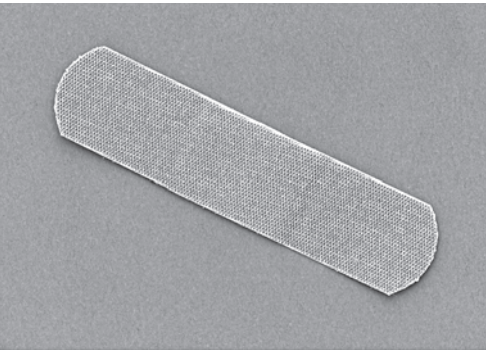
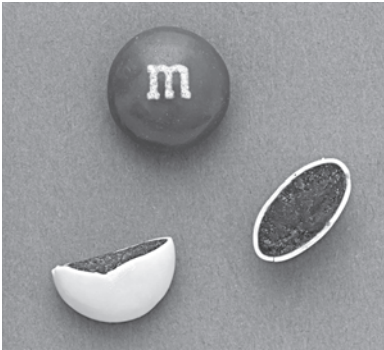


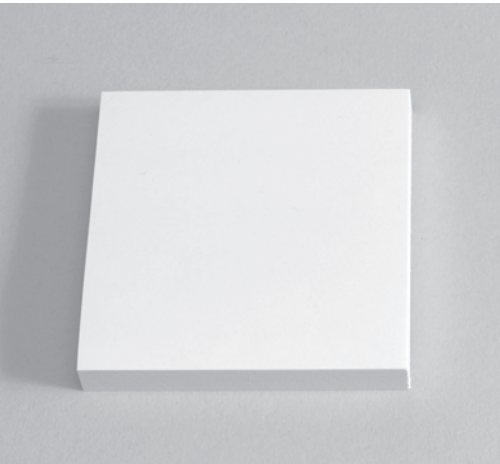
LESSON ONE: Everyday Marvels



**IMAGE FOUR:** Earle Dickson. American, 1891–1936. Johnson & Johnson Consumer Companies, Inc. USA, est. 1886. Band-Aid. 1921. Adhesive bandage and cotton, unwrapped: 1 x 3" (2.5 x 7.6 cm), wrapped: 3 3/4 x 1 1/2" (9.5 x 3.8 cm). Gift of the manufacturer



**IMAGE FIVE:** Forrest Mars. American, 1904–99. Mars, Inc. USA, est. 1941. M&Ms. Late 1930s. Milk chocolate coated with a candy shell, 3/8 x diam. 1/2" (1 x 1.3 cm). Gift of the manufacturer



**IMAGE SIX:** Art Fry. American, born 1931. Spencer Silver. American, born 1941. 3M. USA, est. 1902. Post-it® Note. c. 1977. Paper and adhesive, 2 7/8 x 2 7/8" (7.3 x 7.3 cm). Purchase

## LESSON OBJECTIVES

- Students will consider the role of design in daily life and think about the objects they use every day.
- Students will consider how shape, form, and materials impact design.
- Students will practice problem solving and critical thinking.
- Students will consider the meaning of innovation.

## INTRODUCTION

Most of the objects that we use in our daily lives have been designed by someone. Many, we take for granted. This lesson will examine some small but revolutionary objects that have changed the way we interact with the world around us, including the Band-Aid, M&M candies, and Post-It Notes. Bring in examples of these objects to share with your class. You may also print or project Images Four, Five, and Six to use with this lesson.

## INTRODUCTORY DISCUSSION

- Show your students the Band-Aid (Image Four), by Earle Dickson and Johnson & Johnson Consumer Companies, Inc. Ask them to raise their hands if they have ever used one. What problem did it solve? Ask them to describe what materials these bandages are made of. What shapes do they come in? Why? How do they work? What challenges do these small bandages have to deal with?

The Band-Aid was developed in 1921 by Earle Dickson, who worked as a cotton buyer at the company Johnson & Johnson. His wife often burned herself or cut her fingers when she was cooking. At that time, people made bandages from gauze and adhesive. Dickson noticed that these did not stick to his wife's fingers for long, so he decided to create better bandages. He took an adhesive strip, placed squares of cotton on it, and covered the whole thing with crinoline, a stiff fabric, to make it sterile. He shared his design idea with his boss, James Johnson, who decided to manufacture his invention. Over 100 million Band-Aids have been manufactured since then.<sup>2</sup> Band-Aids often work well, despite sweat and water. They don't stick to the wound and are removable, inexpensive, and flexible.

