# **Preschool/Kindergarten**

Understand the Science of Electricity

### Lesson Plan: Lil' Plug and Lil' Red Safety Adventures

#### **Objectives**

- 1. Recognize electricity is a powerful tool.
- 2. Get a grown-up to plug in or turn on or off an electrical appliance.
  - You must be dry to touch anything electrical.
  - Adults should take the toast out.
  - Never stick anything into an electrical appliance.
  - Stay away from power lines.
  - Go tell a grown-up when you see danger.

#### Preparation

- Review the following electrical safety rules – either before or after presenting the story.
- 2. Download Lil' Plug and Lil' Red graphic to help tell story.



#### Procedure

Read "Lil' Plug and Lil' Red Safety Adventures" to the children. Teacher Summary:

Electricity does many wonderful things, but it also is very dangerous. Lil' Plug helped Lil' Red learn to be safe around electricity that day. Lil' Plug and Lil' Red had many adventures, what are some of the lessons they learned?

- Do not touch anything electrical.
- Only grown-ups should use the toaster.
- Never stick anything into an electrical appliance.
- Stay away from power lines.
- Go tell a grown-up when you see danger.

This story could be repeated several times. First it might be read to introduce the characters and the safety messages.

Next have the children make stop signs out of red construction paper and bring them to story time. Whenever the reader begins to tell an unsafe part of the story, the children may hold up their stop signs and say "Stop!" along with Lil' Plug.

Finally, have half the class pretend to be Lil' Plug and half the class be Lil' Red. As the story is read, children may act out the assigned character.





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### Lesson Plan: Lil' Plug and Lil' Red Safety Adventures

#### **Extension One**

Draw a picture of Lil' Plug and Lil' Red finding other electrical dangers in the home. Ask the children to explain the electrical safety rule demonstrated in the drawing. Write the rule on the drawing. Collect all the artwork and create a book about Lil' Plug and Lil' Red's electrical safety adventures. Photocopy the pages so that all children may have a booklet to take home and read to their families.

#### **Extension Two**

Ask the children, "What would you do if ..." scenario questions to help clarify the messages presented in the Lil' Plug and Lil' Red story.

- What would you do if your hands were wet and the light switch needed to be turned on?
- What would you do if you were hungry and you wanted a snack? There is no grown-up to help you. Could you warm some soup? Could you cook some popcorn in the microwave? Could you eat some crackers and cheese?

#### **Home Link**

Send a note home with the students, asking parents or caregivers to hunt and count, with their children, the number of electrical items in their homes. Ask the children to tell how many electrical items they identified with their parents. Create a list of the items on a flip chart. Community Link

Invite a representative from the local electrical utility company, cooperative extension, fire department or electrical inspector's office to visit the classroom and show tools used when working with electricity.





# **Preschool/Kindergarten**

Identify and work to eliminate electrical safety hazards in the home.

### Lesson Plan: ABC's of Electricity

*Three activities allowing teachers to integrate ABC's with identification of electrical items.* 

#### **Objectives**

To identify items that use electricity.

- 1. Identify 10 household items that run on electricity.
- 2. Understand and articulate that electricity is to be respected. Electricity is helpful, but it also can cause fires and hurt people.

#### Preparation

- 1. Write the ABCs down the left side of a large sheet of paper and post it on a wall or easel near the group-time center.
- 2. Have a marker available to write children's responses.
- *3. Cut out Mr. Plug and Sparky the Fire Dog*



#### Introduction

Mr. Plug<sup>®</sup> and Sparky<sup>®</sup> were amazed to discover so many electrical items in their homes. They want you to understand that there are many electrical items found in the home. Electricity is to be respected. It is helpful, but it can cause fires and hurt people, too.

#### **Activity One**

At a group-time, the teacher and class will make a list of all the electrical items or appliances they can collectively think of. Using the alphabet as the guide, come up with one electrical appliance or electrical safety word for each letter of the alphabet. The teacher will write the word across from the letters on the previously prepared paper.

#### **Activity Two**

At a group-time, the class will create a story about Sparky and Mr. Plug using 10 of the electrical items previously identified. Class members will dictate the story to the teacher using the previously created list of electrical appliances the group. The teacher can read the story back to the students. The students could create a book about the story.

#### **Activity Three**

Match the children's list to the list Sparky and Mr. Plug created. Did the class come up with more words? Visit the *Ask Sparky* section on **www.sparky.org** and e-mail Sparky your safety questions!





## **Preschool/Kindergarten**

Identify and work to eliminate electrical safety hazards in the home.

### Lesson Plan: Electric, Electric Toaster

A shocking version of "Duck, Duck, Goose".

#### **Objectives**

Identify items that use electricity.

It is important for children to understand that many electrical items can be found in the home. Children need to know that electricity is to be respected. Electricity is helpful, but it can cause fires and hurt people, too.

**Preparation** *None.* 

#### Procedure

- 1. Children will sit in a circle.
- 2. The teacher will demonstrate the game following the same rules as the traditional "Duck, Duck, Goose" game.
- 3. The teacher will walk around the outside of the circle touching each child on the head saying, "Name non-electric items around the house."
- 4. Then the teacher will name an electric appliance, like "toaster."
- 5. At the name of the appliance, the child whose head has been tapped will jump up and chase the teacher around the circle and back to the open spot.
- 6. The teacher will sit down in the open spot.
- 7. The selected child will proceed, saying, "Name non-electric items around the house" until he or she decides to have someone chase. Then the child will name an appliance or electrical word he or she has learned. The chase is on.

