



Essential Services

Identifying Resistors

Links to: [Replacement stock](#)

Activity overview

This is an extension activity that allows students to identify electrical parts that use colour coding in place of written or numerical codes.

Electricians are required to use resistors to ensure that the right amount of electricity gets to the different devices in our homes. This lesson allows students to become familiar with the colour codes used by electricians when working with resistors. Although a specific task, the general skills this lesson reinforces – using reference materials, symbols and colours – are skills used in electrical work.

Classroom organisation

Students work in small groups to assist each other.

Note: It is important to note that colour-blind students will not be able to complete this task, but may be able to participate with the assistance of other students. You may like to provide an Ishihara test individually to your class – particularly the boys - to determine if any students are colour-blind. This could be a useful activity – it reinforces how people interested in electrical work cannot be colour-blind. These tests are readily available online.

Resources

Other

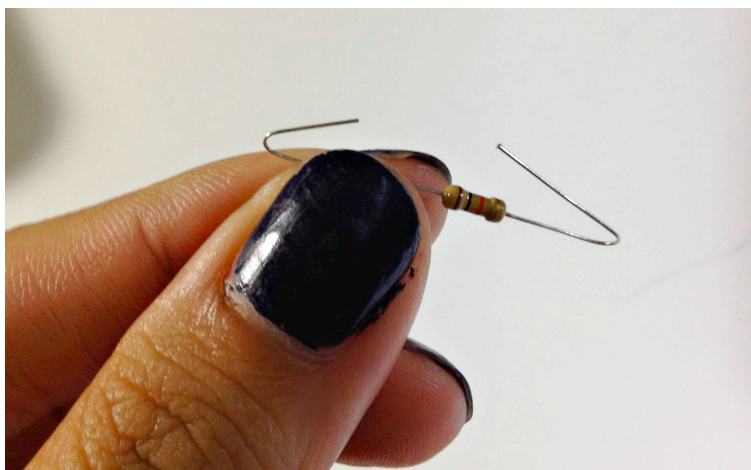
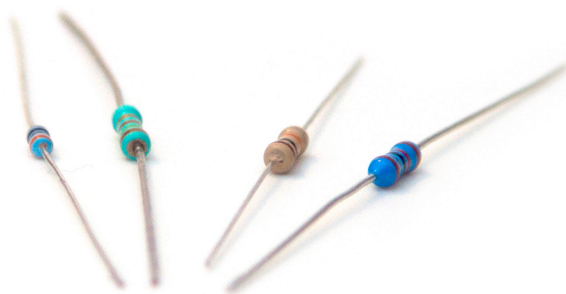
- ☐ Cardboard rolls (such as toilet paper rolls, cling film rolls etc.)
- ☐ Coloured paper in the following colours: black, brown, red, orange, yellow, green, blue, purple, grey, white, black (you may use crayons or markers that students draw on white paper)
- ☐ Sticky tape
- ☐ Scissors
- ☐ Colour chart
- ☐ Ishihara test (see note below)
- ☐ Pictures of resistors, or actual resistors if any are available. Some science kits may include resistors or they can be easily purchased on eBay

Print

- ☐ Student Worksheet

Instructions

1. You may like to walk through the introductory information in the student worksheet as a class – some of the concepts are a little tricky so it will be helpful to explain them as carefully as you can
2. Show the students pictures (or actual) resistors so they can see examples of what they will be doing in this lesson.



3. The worksheet includes activities to help students learn to decode the colour codes used with resistors
4. Once students have grasped the colour codes used with resistors, they use colour paper and cardboard tubes to recreate colour codes used for some given resistor values (these are included in the worksheet)

