



WE CU VOLUNTEER

4-H Club Recognition

Applications due to the State 4-H Office
by June 3, 2019



Clubs are the hallmark of a 4-H program and serve as one of the most impactful modes to deliver positive youth development programming. Youth involved in 4-H clubs tend to be long-term members and have the benefit of a stable, caring adult mentor.

There are several things a club can do to go above and beyond their basic function to enrich the learning experience and skill development for kids. The “Standards of Excellence: Club Performance Standards” found in the South Carolina 4-H Volunteer Handbook inventories these things.

[Link to form online.](#)

The club leader and club president can work together to complete this form and turn it in to the State 4-H Office by June 3rd since June 1st is on a Saturday this year.

Mail (2054 Barre Hall, Clemson, SC 29634) or scan/email (lfrager@clemson.edu).

Clubs that receive awards will be recognized at our annual Volunteer Leaders Symposium on Saturday, August 10, 2019 in Columbia, SC and in the September issue of the newsletter. Make plans to join us! Registration opens next week!!!

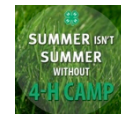
Upcoming Statewide Programs:



Sporting Clays Tournament Fundraiser
May 31, 2019

Help us raise funds to support statewide 4-H opportunities (all ages)

Register by May 22nd



4-H Club Summer Camp
June 16-20 & July 21-25, 2019

Traditional camp activities with fun, friends, & adventure (ages 7-14 years)

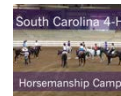
Register at your local Extension Office



State Teen Council 2019-2020
July 13, 2019

Youth leadership team applications, elected at Congress (for ages 14-18)

Applications due by June 15th



4-H Horsemanship Camp
July 16-20, 2019

Overnight camp for youth and horses at Clemson University (for ages 9-18 years)

Register by June 18th



State 4-H Congress
July 10-13, 2019

Youth leadership conference at Clemson (for ages 14-18 years)

Register by June 24th

“Learn by Doing!”
4-H Slogan



Monthly 4-H Club Activity Idea

By Patricia Whitener, Greenville County 4-H Agent



How to Crush a Can

Objective: To explore the properties of matter and learn about atmospheric pressure

Age Range: All ages

Hands-on Activity: see the principles of pressure in action by crushing a can

Life Skills: HEAD - critical thinking, problem solving, learning to learn;
HEART - communication;
HEALTH - personal safety.

Introduction

There are two main science concepts that are on display in this activity: atmospheric pressure and states of matter. Every day on planet Earth, we are constantly being pushed by the weight of our atmosphere. Just like gravity pulls large objects, like people, cars, etc., towards the center of the Earth, it also pulls on very small things like molecules of oxygen, nitrogen, and carbon dioxide that make up a large portion of our atmosphere. We do not “feel” this because we are accustomed to it, but the force of one square inch of air pushing down on us at sea level is about 14.7 pounds! That is kind of like taking a one-inch Duplo Lego block that weighs almost as much as two gallons of milk (Figure 1) and putting it on your arm; then, imagine covering your entire body in 15-pound Lego blocks!!! It is a lot of pressure. To also demonstrate how strong our atmospheric pressure is, we will remove the atmosphere from a container (removing the equalizing force and creating a partial vacuum) and allow the atmosphere to act upon that container with no equalizing force on the interior.

The second science concept comes into play when we talk about states of matter and how molecules behave at different temperatures. Water is a good example. In its coldest form, water is ice and the molecules lock together in a rigid, crystalline structure; at room temperature, water is a liquid and its molecules move

