CLOVERBUD READING ADVENTURES

# Ada Twist, Scientist

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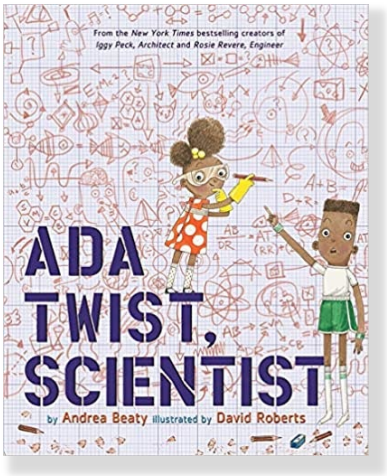


In *Ada Twist, Scientist*, we meet a precocious second grader who looks at the world through a sense of discovery. Her need to explore and understand everything around her began with her first word at the age of three – "WHY?" From that time forward we are drawn into the amazing journey of this young scientist as she pokes, smells, sees, tests, tries, puzzles, and quests to learn "how it ALL works."

## ACTIVITIES AND CRAFTS

### Why do they dance?

**Materials:** clear carbonated water or soda, a clear plastic cup, and raisins

**What to do:** Pour clear carbonated liquid into the cup. Have the children add a few raisins. Wait for it - the raisins will begin to rise and fall as if doing a dance. Try other foods such as pasta, corn, or candy. How do they perform?

**Why:** Carbon dioxide bubbles are released from the carbonated beverage. They attach to the rough surface of the raisins and cause the raisins to float to the surface of the liquid. Once the bubbles pop and the gas is released, they return to the bottom of the cup. This up and down movement will continue until the soda is "flat".

### Why does it fizz?

**Materials:** card stock or watercolor paper, baking soda, vinegar, dropper or spoon, food coloring, small cups or containers, fork, scissors, pencil, baking sheet, teaspoon, paintbrushes or cotton swabs, and plastic/paper plate

**What to do:** Make a Fizzy Paint planet. To make the paint, add 2 teaspoons of baking soda, 2 drops of food coloring, and ½ teaspoon of water to a cup. Repeat for additional colors. Stir with a fork until paint is the consistency of paste. Have the children use a saucer to trace a circle on the paper (the planet), then cut out the circle. Place the paper on a baking sheet; then paint. Once finished, gently brush off any large clumps of baking soda. Pour a little vinegar in a cup. Have the children use a dropper or spoon to drizzle vinegar on the planet. Watch the paint begin to bubble. When the bubbles are done, place the planet in a paper plate to dry. The next day the planet can be glued to a piece of construction paper. Remind the children to name their planets.

**Why:** Why does it fizz? The baking soda and vinegar create a chemical reaction. Part of what they produce is carbon dioxide. The carbon dioxide makes the bubbles or fizz.


# GAME

## What is that smell?

**Supplies:** blindfold, small cups or containers, cotton balls, pen, paper, tape, and "identifiable scents" such as coffee grounds, cinnamon, peppermint oil, black pepper, lemon oil, perfume, etc.

**How to play:** Prepare scent containers. Label the bottom of containers with the name of the scents. Add liquid scents to cotton balls. Pour solid items (coffee, black pepper) in bottom of containers. Make sure children cannot see into containers. Blindfold the first child. Ask him/her to take a small sniff of the contents in a container and identify the odor. Have the children take turns with the other containers. Change the game to a matching activity by adding a second set of containers with the same scents. Have children match the odors.

**Why:** Why is your nose able to identify the smells? Odors travel through the air into the nose through the nostrils. They continue through the nasal cavity and other parts until they make it to the olfactory nerve. This nerve helps relay information concerning smells to the brain. The brain has learned and memorized many scents and identifies the odor.

## How does it stick?

**Supplies:** magnets, soda can, paper cup, ruler, key, index card, pencil, paper clip, aluminum foil, screw, rubber band, straw

**How to play:** Ask children, "What is a magnet?" Accept all possible answers. Explain that a magnet is an object that attracts certain things. To attract is to pull toward. We are going to find out if the magnets are attracted to the items before you. Explain that a prediction is a guess. Have the children predict which objects the magnets will attract. Distribute the magnets. Have the children test the objects. Were they surprised by their results?

**Why?** From this activity we discovered that not all materials are attracted or stick to magnets, and not all metals are magnetic. Objects that contain iron, nickel, and cobalt are magnetic metals. Magnets are strongly attracted to items that contain these materials.

