SASTA OLIPHANT SCIENCE AWARDS

SOUTH AUSTRALIAN SCIENCE TEACHERS ASSOCIATION

Prize Winner

Models & Inventions

Year R-2

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Global warming and Sea Level rise

The project shows a model of Sea Level Rise due to Global Warming. The project is made up of three parts:

1. Part One: Platform marked as Label 1 shows the Main Causes of Global Warming like deforestation, gas emission from coal powered electricity ~~station~~ Stations, and vehicles burning fossil fuel like Petrol.

2. Part 2: ♥ Container marked as Label 2 displays the melting of glaciers and ice shelf because of global warming.

3. Part 3: ♥ Container marked as Label 3 shows a sea side scenery with beach, cake shop, hotels and the sea. It shows increase in sea level because of global warming, depicted by the flow of water pumped from container marked Label 2.

The project is made using recycled polystyrene foam, paper, sand and pebbles, water colour enamel paint and toothpicks. Hot glue pva glue and silicone was used to glue the items. Two plastic containers are used to retain and pump water for showing the change in sea level from global warming. A 12V battery is used to the submersible pump with alligator cables

This project aims to show that everyday familiar place like beaches will disappear because of global warming That it will affect our everyday life and the way people live.

The project was conceived and developed by:

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Parents collaborated in bringing ideas together, cutting polystyrene foam and in obtaining materials used.

Global Warming and Sea Level Rise: Interactive Model

By: Aayana Butt, Isha Wechalekar, Maryam Cedra Sawad
Year 2R, Wilderness School (August 2020, Oliphant Science Project)

Components:

1. Platform (Label 01) showing main causes of Global Warming;
2. Container (Label 02) showing ice capped mountain and glacier;
3. Container (Label 03) showing beach and coastal town;
4. Cardboard base with markings for placing containers;
5. Submersible water pump with plastic hose;
6. Battery (12V) with alligator cables (red and black)

Instructions for setting up interactive model:

1. Place Cardboard base on a flat surface;
2. Place platform (Label 01), Container (Label 02), Container (Label 03) and Battery on the areas marked on the Cardboard base;
3. Fill in water up to "Normal Sea Level" (marked on the side) into Container (Label 03);
4. Fill up water into the opening on top of the ice capped mountain;
5. Insert Submersible Pump into the opening of the ice capped mountain containing water;
6. Connect "red" alligator clip to the red tip on the Battery;
7. Connect "black" alligator clip to the black tip on the Battery;
8. *Now the Model is ready to demonstrate how the ice capped mountain and glacier melts and increases sea level and floods beach and coastal town;*
9. Place the Hose end from the Submersible Pump into Container (Label 03) and hold it in place;
10. Connect "red" alligator cable to the wire from the Submersible Pump marked "RED", and connect "black" alligator cable to the wire from the Submersible Pump marked "BLACK".
11. *Now the water created from the melting ice is flowing into ocean and increasing the sea level. This is flooding the beach and the coastal town;*
12. Once the rising water reaches the streets of the coastal town, disconnect the alligator clips from the Battery;

To reset the Model, remove Submersible Pump from ice capped mountain in Container (Label 02) and put it in the corner slot in Container (Label 03) and switch the Hose end into the ice capped mountain where the Pump was inserted before.

Connect the alligator clips to the Battery. The Submersible Pump will now pump out into the ice capped mountain, all the excess water from Container (Label 03). When the water level in Container (Label 03) reaches "Normal Sea Level" disconnect the alligator clips from Battery.

Swap the Submersible Pump and Hose to where they were before.

Now the Model is ready for demonstration again.