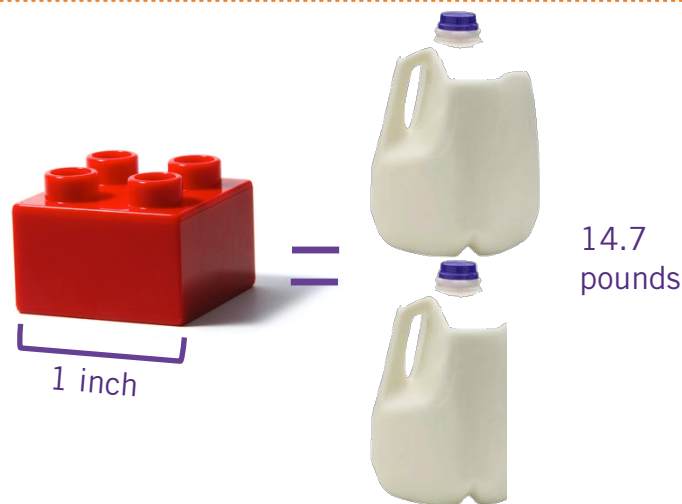


Figure 1. One square inch of atmosphere (imagine a column of air going up to space) has the cross-sectional area of one Duplo Lego and a pressure of 14.7 pounds (or 1.7 gallons of milk) at sea level.

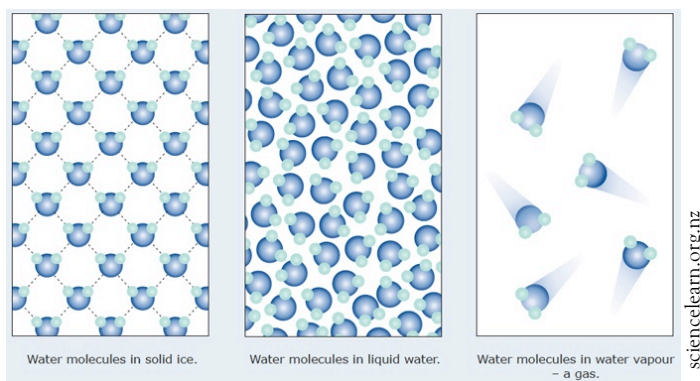


Figure 2. Behavior of water molecules in different states of matter. Image credit: University of Waikato

Continued on page 3

around easily, but are constantly and closely attracted to one another; at high temperatures, water turns to a vapor and molecules expand moving rapidly and apart from one another (Figure 2).

Materials

- safety glasses
- empty soda cans (as many as you want to demonstrate or practice with)
- hot plate, stove top, or burner
- metal or other heat-resistant tongs
- large bowl (clear preferred for viewing purposes)
- ice-cold water

Instructions

1. Add a small amount of water (about 1-2 tablespoons) to a can.
2. Put the can (standing up and uncovered) on the hot plate or other heating element.
3. While the can is heating, fill the bowl with ice water.
4. As you continue to wait on the can to heat up, ask the youth what would indicate that the water inside the can is starting to boil. (i.e., temperature rising on a thermometer if you had one, listen for the sound of boiling/bubbling water, and look for water vapor to start rising out of the mouth of the can, etc.)
5. Once the water is boiling, use the tongs to remove the can from the heat and place it top down in the ice water, using one quick motion. (If the water vapor has sufficiently pushed the air out of the can, it should crush instantly when it the opening is sealed by the cold water.)



6. Have the youth discuss what they observed and why they think it happened. ("Implosion" is the sudden collapse of an object towards its center.)
7. If time allows, have the youth alter parameters of the experiment and see if the result is the same or different (discuss outcomes if safe to experiment). Change the type/size of container used, have the can opening facing up, seal the can another way, alter the amount of water used, change the temperature of water used, etc.

Conclusion

To maximize learning, kids need to explore the physical properties of the world around us and see those properties demonstrated in a real and meaningful way. Get them involved in the activity to truly understand the forces behind it. Then, they can apply that knowledge in other areas of their daily lives.



Additional Resources:

Air Pressure Can Crusher. Steve Spangler Science.

<https://www.stevespanglerscience.com/lab/experiments/incredible-can-crusher/>

Can Crusher Experiment. Education.com.

https://www.education.com/activity/article/Crunch_Can_middle/

The Collapsing Can. Science is Fun. <http://scifun.chem.wisc.edu/HomeExpts/COLLAPSE.html>.

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