 cm)
- 1 small paper or plastic cup
- 3 index cards (3x5 in/8x13 cm)
- 2 regular marshmallows
- 10 miniature marshmallows
- 3 rubber bands
- 8 plastic straws
- scissors
- tape



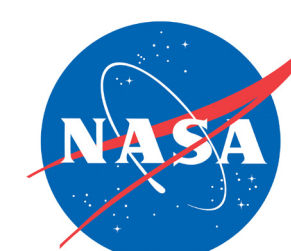
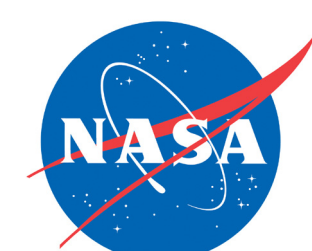
PROCEDURES

1. **First, design a shock-absorbing system.** Think springs and cushions.
2. **Then, put your spacecraft together.** Attach the shock absorbers to the cardboard platform.
3. **Finally, add a cabin for the astronauts.** Tape the cup to the platform. Put two astronauts (the large marshmallows) in it. (NOTE: The cup has to stay open—no lids!)

TEST, EVALUATE, AND REDESIGN

Ready to test? Drop your lander from a height of one foot (30 cm). If the “astronauts” bounce out, figure out ways to improve your design. Study any problems and redesign. For example, if your spacecraft:

- tips over as it falls through the air—Make sure it’s level when you release it. Also check that the cup is centered on the cardboard. Finally, check that the weight is evenly distributed.
- bounces the astronauts out of the cup—Add soft pads or change the number or position of the shock absorbers. Also, make the springs less springy so they don’t bounce the astronauts out.



Edible Model of the Sun

WHAT YOU'LL NEED

- Round plain sugar cookie
- White frosting
- Yellow and red sprinkles
- Small marshmallows
- Chocolate chips or mini M&Ms
- Pull-n-peel licorice candy such as Twizzlers
- Plastic knives
- Paper plates
- Napkins

DIRECTIONS

1. Give each student a plain cookie and ask them to spread white frosting on top
2. Shake some yellow and red sprinkles on the frosting. (These form the granular appearance of the photosphere)
3. Place a few chocolate chips or M&Ms on the cookie to serve as sunspots. You might want to mention that sunspots appear in pairs and suggest that they put two close to each other.
4. Squish two marshmallows and place them on the cookie, these represent the sun flares
5. Place a few pieces of licorice on the cookie, forming small arches. These are prominences and are generally found near sunspots.