Encourage the children to think of the various electrical appliances they know. Count how many they can come up with. At the end of the game reemphasize the power of electricity. Reemphasize that everyone needs to be respectful of it. Electricity can be helpful, but it can cause fires and hurt people, if not used carefully.





# **Preschool/Kindergarten**

Identify and work to eliminate electrical safety hazards in the home.

## Lesson Plan: Catch of the Day: Electric Eel

A fishing game allowing students to cut pictures of items from magazines; glue the items on the 3" x 6" cut-outs of eels, and then "catch" the electric eels!

#### **Objectives**

Identify items that use electricity.

It is important for children to understand that many electrical items can be found in the home. Children need to know that electricity is to be respected. Electricity is helpful, but it can cause fires and hurt people, too.

This lesson can be presented as a center activity allowing four or five children at a time to fish for safety.



#### Preparation

Materials needed:

- 30-40 small pictures of appliances, electrical items and children's toys or clothing
- Download the happy eel pattern and make 30-40 copies
- paper clips
- 2-foot 4-inch dowels with a 1-inch cut in the top of each
- 4 strings with magnets tied to end of each
- · plastic wading pool or box decorated to look like an ocean
- 1. Children cut out small pictures (from catalogs or advertisements) and paste them on the "electric" eels.
- 2. Teacher will create fishing poles by tying a 2-foot string to the top of the dowel and tying a magnet (lifesaver-shaped magnets can be purchased) to the other end of the string.
- 3. Teacher will place the paper clips on the eel.
- 4. Teacher will set up the fishing area.
- 5. Teacher will introduce the session.

#### Procedure

Introduce the lesson:

Mr. Plug<sup>®</sup> and Sparky<sup>®</sup> went fishing. Instead of fish, they caught funny electric eels with pictures on their bellies! What are these pictures of? Can you tell?

Can you help catch these electric eels, too? When you catch one with your fishing pole, give it to me and tell me if the picture on the belly is of something that runs on electricity and would it be safe for kids to use.





#### Lil' Plug and Lil' Red Safety Adventures

Lil' Plug and Lil' Red were playing in the house. They were hungry, so they decided to toast a bagel to eat.

First, Lil' Plug washed his hands. Next Lil' Red washed his hands. Then Lil' Plug dried his hands.

Lil' Red reached to turn on the light before he dried his hands.

"STOP!" cried Lil' Plug. "You can be hurt (shocked) by touching anything electrical with wet hands."

"Oh!" said Lil' Red. "Thanks for keeping me safe!"

"Dry your hands, and then you can turn on the light!" said Lil' Plug.

Lil' Red dried his hands. He turned on the kitchen light and began to plug in the toaster.

"Stop!" said Lil' Plug. "Only a grown-up can plug in the toaster."

"Oh!" said Lil' Red. "Thanks for keeping me safe!"

Lil' Plug asked his mother to plug in the toaster, so they could eat a yummy bagel. She put the bagel into the toaster, pushed the lever down and went about her chores while together Lil' Plug and Lil' Red waited.

They waited and waited. The bagel did not pop up. Soon smoke began to rise from the toaster. Lil' Red got a fork. He reached to stick the fork into the toaster to get the bagel out.

"Stop!" yelled Lil' Plug. "The toaster is electrical! You can be hurt (electrocuted) by touching anything electrical with metal! Don't touch the plugged-in toaster with a metal fork."

"Oh!" said Lil' Red. "Thanks for keeping me safe!"

The two called Lil' Plug's mother who unplugged the toaster. She retrieved the burned bagel and placed a new bagel into the toaster. After it toasted, she fed Lil' Red and Lil' Plug.

After they ate, Lil' Red and Lil' Plug decided to go outside to play. While splashing through the puddles, Lil' Plug noticed a wire that had fallen down.

"Stop!" yelled Lil' Plug.

Lil' Plug and Lil' Red moved quickly back to the house to tell a grown-up!

"The storm may have made the lines break. We must always stay away from any wires that look like power lines," said Lil' Plug.

"Oh!" said Lil' Red. "Thanks for keeping me safe!"







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### **ABC's of Electricity**

А	Alarm Clock			
В	Blender	Buzz		
С	Can Opener	Cords	Computer	
D	Dish Washer	DVD Player		
Е	Electric Saw	Electric Drill	Electricity	
F	Fan	Freezer	Fire	
G	(Electric) Guitar	Gameboy		
н	Hair Dryer	Heater Holida	y Lights	
I	Iron	Ice Cream Freezer	Ice Machine	
J	Juicer			
К	Keyboard	(Electric Knife)Kilowatt		
L	Lamp	Lights Lightning	Laptop Computer	
М	Microwave			
Ν	Nightlight			
0	Oven	Outlets		
Ρ	Playstation	Popcorn Popper	Plugs Power	
Q	Queen's Coffee Pot Quick	Quiet		
R	Refrigerator	Radio		
S	Stove	Stereo	Shock	
Т	Television	Toaster	(Electric) Toothbrush	
U	Unplug			
V	Vacuum	VCR	Video Player	
W	Waffle Iron	Washing Machine	Wheelchair Watts Wires	
х	X-box			
Y	Yikes!	Yank (never yank a cord)		
Z	Zigzag Lightning	Zap!		

