

STEM

SCIENCE | TECHNOLOGY | ENGINEERING | MATH

This special Newspaper In Education feature is brought to you by the St. Louis American Foundation, the Missouri Press Foundation and this newspaper.

What Is Physics?

Physics is the study of matter and energy, motion and behavior. All around you things are moving. A trip to the playground or amusement park will show you physics in action: potential energy, kinetic energy, inertia, momentum. Physicists study these patterns and perform experiments to learn the laws of nature. They learn what things are made of and how energy changes from one form to another. Some physicists work in labs testing theories and completing research; some work in federal government or teach at universities.



surprisingly, speaking and writing. Physicists use these skills to write research papers and proposals. A strong reading background is a must, as well. If you are interested in learning more about physics and developing your skills, check out the following website to learn about physics on your playground:

<http://tlc.howstuffworks.com/family/fun-physics-activities-for-kids.htm>

Discuss: What is physics? What does a physicist do? Why is the study of physics important?

Learning Standards:

I can read a nonfiction text to find the main idea. I can make

connections between the text and my world. CCS.ELA-Literacy.CCRA.R.2, CCS.ELA-Literacy.CCRA.L.6

Physicists need a strong background in science, math, and

Become A Mad Scientist!

Do you think air takes up space? In this experiment, you will find the answer to that question. Gather a large bowl of water, an empty glass or jar, and a large handkerchief.

Process:

- STEP 1.** Stuff the handkerchief into the glass.
- STEP 2.** Turn the glass upside down to make sure the handkerchief will not fall out.
- STEP 3.** Fill the bowl half full with water. (If it's full, water will spill out when the glass is put in.)
- STEP 4.** Place the glass deep in the water, with the mouth of the glass facing downward.



STEP 5. Hold the glass there for one minute.

STEP 6. Remove the glass and handkerchief.

Observe: Is the handkerchief wet or dry? A wet handkerchief indicates that water entered the glass. A dry handkerchief indicates that water could not enter the glass because the glass was already filled with air.

Discuss: Does air take up space. How do you know?

Learning Standards: I can follow the procedure to complete an experiment. I can make observations and answer questions with supporting details. CCSS.ELA-Literacy.CCRA.R.1

Parents and Teachers: Would you like MORE physics experiments? Check out "Teaching Physics with Toys: Hands-On Investigations for Grades 3-9" produced by Terrific Science Press.

Growing future scientists, technologists, engineers, and mathematicians with the newspaper!

Extra! Read All About It!

New inventions:

Creative minds are often thinking of ways to improve our lifestyles. Think of all the technological advances in the past year. Use the newspaper to locate a new technology item. Maybe you will see this item in an advertisement or a news article. Write a prediction for how this item will improve your future.

Where in the world was that discovered?

We use technology developed by people all over the world everyday. Locate and cut out pictures of technological

inventions in the newspaper. Research to find out where each was invented or discovered. Paste the pictures on a world map, identifying the location of each discovery.

Learning Standards:

I can read a nonfiction text to find main idea. I can do research. CCSS.ELA-Literacy.CCRA.W.4, CCS.ELA-Literacy.CCRA.R.2



Go Figure!

Find a weather forecast for your area. What is the difference between the predicted high and low temperatures for the day's forecast? What is the average of the weekly temperatures?



Use the newspaper to find single digit numbers. Cut out these numbers and place them in a cup. Shake the cup and choose two numbers. Multiply these two numbers to practice your facts.

3

5

Can you find a number that is written as a decimal in the newspaper? Rewrite this decimal as a fraction.

.25

Learning Standards:

I can add, subtract, multiply, and divide to solve math problems. CCSS.MathContent.3.OA.A3