Teacher's Guide

Ag in the Classroom - Helping the Next Generation Understand Their Connection to Agriculture

Be Safe Around Electricity

Additional Resources

agclassroom.org - This is the national website for Agriculture in the Classroom programs from across the nation. A site search will bring up a variety of lessons, books, videos and links.

growingyourfuture.com - connects you to Colorado's Agriculture in the Classroom program. A variety of resources are available at this site.

Electrical Safety Foundation International has some good resources for teaching about electrical safety to children. http://www.esfi.org/kids-safety

Here's a cute YouTube video on safety: https://youtu.be/Pr9YntO7V1U

Here is a fun game to see if your students understand some of the electrical dangers around their homes: http://www.switchedonkids.org.uk/electrical-safety-in-your-home

General Energy Resources

The Energy Story
http://www.energyquest.ca.gov/story/

EIA Energy Kids
http://www.eia.gov/kids/

Science Daily: Matter & Energy
http://www.sciencedaily.com/news/matter_energy/

Other links
www.NEED.org
www.energyville.com
www.epa.gov/students/teachers.html
www.myenergygateway.org
www.myamericanfarm.com (interactive online learning games)
http://www.partselect.com/JustForFun/Electric-Math-Numbers-Behind-Appliances.aspx/
http://www.kidsenergyzone.com

INTRODUCTION:

Dangers Of Electricity For Kids:

It is obvious that children will be curious and may not know the dangers of electricity. Teaching them the basics of electricity and electrical hazards can keep them safe from shock. Firstly, even before you caution them with tips, you should make them understand the basics that are as follows:

- Electricity can cause shocks, burns and even lead to mortality.
- Power cords and appliances are as dangerous as electrical power lines.
- Electricity can pass through water, and likewise it can quickly pass through your body since your body contains 70% water.
- Electricity tries to get into the easiest path towards the ground.

Comments, questions, suggestions and feedback about the Reader are welcome. Contact:

Bette Blinde
Colorado Foundation
for Agriculture
PO Box 10
Livermore, CO 80536
P: 970.881.2902
bblinde@growingyourfuture.com

Ms. Traci Curry
New Mexico Agriculture in the Classroom
2220 North Telshor
Las Cruces, NM 88011
P: 575.532.4714
agclass@nmflb.org

Ms. Deanna Karmazin
Nebraska Agriculture in the Classroom
5225 South 16th Street
Lincoln, NE 68512-1275
P: 402.421.4408
DeannaK@nefb.org

Ms. Jessie Dafoe
Wyoming Agriculture in the Classroom
PO Box 347
Cheyenne, WY 82003
P: 307.369.1749
jdafoe@wyaitc.org

Electronic and Electrical Items

Teach kids about being safe with their electronics, such as music players, cell phones and household appliances. The most important thing is to emphasize that electrical items and water do not mix, as that is how people get electrocuted. Tell the kids they should never attempt to use anything electrical while in the shower, taking a bath or standing in water. Make sure that their hands are dry before reaching for the blow dryer. Remind students not to use their computers near any beverages, as a spill could cause computer damage and there is a risk of being electrocuted.

Outdoor Electrical Safety

Teaching your kids about outdoor electrical safety is important because most neighborhoods have outdoor electrical equipment. Take a walk around the neighborhood and point out dangerous electrical items, such as power lines. Teach your students to avoid playing under or near them, advise them against climbing trees that touch power lines. Point out any transformers that might be in your neighborhood. While these square-shaped machines appeal to kids as something to climb and play on, let your kids know that they can be extremely dangerous. If you live near a sub station, show your kids the electrical warning signs on the fence surrounding it and make it clear that going near it is off-limits.

"Power Up" is a fun online game where players try to choose the right amount and right type of power to keep the lights on. Visit **www.myamericanfarm.com** to play.