WARNING: "Small magnets pose a choking hazard and should never be swallowed or inserted into any part of the body. Strong magnets can damage magnetic media such as credit cards, magnetic ID cards, cassette tapes, video tapes or other such devices. They can also damage older televisions, VCRs, computer monitors and CRT displays." Source: **https://www.cpsc.gov/Safety-Education/Safety-Education-Centers/Magnets/**

# SNACKS

## When will it pop?

**Ingredients:** popcorn kernels, hot air popcorn popper, bowl, scoop or large spoon, cups, melted butter (optional), and salt (optional)

**What to do:** Follow manufacturer's directions to pop corn. Have children observe the kernels as they begin to pop. Be careful of the heat and any flying kernels. If desired, add a small amount of melted butter and salt to bowl. Mix thoroughly, then distribute popcorn to cups.

For variations, instead of salt:

- Ranch Popcorn – Sprinkle parmesan cheese and add two tablespoons of ranch dressing seasoning to the bowl. Mix thoroughly.
- Mexicali Popcorn – Sprinkle cheddar or Colby cheese and add a tablespoon of taco seasoning mix to the bowl. Mix thoroughly.
- Sweet and Salty – Add a cup of mini pretzels and mini candy-coated chocolates to the bowl. Mix thoroughly.

**Why?** Not all types of corn will pop. The moisture inside popcorn, when heated to a certain temperature, will turn to steam. The pressure from the steam will continue to build until it causes the hard-outer covering to explode. The soft starch inside bursts out and quickly cools to take the solid form of fluffy "popped" corn.

## Why did it freeze?

**Ingredients:** Quart-size zip-closure bags, gallon-size zip-closure bags, fruit juice, rock salt or ice cream salt, ice, liquid measuring cup, dry measuring cup, tablespoon, winter gloves or towel, cups, and spoons (1 serving)

**What to do:** Make Fruit Sorbet in a bag. Pour one cup of fruit juice in a quart-size zip-closure bag. Seal the bag. Place that bag into another bag the same size. Seal the second bag. In a gallon size zip-closure bag, place 4 cups of ice and 3 tablespoons of coarse ice cream salt. Put the small, sealed bags in the larger bag and close tightly. Have children shake the bags for about 5 minutes while wearing winter gloves. Take the inner bag out and pour into cup. Enjoy!

**Why?** Why did the mixture freeze? Salt added to ice lowers the freezing point. The melting ice absorbs heat making the mixture cooler which causes it to freeze.

## OTHER BOOKS TO READ ALOUD

*Rosie Revere, Engineer*, Andrea Beaty

*Cece Loves Science*, Kimberly Derting and Sheila R. Johannes

*Kids Who Are Changing the World*, Sheila Sweeny Higginson

## EVALUATION

We value your input! After completing a Reading Adventure with your Cloverbuds, please tell us what you think. Your feedback will be used to improve the Reading Adventure program. Type the link in your browser and navigate to the evaluation site: https://go.osu.edu/evaladventures

### 4-H CLOVERBUD READING ADVENTURES

Reading Adventures are part of the Ohio 4-H Cloverbud Program. This adventure was developed by Demetria Woods, Extension Educator, 4-H Youth Development, Ohio State University Extension, Miami County. It was reviewed by Kathy Blackford, Extension Educator, 4-H Youth Development, Ohio State University Extension, Ashland County. It contains well-known activities, games, and snacks. Sources are indicated where appropriate. Find more reading adventures online at **https://u.osu.edu/cloverbudconnections/reading/**.

### TIP:

This 4-H Cloverbud Reading Adventure works well with Chapter 2, "Experimenting with the Five Senses", and Chapter 3, "Making Air Work", in *The Big Book of 4-H Cloverbud Activities* available through OSU Extension offices or online at **extensionpubs.osu.edu**. Ohio residents get the best price when they order and pick up their purchases through local Extension offices.

### SOURCES:

**https://littlebinsforlittlehands.com/fizzy-paint-moon-craft/**
**https://www.youtube.com/watch?v=zajxTUsbiQ8**
**https://www.onegoodthingbyjillee.com/make-sorbet-in-a-bag/**
**https://www.tasteofhome.com/collection/flavored-popcorn-recipes/**
**Science Fun with Kitchen Chemistry**
**The Big Book of 4-H Cloverbud Activities**

### IMAGES:

Book Image: **https://www.amazon.com/Ada-Twist-Scientist-Andrea-Beaty/dp/1419721372**