



INDIAN SCHOOL AL WADI AL KABIR

DEPARTMENT OF SCIENCE 2019-2020

WINTER HOLIDAY HOME ASSIGNMENT

Class VIII

ELECTROSCOPE

1. Make a model of an electroscopescope
2. A two pages write-up which should include the following:
 - Scientist who discovered electroscopescope.
 - Principle on which it works.
 - What did you observe when you touched the coil with the charged object?
 - What happened when you touched the electroscopescope?
 - Uses of an electroscopescope
 - Two applications of an electroscopescope

The Things You Will Need

The things needed can all be found at house.

- 1) Plastic or glass jar with lid that are transparent. (Must be transparent)
- 2) Aluminium foil-2 small piece of same size.
- 3) Copper wire
- 4) A scissor
- 5) Insulation tape or cellotape
- 6) Straw
- 7) Pencil(optional)
- 8) hot glue
- 9) Balloon



Steps

Safety Tip!! Get an adult to help you punch a hole in the lid.

1. Start by punching a hole in the jar lid large enough for the straw and copper wire to fit through.
2. Insert the straw into the hole and center it. Leave a couple inches of space from the bottom of the jar. Use the hot glue to secure the straw in place.
3. Next, insert the copper wire into the straw, with about 2" protruding from the straw inside the jar.
4. Use the pliers to bend 1" of the copper wire into a hook to hold the aluminum foil later.
5. Use the pliers to bend the remaining copper on top of the lid into a coil to provide more surface area.
6. Next, cut a small slit in the aluminum foil and slide them onto the copper hook.
7. Attach the lid to the jar.
8. Now, rub the balloon on your hair.
9. Place the balloon next to the copper coils. Observe what happens to the metal inside the jar.
10. Move the material away and touch your hand to the coiled wire. Observe what happens.
11. Repeat step 8-10 with any other materials you would like to test.

Troubleshooting

- Thicker wire will conduct more electricity, thus producing a stronger result.
- Thinner wire, or fewer coils will not work as well.
- For the best results, make sure you thoroughly rub the balloon or other materials on your hair. They must accumulate a sufficient charge for the electroscope to detect it.

<https://www.youtube.com/watch?v=2PmWIPjV6n0>- simple electroscope

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