

STEM Taught Camp

I'm a Scientist



Albert Einstein: Day 3 Grades: TK-3

WELCOME

(5 min)



Introduction: Welcome your students to camp. Be friendly.

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 3: Hatching Ideas"
- Three pairs of scissors
- One roll of tape

READ EINSTEIN: ALWAYS ASK WHY, DAY 3: HATCHING IDEAS

Prepare beforehand: Print out one copy of "Day 3: Hatching Ideas" from the story. Print one coloring page for each student from the "Student Sheets" section. Gather scissors and tape.

What you'll do:

- 1. Set up 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.



ACTIVITY

(30 min)

Materials:

- Foil
- Tape
- Colored pompoms
- White pompoms or wadded up pieces of paper



Materials:

- Parachute
- Balls of various weights and sizes



Photoelectric Effect

1. Assign $\frac{1}{4}$ kids to be metals and $\frac{3}{4}$ kids to be light photons.
2. Assign each of the metals 3 random colors from the colors of pompoms you have. You can make colored dots on their hands so they remember.
3. Tape a sheet of foil on the metals.
4. The light photons line up and take turns throwing colored pompoms at the metals. If the correct color hits the metal, they throw a white electron back. This is making energy!

Think Fast!

1. Start with the youngest kids. Call 3 to the board. Give them dry erase markers (or chalk). Give them a question that is age appropriate, for instance: "Spell the word BIRD."
2. The 1st one to finish spelling it correctly stays at the board. The other 2 sit down and 2 new players come up.
3. You can do other things besides spelling. You can give math questions and they write the answer on the board (they may need to write the problem first, then the answer). You could tell them to draw a food that starts with B. You could also give directions like "draw a bug on a pig in the mud."

Parachute Launch

Demonstrate how the theory of relativity works.

Say: *Gravity pulls stuff to the ground. Really big things curve space and time. Space and time are connected, this is called spacetime.*

1. Have the kids hold a sheet or parachute.
2. Toss a basketball on it.
Say: *See how the basketball bends the sheet/parachute down? This is how spacetime is bent or warped. Things like the Sun, stars and planets cause this.*
3. Now toss a small ball onto the sheet.
Say: *See how the small ball moves towards the bigger ball? This is how gravity works.*
4. Have fun experimenting by tossing balls of different weights and sizes onto the parachute, and launching them into the air. See which balls can go the highest!



ART TIME

(60 min)

Materials:

- Watercolors
- Assorted paintbrushes
- Cardstock
- Cups of water
- Paper towels
- Salt



WATERCOLOR PAINTING

Kids will create their own art using watercolors to see how the water reacts with the paint. They will discover how different techniques can change the way their art looks. If time permits, let them paint multiple pieces to try different ways of painting. When kids are exposed to new things and given the opportunity to spend time doing them, the more comfortable they will be trying other new things. They will find their interests, strengths, and passions.

Instructions

1. Show the kids some different ways to use watercolors. One way is to paint with just water first, then while the water is still wet, load the brush with paint and touch it in the water on the paper. The paint will flow and spread.
2. To create a subtle wash of color for the background, dilute some paint in water. Next, apply it uniformly to the whole page.
3. The less water used, the darker the paint will be.
4. Sponges or Q-tips can be used to create texture and small details.
5. Salt can be sprinkled over wet paint. As it dries, it absorbs the color adding a unique texture. When dry, brush off the salt.



STEM LAB

(60 min)

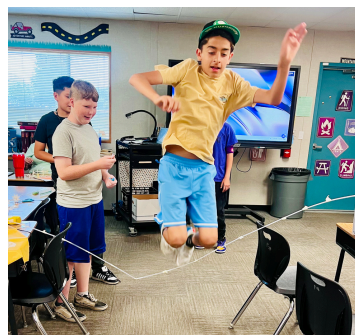
Materials:

- Tinkering supplies such as:
- Paper
- Scissors
- Tape
- Glue
- Straws
- Rubber bands
- Paper clips
- Pipe cleaners
- Cups
- Yarn
- Optional: building bars

TINKER SPACE

Say: "Einstein was always thinking. He said, 'Creativity is intelligence having fun,' and, 'Creativity is more important than knowledge,' and, 'The true sign of intelligence is not knowledge, but imagination.'"

1. Set out many assorted supplies for the students.
2. Students get to tinker and use their imagination to create their own masterpieces! Give them freedom.



STEM TIME

(60 min)

Materials:

- Boxes or Building Bricks
- Butcher paper
- Tape
- Scissors
- Glue
- Markers

GEOMETRIC CITY

Say: "Einstein loved geometry. Geometry consists of shapes, and shapes are all around us!"

Your class mission is to build a town out of either building bricks, or boxes, paper and recyclables. You will have 3 days to do this. Think of different things in a town. There are houses, stores, restaurants, schools, parks and more. Choose what you want to make. You can make more than one thing. You can add details like doors, windows, and signs. Design your buildings however you want! Do you want a swimming pool on the roof? Or a bridge from your house to your friend's house? Create it your way!

When you are finished you will draw your creation on paper and list all the shapes you used.

On the last day, when everyone is finished building we will put the town together and have some fun playing in your town!"

