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Think Like a Scientist: STEM Fun for Everyone with Chigusa 🔬

Instructions:

Check out this sample lesson plan and activity ideas for inspiration, ideas, and more. Feel free to edit, delete, or highlight to make it your own! These notes are yours to customize. They will not be published anywhere such that you're held to teaching exactly what's here.

Topics

Science, technology, engineering, math, hands-on experience, fun, kids

Lesson Ideas

Lesson Title

Think Like a Scientist: STEM Fun for Everyone

Duration

1 hour

Lesson Plan

1. Introduction (5 minutes)
  - Welcome the kids and introduce the day's theme: "Think Like a Scientist".
  - Discuss briefly what STEM stands for and why each part is important.

2. Icebreaker Activity: "What's Your Scientist Name?" (5 minutes)
  - Have children think of a fun scientist name for themselves, using their favorite animal and their favorite color (e.g., Dr. Blue Tiger).

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3. Brief Presentation on Scientists (10 minutes)
  - Show pictures or short videos about famous scientists from history and modern times in various STEM fields.
  - Encourage kids to share what interests them the most about being a scientist.

4. Hands-On Experiment: Building a Simple Catapult (20 minutes)
  - Divide children into small groups and provide materials.
  - Guide kids through the steps of building a simple catapult using popsicle sticks, rubber bands, and a spoon.
  - Once built, have them test their catapult by launching small objects and measuring the distance.

5. Inquiry and Reflection (10 minutes)
  - Gather the kids to share what they observed about their catapults.
  - Discuss how scientists use experiments and what they learned from theirs.
  - Pose questions like: "How did different designs affect the distance?" or "What other materials or designs could you try?"

6. Wrap-Up and Sharing (5 minutes)
  - Summarize the main points of the lesson.
  - Ask each child to share one thing they learned or enjoyed about thinking like a scientist today.

Materials List

- Popsicle sticks
- Rubber bands
- Plastic spoons
- Small soft projectiles (like pom-poms or marshmallows)
- Measuring tape or ruler
- Pictures or videos of scientists
- Whiteboard and markers

Adaptations for Different Ages

- Younger children: Simplify the catapult design, provide pre-assembled examples, and offer extra assistance.
- Older children: Challenge them to modify their catapult for greater accuracy and discuss advanced concepts like force and trajectory.

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Movement Break

- Conduct a quick "Scientist Says" game (similar to Simon Says) to get kids moving and energized by following fun, STEM-themed actions (e.g., "Scientist says to jump like a frog", "Scientist says to stretch your arms wide like an airplane").

Bonus Activities

- Have kids draw and label their catapult designs with creative names.
- Introduce a math-related activity by having kids calculate the average distance of multiple launches.
- Organize a friendly competition to see which group's catapult launches the farthest with different object sizes.

Series Outline

1. **Week 1: Introduction to Science & the Scientific Method**
   - Conduct a simple experiment using the scientific method (e.g., vinegar and baking soda reaction).
   - Discuss famous scientists and their contributions through a fun storytelling session.
   - Create a "Science Journal" for kids to record observations and thoughts.

2. **Week 2: Exploring the Wonders of Chemistry**
   - Make homemade slime and explore the concept of polymers.
   - Volcano eruption experiment to demonstrate chemical reactions.
   - Color-changing milk experiment to observe chemical reactions.

3. **Week 3: The World of Physics**
   - Build simple catapults and explore concepts like force and trajectory.
   - Conduct a gravity experiment using different objects (e.g., drop test).
   - Construct paper airplanes to understand aerodynamics.

4. **Week 4: Introduction to Biology and Living Things**
   - Plant seeds in a small pot and track plant growth over weeks.
   - Examine leaves and insects under magnifying glasses.
   - Discuss ecosystems and food chains with a role-playing game.

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5. **Week 5: Technology and Innovation**
 - Introduce coding with a basic programming exercise using block-based coding platforms.
 - Build a simple circuit using conductive materials and LEDs.
 - Explore how computers work with a teardown (disassembly of an old/unusable device).

6. **Week 6: Understanding Engineering Concepts**
 - Design and build a bridge using straws and tape, test its strength.
 - Construct a simple pulley system from household items.
 - Host a build challenge where kids use blocks to design a structure.

7. **Week 7: Mathematics and Patterns**
 - Engage in puzzles and games focused on pattern recognition and numbers.
 - Introduce basic geometry through paper-folding and origami.
 - Explore fractions and measurements with cooking activities.

8. **Week 8: Hands-On Science Experiments**
 - Make a homemade water filter to understand filtration.
 - Create a rainbow using water, mirror, and sunlight.
 - Build a bottle rocket to explore pressure and propulsion.

9. **Week 9: Environmental Science and Sustainability**
 - Organize a nature walk to identify local flora and fauna.
 - Create a mini-composting project to learn about decomposition.
 - Discuss the importance of recycling through hands-on sorting activities.

10. **Week 10: STEM Careers and Future Exploration**
 - Invite a guest speaker involved in a STEM field to share their experiences.
 - Host a "STEM Fair" where kids share projects they've worked on.
 - Conclude with an interactive quiz or game show highlighting what they've learned.

For additional support, reference this experience outline template which includes tips and prompts to help you develop and lead an excellent Grasshopper Kids experience.

Note: This lesson plan outline was drafted by Hopper. If you would like to see different results, you can submit another idea, or text us with feedback so we can work to make the algorithm better. We built this tool to help save you time in bringing more kids enrichment experience ideas to life!

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