- Next, show your students the M&Ms (Image Five), by Forrest Mars and Mars, Inc. Ask your students what memories or associations they have with M&Ms. What kind of advertising do they associate with M&Ms? Can they recall the advertising slogan?

"It melts in your mouth, not in your hands" was trademarked in 1954. However, legend has it that during the Spanish Civil War (1936–39), Forrest Mars, Sr. (the first M in M&Ms) visited Spain, where he saw soldiers eating small chocolates with a hard, sugary coating that prevented the candies from melting. Back in his kitchen, he invented the recipe for M&Ms. At first they were sold in cardboard tubes and marketed to the military as a snack that could travel well in different climates. Many soldiers in World War II ate these candies. By the late 1940s, they were widely available to the public. In 1981 the first space-shuttle astronauts brought M&Ms with them on their flight.<sup>3</sup>

- Ask your students what their favorite foods are. How would they package them if they were to transport them to a desert? The Arctic? Space? Underwater? How would the design of the package protect the food?

2. Paola Antonelli, *Humble Masterpieces: Everyday Marvels of Design* (New York: Harper Collins Publishers, 2005), 175.

3. Ibid., 87.

- Next, show your students the Post-it Note (Image Six), by Art Fry, Spencer Silver, and 3M. Ask them to work in groups of four and debate whether or not this object belongs in a design museum. Half the group should be pro and half con. Have each group summarize its main idea, and then have a larger group discussion. When have your students used Post-it Notes? For what purposes? What do they notice about their form? Function?

### IMAGE-BASED DISCUSSION

While Spencer Silver, a research scientist at the company 3M, was conducting experiments with adhesives in 1968, he created one that was removable. It was composed of tiny spheres that retained their shapes and which, although sticky individually, did not cause the paper to stick permanently. This discovery was not utilized until many years later, when Art Fry, a product development researcher at 3M, used it to solve a problem. When Fry sang in his church choir, he kept losing his place in his hymnal. To combat this problem, he combined Silver's adhesive with paper and made a reusable bookmark. 3M manufactured this innovation, and it was made available to the public in 1980. The original Post-it Note was square and was colored yellow to catch attention. Now Post-it Notes come in eight standard sizes and sixty-two colors.

In the introduction to the exhibition catalogue *Humble Masterpieces: Everyday Marvels of Design*, MoMA curator Paola Antonelli states, "Hypertext on a refrigerator's door, the Post-it shook the world."<sup>4</sup> The Post-it Note is an object that has had a significant impact on our world. It is useful, simple, affordable, and has changed the way people organize their lives.

### ACTIVITIES

#### You Are the Expert! Classroom Exhibition

Ask your students to go home and take a look at the small objects that are part of their everyday lives. Have them select one that they think is remarkable and research it. Where did it come from? Why was it invented? What materials is it made of? What problem does it solve? Ask them to pretend to be a museum curator who is including the object in an exhibition and write a wall label describing the object. Then have them bring in their objects and wall labels and have an exhibition in your classroom.

#### Marketing Madness

Ask your students to work in small groups to invent their own candy. What is it made of? What is special about it? What shape is it? They should draw a picture of their invention and come up with a marketing plan and an advertising poster. What is it called? What do they want to draw attention to? Who is their audience?

#### "Humble Masterpieces" in MoMA's collection

MoMA has many other "humble masterpieces" in its collection. Assign students one object from the following list to research. When was it invented? By whom? What problem does it solve? How does it solve it? Have each student come up with a creative way to teach the rest of the class about his or her object, such as a game, a PowerPoint presentation, or a skit.

Assign your students one of the following: Swiss Army Knife, spaghetti, chopsticks, baseball, bubble wrap, Swatch wristwatch, pencil, ice-cream cone, spark plug, sugar cube, flat-bottomed brown-paper grocery bag, Slinky, dominoes, bar code, tweezers, bottle cap, Bic Cristal pen, Q-tips, fortune cookie, condom, zipper, Frisbee, Dixie paper cups, incandescent light-bulb, safety pin, Duracell AA battery, numbered dice, ping-pong paddle, guitar pick, Rubik's Cube puzzle, boomerang, soft contact lenses, friction match, flip-flop, Lego building bricks, paper clip, Phillips head screw, white cotton t-shirt.

4. Ibid., 2.