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1. Which of these is used to generate electricity? All of these

2. What is the first step in getting electricity to your home? Power Plant

3. How fast does electricity travel? 186,000 miles per second

4. Electricity travels through the middle of a wire or power line like water travels through a garden hose. False

5. Where does electricity from distribution substations go? Homes and schools

6. If you touch a downed power line, you can let go or drop the line to avoid a serious shock. False

7. When your body gets extra electricity, like from a lightning strike, what happens? All of the above

8. You can safely run through damp grass or splash in puddles during a lightning storm or near a downed power line. False

9. You should move at least 10 feet away from a downed power line.

10. How can you safely move away from a downed power line? Keep your feet together and shuffle away.

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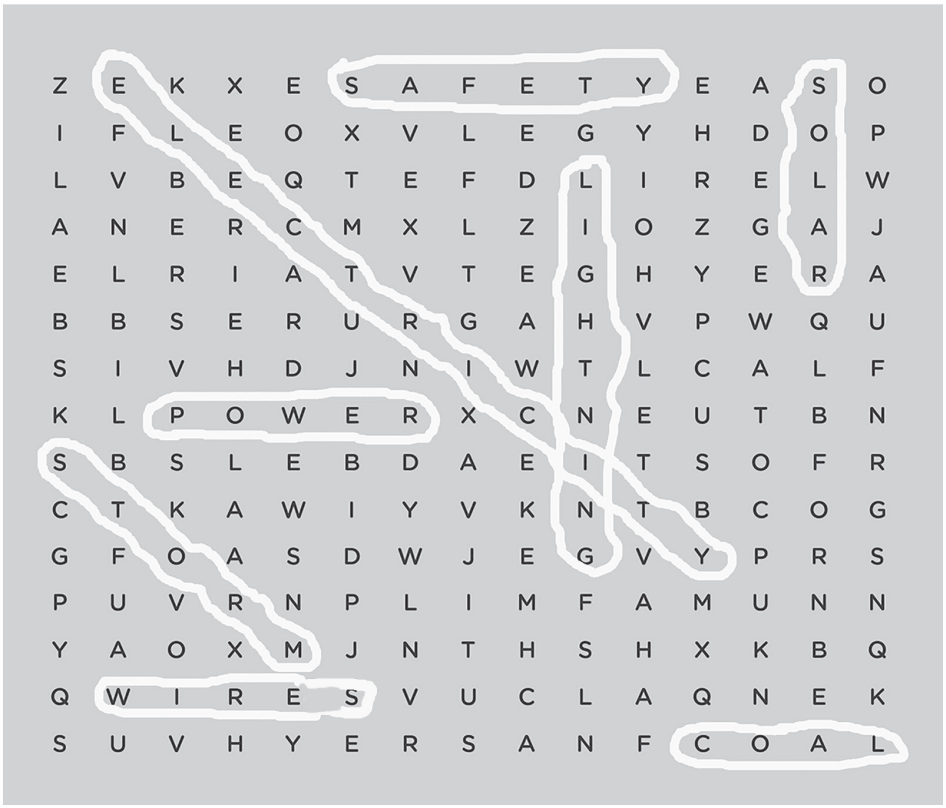
Word Search Answers:



STANDARDS Energy Reader 2015

National Agricultural Literacy Outcomes

Plants and Animals for Food, Fiber & Energy Outcomes

Science: Distinguish between renewable and non-renewable resources used in the production of food, feed, fuel, fiber and shelter.

Common Core State Standards

CCSS ELA-Literacy

CCRA.L.4: Determine or clarify the meaning of unknown and multiple-meaning words and phrases by using context clues, analyzing meaningful word parts, and consulting general and specialized reference materials, as appropriate.

CCRA.R.1: Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.

CCRI.R.3: Explain events, procedures, ideas, or concepts in a historical, scientific, or technical text, including what happened and why, based on specific information in the text.

CCRF.R3a: 3. Know and apply grade-level phonics and word analysis skills in decoding words. a. Use combined knowledge of all letter-sound correspondences, syllabication patterns, and morphology (e.g., roots and affixes) to read accurately unfamiliar multisyllabic words in context and out of context.

CCRF.R4: Read with sufficient accuracy and fluency to support comprehension

CCSS.Math.Content.4.NBT.B.4

Fluently add and subtract multi-digit whole numbers using the standard algorithm.

National Science Education Standards

Physical Science Standards Level K-4

Properties of objects and materials; Position and motion of objects; Light, heat, electricity and magnetism.