

# Lesson Plan: The Vaccine Heroes and the Glitter Germs

## A History and Science Adventure for Milly (Age 8)

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### Materials Needed:

- **For the History Story:** Paper and crayons/colored pencils, optional: a short, age-appropriate video about Edward Jenner.
  - **For the Science Experiment:**
    - Hand lotion
    - Glitter (represents "germs")
    - Soap and water
    - Paper towels
    - A small bowl or plate for the glitter
  - **For the Assessment:** A large sheet of paper folded into comic strip panels, or a comic strip template printed from the internet.
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### 1. Learning Objectives

By the end of this lesson, Milly will be able to:

- Tell the story of Edward Jenner and his discovery about cowpox and smallpox in her own words.
- Explain the basic concept of a vaccine using the analogy of "training" the body's defenses.
- Demonstrate how handwashing is an effective way to remove "germs" through a hands-on experiment.
- Create a short comic strip that retells the main points of the history lesson.

### 2. Curriculum Alignment (Homeschool Context)

- **Science (Health & The Human Body):** Introduces the immune system, disease prevention, and the scientific method (observation, hypothesis, experiment).
  - **History (Key Figures & Events):** Explores the impact of a significant historical figure (Edward Jenner) and a major scientific breakthrough.
  - **Language Arts:** Develops storytelling and sequencing skills through the comic strip activity.
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### Lesson Activities & Procedure

#### Part 1: The Warm-Up - Meet Your Body's Superheroes! (5 minutes)

**Goal:** To introduce the concept of the immune system in a relatable way.

1. **Ask Milly:** "What does your body do when you get a little cut? (It heals!) What happens when you get a cold? (You feel sick, but then you get better!) That's because you have a team of superheroes inside you called your Immune System. Their job is to fight off bad guys, which we call germs."
  2. **Introduce the Idea of "Training":** "What if we could train our superhero team to fight a
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specific bad guy \*before\* it even shows up? That's what a vaccine does! It's like giving your superhero team a training manual with a picture of the bad guy, so they know exactly how to defeat it if they ever see the real thing."

## Part 2: Story Time - The Milkmaid's Secret (15 minutes)

**Goal:** To learn the history of the first vaccine through an engaging story.

1. **Set the Scene:** "A long, long time ago, over 200 years ago, there was a very serious and scary sickness called smallpox. It made people very sick. A kind doctor named Edward Jenner noticed something strange and wonderful."
2. **Tell the Story of Edward Jenner:**
  - "Dr. Jenner saw that the women who milked cows, called milkmaids, often got a mild sickness called cowpox. It gave them a few spots on their hands, but they didn't get very sick."
  - "He noticed that these same milkmaids almost NEVER got the dangerous smallpox disease. He started to wonder... could getting the mild cowpox sickness be protecting them from the dangerous smallpox sickness?"
  - "He had a brave idea! He took a tiny bit of material from a cowpox spot on a milkmaid's hand and gave it to a young boy named James. The boy got a little bit sick for a day or two, just like the milkmaids."
  - "Later, Dr. Jenner exposed the boy to smallpox (this was a very different time!). Guess what happened? The boy didn't get sick at all! His body's superhero team had already seen the training manual from the cowpox and knew exactly how to fight off the real smallpox germ."
  - "This was the world's very first vaccine! The word 'vaccine' even comes from the Latin word for cow, 'vacca'!"
3. **Check for Understanding:** Ask Milly, "So, what was the milkmaid's secret? Why was Dr. Jenner's idea so heroic?"

## Part 3: Science Lab - The Glitter Germs Experiment! (15 minutes)

**Goal:** To visually and physically demonstrate how "germs" spread and how we can protect ourselves.

1. **Setup:** "Let's pretend this glitter is a bunch of sneaky germs. They are so tiny we can't see them, but glitter helps us see where they go."
2. **Step 1 - Spreading Germs:** Have Milly put a small amount of hand lotion on her hands. Then, have her dip her hands into the bowl of glitter "germs." Ask her, "Look at all those germs! Now, let's see how they spread. Touch your paper, a doorknob, or my hand. What happens to the glitter germs?" (They spread everywhere!).
3. **Step 2 - The Wrong Way to Wash:** Have Milly try to wipe the glitter off with just a paper towel or rinse quickly with only water. Ask, "Did all the germs come off? (No). Some are still hiding!"
4. **Step 3 - The Superhero Soap:** Now, have Milly wash her hands thoroughly with soap and warm water for at least 20 seconds (sing "Happy Birthday" twice). "Soap is like a superhero that traps the germs and water washes them away."
5. **Conclusion:** Dry her hands and have her inspect them. "Are the germs gone? (Yes!) This shows why washing our hands is one of the best ways to keep from getting sick. Vaccines train our bodies for the inside, and handwashing protects us on the outside!"

## Part 4: Creative Wrap-Up - The Cowpox Comic! (15 minutes)

**Goal:** To assess understanding by having Milly retell the story creatively.

1. **The Task:** "Now you're the storyteller! I want you to create a 4-panel comic strip that tells the

story of Dr. Jenner and the first vaccine."

2. **Panel Ideas (guide if needed):**

- **Panel 1:** Dr. Jenner noticing the milkmaid who has cowpox but not smallpox.
- **Panel 2:** Dr. Jenner's brave idea! (Showing him with the boy, James).
- **Panel 3:** The boy's body "training" and fighting off the pretend germ.
- **Panel 4:** The boy is protected from the real smallpox! He's healthy and happy.

3. **Share:** When she's done, have Milly present her comic strip and explain the story in her own words. This is a great way to see what she learned!

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## 5. Differentiation & Extension

- **For Support:** Pre-draw the comic strip boxes for her. Write down key vocabulary words like "Jenner," "Cowpox," and "Vaccine" for her to reference.
- **For Extension/Challenge:** Ask a follow-up question: "Dr. Jenner used a weaker, similar germ to protect against a stronger one. Can you think of any other time when practicing something easy helps you do something hard?" Or, research another "Vaccine Hero" like Louis Pasteur or Jonas Salk.

## 6. Assessment

- **Formative (During the lesson):**
  - Milly's answers to questions during the storytelling part.
  - Her observations and explanations during the Glitter Germs experiment.
- **Summative (End of lesson):**
  - The completed Cowpox Comic Strip, evaluated on its ability to correctly sequence and depict the main events of the story.
  - Her verbal explanation of the comic strip, demonstrating her understanding of the core concepts.