

STEM Taught Camp

I'm a Scientist



Albert Einstein: Day 1 Grades: 4-8

WELCOME

(5 min)



Introduction: Welcome your students to camp. Smile!

Remind students they have the opportunity to earn sand dollars when they complete a task, help another student, help set up or clean up, write in their journal, read a book, etc. Tally the amount of sand dollars that each student earned from helping and record it on the weekly payroll sheet.

STEM READERS THEATER

(30 min)

- Act out story: 15 min
- Discuss story: 5 min
- Activity: 30 min

Materials:

- Print one copy of "Day 1: A Curious Trinket"
- Three pairs of scissors
- One roll of tape



READ EINSTEIN: ALWAYS ASK WHY DAY 1: A CURIOUS TRINKET

Prepare beforehand: Print out one copy of "Day 1: A Curious Trinket" from the story. Print one coloring page for each student from the "Student Sheets" section. Gather scissors and tape.

What you'll do:

- 1. Setup storytelling props (10 min):** Call up volunteers to help with the readers theater. Ask students to cut out the story props found in the story document. Remember to tape the headband ends together to fit a child's head. Students that are not helping with the story setup can color their coloring pages while they wait.
2. Gather all students and have them sit to listen to the reader's theater. Ask students to leave their coloring pages behind.
3. Assign a volunteer actor to handle each prop for story time.
4. Read the story to your students. Guide your volunteer prop holders in following the acting instructions as you read.
5. Discuss the story with your students following the discussion prompts printed underneath the story text.

STEM LAB

(30 min)

Materials:

- Tin Foil
- Bar magnets
- Scissors
- Bins of water

MAKE A COMPASS

1. Have students use squares of foil to make boats.
2. Have students fold their squares of foil into a creative boat that can hold their magnet.
3. Students float their boats in still water, place magnets in their boats, and watch their boats turn to the north.

Ask: **How quickly or slowly does your boat turn? (Pretty slow.) In what direction does it turn? (Either direction depending on the position of the boat. The magnet will take the shortest path to point north). What happens when the boat gets near the side or the container? (It sticks.)**

STEM LAB

(60 min)

Materials:

- Tedros test tube
- Pippi pipette
- Scoopy spoon
- Ziploc bags
- Borax powder
- School glue
- Food coloring
- Sparkles
- Water

SLIME

Say: **Einstein helped us understand that everything around us is made of particles too small to see. These are called atoms. When atoms combine and hook together they form everything around us. Slime is a fun way to see what happens when we mix the atoms from two different substances together to make a totally new substance that is stretchy and fun to play with.**

1. Mix 30 ml warm water with 15ml school glue in Tedros test tube and shake.
2. Pour into a ziploc bag and add 5ml (1 tsp) Borax powder. Sprinkle evenly all over the glue.
3. Add coloring or sparkles!
4. Mix and squish it all together. Make sure you get the glue in contact with the borax so the chemical reaction can occur.
5. Play with your creation! Clean up.



STEM LAB

(60 min)

Materials:

- Balloons
- Hex nuts

Materials:

- Thick paper plates
- Cups
- String or yarn
- Hole punch
- Water

Materials:

- Chairs
- String
- Balloons
- Tape
- Straws

EXPERIMENTS

Set up:

Set up three stations with help from students. The students will rotate stations every 20 minutes.

Centripetal Force

1. Place a hex nut in a balloon, blow it up, and tie it.
2. Hold the balloon at the top and swirl it around quickly, then hold it steady. The hex nut will spin around inside the balloon and make cool noises.

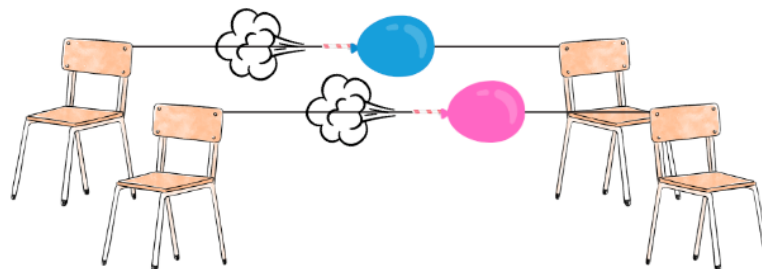
Cup Swing

Note: This experiment is best done outside due to spilling potential.

1. Punch 4 holes evenly around the plate.
2. Cut 2 yarn about 45" long. Thread the yarn through one hole, tie a knot underneath the plate. Cross the other end to the hole across from it, push it through the hole and tie it. Now use the other piece of yarn to tie between the other 2 diagonal holes.
3. Hold up the yarn till it is even and tie them together on top.
4. Fill your cup with water and place it on your plate. Hold the top of the yarn and start swinging it back and forth. Now try spinning around in a circle. Now try swinging the water all the way around in a big circle in front of you! It's ok if you spill. Just try again!

Newton's 3rd law: Balloon Rocket Races

1. Place 2 chairs about 20 feet away from each other. Set up 3 or 4 rows, depending on the size of your group.
2. Tie a string onto the back of one chair. Thread a straw through the string, then tie it to the other chair. Repeat on other rows.
3. Kids will each have a balloon. Three or 4 kids (depending on the rows) will blow up their balloon, and pinch the end closed but not tie it. The leader will place a strip of tape across the straw to hold the balloon in place.
4. Once all the kid's balloons are taped on, do a countdown: "3, 2, 1, GO". The kids let go of the balloons and they race across to the other side. Declare a winner. Take the balloons off the straw so the next group of kids can race their balloons.



***Try an experiment! How far can you stretch the string and have it still work? Try moving the chairs further and further apart.**

STEM GAMES

(60 min)

Materials:

- Board games
- Puzzles
- Blocks
- Coloring supplies
- Books
- Stacking cups

Materials:

- Cups
- Small objects

KIDS CHOICE

Allow students time to connect with each other through a fun game or let them choose to read. If the students have not had time to draw/write in their journals, have them take some time to do so now.

Kids' Choice Instructions:

Choose between options that the teachers have set out: Board games, building with Legos, blocks, or other things, reading, coloring/drawing (include ocean related coloring pages), cup stacking.

Cup Hide and Seek

Objective- Remember which cup is hiding the object.

Instructions- Set three or four cups upside down in a line. Place a small object (penny, Lego, etc.) under one of the cups. Let the other player see where it is. Quickly move the cups around several times. The other player will guess which cup the object is under. If they are correct, they will score 1 point. Players will switch roles. The first player to reach 5 points after an equal number of turns wins.