Grades Middle School and Up
Journey to Invention

Magic Face

We’ll review the forces of magnetism by creating a version of "Wooly Willy," a longtime popular children’s toy that uses iron filings and a magnetic wand to change features of faces we draw.

What Will You Learn?

- How do magnets work?
- What kinds of materials are magnetic?

Materials:

- Cardboard
- Clear plastic Bags
- Ceramic magnets
- Craft sticks
- Glue dots
- Iron filings

Instructions:

1. Draw and color a face onto the cardboard. It’s important that the face is larger than half of the cardboard.
2. Place cardboard drawing into the bottom left corner of the ziploc bag.
3. Fold and tape the right side of the ziploc bag in the back, ensuring that the bag is stretched over the cardboard.
4. Place one scoop of the iron filings onto the front of the cardboard drawing.
5. Seal the bag tightly to make sure the iron filings can’t spill out.
6. Tape the top part of the ziploc bag down at the back and set it aside.
7. Use one glue dot and stick it onto the end of the craft stick.
8. Firmly place magnet onto the glue dot.
9. Now you can use the magnet like a wand to move the iron filings around your drawing inside the ziploc bag. What kind of silly faces can you make?

Reflection Questions:

- Where do you see or use magnets in your everyday life? To learn more about magnets, use your library card to access the ScienceFlix database.
- How else might you use magnets to create artwork?
- Wooly Willy has been a popular magnetic toy since the 1950s. What would YOU invent with magnets?

Explanation:

- Magnets create a magnetic field. Even though a magnetic field is invisible, the force of the push or pull between magnets (or the pull between a magnet and a magnetic object) is absolutely present. It can be physically felt.
- Magnets are capable of pulling ferrous objects (items that contain some level of iron) and other items containing cobalt, nickel or steel.
- Magnets will attract and repel other magnets. Magnets will attract magnetic objects. Magnetic objects are only attracted to magnets but do not have magnetic power on their own, unless they have been temporarily magnetized by a magnet.
Further Reading Recommendations:

- Magnets
- Magnetic Slime
- Exploring the Elements

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