



Inventors Club: Build History, Create the Future!

1 hour · K – 5th · After School · Teacher: Crystal Guardado

Instructions: This lesson plan is your starting point — feel free to edit, rearrange, or customize it to fit your teaching style and your students' needs! These notes are yours. They will not be published anywhere.

Topics Covered

Historical inventions · Famous inventors · Problem-solving · Creative engineering · Prototyping · Collaboration

Lesson Plan

1. Inventor Spotlight Circle (10 min)

- Show a portrait or drawing of the week's featured inventor and ask students to guess what they invented
- Share 3 fun facts about the inventor's life and the problem they wanted to solve
- Pass around a replica or image of the invention and let each student say one word describing it
- Connect the invention to something students use today (e.g., light bulb → phone flashlight)

2. Invention Investigation (15 min)

- Demonstrate how the historical invention works using simple materials or a model
- Divide students into small groups and give each a 'problem card' related to the invention (e.g., 'How do you see in the dark?')
- Groups brainstorm 3 different ways to solve the problem without modern technology, drawing their ideas on paper
- Each group shares their favorite solution; discuss how the real inventor's solution compares

3. Build Your Own Invention (25 min)

- Introduce the invention challenge: students will create their own version or improvement of the week's invention using craft supplies
- Model the process: sketch your idea first, label parts, then build a prototype
- Students work individually or in pairs to design and build, circulating to ask guiding questions like 'What problem does this solve?' and 'How does it work?'
- Give a 5-minute warning and encourage students to name their invention and prepare a 1-sentence explanation

4. Invention Convention Showcase (8 min)

- Students display their inventions on desks and do a gallery walk, leaving sticky notes with compliments on others' work
- Select 3–4 volunteers to present their invention to the whole group (name, problem it solves, how it works)
- Group votes on fun categories: Most Creative, Best Problem-Solver, Coolest Design

5. Inventor's Notebook Wrap-Up (2 min)

- Students draw or write one thing they learned about the inventor in their personal inventor's notebook
- Preview next week's inventor with a teaser question or riddle to build excitement

Materials Checklist

- ☐ Portraits or drawings of featured inventors (printed or digital)
- ☐ Cardboard, cardstock, construction paper
- ☐ Recyclables (toilet paper rolls, bottle caps, small boxes)
- ☐ Tape, glue sticks, scissors, markers, crayons
- ☐ Popsicle sticks, pipe cleaners, rubber bands, straws
- ☐ Problem cards (printed on cardstock)
- ☐ Sticky notes for gallery walk
- ☐ Inventor's notebooks (composition books or stapled paper packets, one per student)

Age Adaptations

Younger Kids: For K–1st graders: Use simpler vocabulary and more visual demonstrations. Pre-cut materials and provide templates for tracing. Allow more collaborative building in pairs. Focus on one main feature of the invention rather than complex mechanisms. Extend showcase time and reduce brainstorming complexity.

Older Kids: For 4th–5th graders: Include more detailed historical context and scientific principles. Challenge students to improve or combine multiple historical inventions. Require written explanations of how their invention

works with labeled diagrams. Add constraints like 'use only 5 materials' or 'must include a moving part.' Encourage students to research the inventor independently and present findings.

Movement Break

Invention Charades: Call out an invention (telephone, airplane, typewriter) and students act out using it without speaking. Others guess. Add energy by saying 'fast forward!' (speed up movements) or 'rewind!' (do it backwards).

Bonus Activities

- Start an 'Invention Hall of Fame' bulletin board where students add drawings of their favorite creations each week
- Play 'What If?' game: What if the inventor had never been born? How would our lives be different?
- Create invention trading cards with the inventor's name, invention, date, and fun fact
- Design a thank-you card to the inventor explaining how their invention helps your life today

Series Outline (12 Weeks)

Week	Theme	Key Activities
1	Thomas Edison & the Light Bulb	Build a simple circuit with battery, wire, and LED bulb to understand electricity, Create 'glow-in-the-dark' inventions using glow sticks, flashlights, and reflective materials, Design a new kind of lamp that solves a specific problem (reading in bed, lighting a tent)
2	Alexander Graham Bell & the Telephone	Make string telephones with cups and explore how sound travels through vibration, Design a communication device for a specific scenario (talking underwater, in space, to pets), Test different materials for string telephones to see which carries sound best
3	The Wright Brothers & Flight	Build and test paper airplanes, measuring distance and experimenting with wing shapes, Create flying machines from straws, paper, and tape that use different flight principles, Design a vehicle that can transport something safely through the air
4	Marie Curie & Radioactivity	Explore glow-in-the-dark materials and UV-reactive items to discuss invisible forces, Create 'discovery tools' like magnifying glasses holders or specimen containers, Design safety equipment for

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		scientists (adapted goggles, gloves, or lab coats with special features)
5	Leonardo da Vinci & Multi-Tool Inventions	Build simple machines (levers, pulleys, wedges) using craft supplies, Design a multi-purpose tool that can do 3 different things, Create mechanical wings, parachutes, or other da Vinci-inspired flying contraptions
6	Benjamin Franklin & Electricity	Create static electricity experiments with balloons and explore attraction/repulsion, Design a lightning protection system for a model house using foil and wire, Build Franklin's other inventions: bifocals (paper glasses), swim fins (cardboard flippers)
7	Garrett Morgan & the Traffic Light	Build a working traffic light model with colored paper and cardboard that can flip between signals, Design a safety invention for a dangerous situation (crossing streets, bike riding, playground), Create a new kind of signal system for a specific place (library, cafeteria, classroom)
8	George Washington Carver & Agricultural Innovation	Explore peanut products and create a chart of uses; design a new peanut-based product, Build a tool to help farmers or gardeners (plant waterer, seed spacer, harvest basket), Create a composting system model or soil-improvement device using recyclables
9	Johannes Gutenberg & the Printing Press	Create stamps from erasers or foam to print repeated patterns and letters, Build a simple 'press' mechanism using books as weight to press stamp art, Design a new way to share information quickly with many people (newsletter, poster system)
10	Hedy Lamarr & Wireless Communication	Explore frequency and patterns by creating secret codes with colored blocks or beads, Design a device that sends messages without wires (using light signals, flags, or sound patterns), Build a model of a frequency-hopping system using paper wheels with patterns
11	Steve Jobs & Personal Computing	Design a 'computer of the future' that solves a problem in your life using cardboard and craft supplies, Create an app icon and description for an invention that would help kids your age, Build an input device (keyboard, mouse, touchscreen alternative) from recycled materials
12	Grand Invention Fair: Be	Students identify a real problem in their school, home, or community and design an invention to solve it, Build a prototype and create a

Week	Theme	Key Activities
	the Inventor!	poster explaining the problem, solution, and how it works, Host an Invention Fair where students present to each other, teachers, or families with voting for different categories



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