



Are we **mapping** it right?

'Mapping' The Journey Of How The Real Maps Came Into Existence

Rhea Suri, AIS MV, XI D

Can you imagine being a sailor or a voyager in the 16th century? Can you see yourself and your friend going about in huge boats, carrying big globes to find your way through the wide deep sea? No? Well, the sailors of the 16th century had to do just that. And then, for their assistance, sheets of paper called maps came along.

What is a map?

Most maps start with an outline of a location. Then they provide information about the location's attributes. There are different types of maps: physical maps, which illustrate landforms like mountains, deserts, lakes etc; political maps, which depict information about countries, their states, borders, and major cities. Maps use symbols to display the aforementioned.

What's Mercator map?

Remember the sailors who had to carry globes around on their voyages? Those globes were heavy, and to make it worse, huge and unportable. So, to ease their troubles, Flemish cartogra-

pher Gerardus Mercator, in the year 1569, designed a map as a navigational tool for sailors to travel with. Mercator's map quickly became the standard map for ocean voyages, and remain popular to this date.

Earlier sailors had to toil before the journey and mark bearings on maps. But after the invention of the Mercator map, sailors no longer had to work so hard. They just needed to mark their starting and ending points on the map, and simply follow the line for their journey. Think about how grateful the sailors would have been to Mercator. But there were things which went wrong along the way.

So, what went wrong?

Drawing the Earth, which is 3-dimensional, to a map, which is 2-dimensional, brought its own set of troubles. Bringing the otherwise round Earth to a flat surface caused distortions. The Mercator map gave the right shapes to the countries but distorted their sizes. For instance, on the map, North America looks as big as Africa, and Greenland is of comparable size. In reality, North America can easily be fitted inside Africa,



with space still left for India, Argentina, and some more such countries. Maps also suggest countries like Sweden, Norway, and other parts of Europe are larger than India, whereas the reality says that India is three times their actual size!

The Mercator map displays the countries near the equator almost perfectly. The countries near the poles, and away from the equator, got the short end of the stick. To quote an example, Greenland is in reality, only 1/8th the size of South America, but on the Mercator projection, it appears much larger.

Also, the Mercator version is one of those rare maps whose answer to latitudinal distortions and differences was to ensure that the longitudinal distortions are equally bad!

Nothing. It's been almost 450 years since the Mercator map was created. Our ancestors, fathers, and forefathers have been following this map since time immemorial, so we'll just keep going that way! The only difference is that we know we're going in the wrong way.

Nothing. It's been almost 450 years since the Mercator map was created. Our ancestors, fathers, and forefathers have been following this map since time immemorial, so we'll just keep going that way! The only difference is that we know we're going in the wrong way.

Nothing. It's been almost 450 years since the Mercator map was created. Our ancestors, fathers, and forefathers have been following this map since time immemorial, so we'll just keep going that way! The only difference is that we know we're going in the wrong way.

Nothing. It's been almost 450 years since the Mercator map was created. Our ancestors, fathers, and forefathers have been following this map since time immemorial, so we'll just keep going that way! The only difference is that we know we're going in the wrong way.

What can be done?

Nothing. It's been almost 450 years since the Mercator map was created. Our ancestors, fathers, and forefathers have been following this map since time immemorial, so we'll just keep going that way! The only difference is that we know we're going in the wrong way.

Nothing. It's been almost 450 years since the Mercator map was created. Our ancestors, fathers, and forefathers have been following this map since time immemorial, so we'll just keep going that way! The only difference is that we know we're going in the wrong way.



Papier-mâché volcano

Watch The Artificial Lava As It Erupts Out Of Your Very Own Miniature Volcano!

Science Experiment

Parth Katoch
AIS Gur 46, V

Aim: To study the basic chemical reaction of an eruption

Material Required

- A small plastic bottle
- Newspaper strips
- White glue
- Water
- A bowl
- Large cardboard piece
- A pair of scissors
- Paint and brushes
- Baking soda – 1 tbsp
- Vinegar- 1/4 cup
- Colour additive (red) - 3 drops

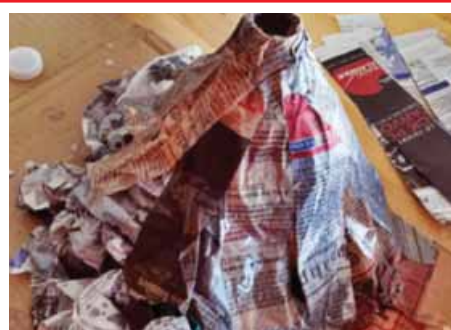


Procedure



STEP 1

Stick the plastic bottle on the cardboard piece with the help of glue. Scrunch up some sheets and stick it around the base of the bottle to make the base of the crater.



STEP 2

Mix glue and water together in a bowl. Immerse strips of paper in the glue-water mix and keep sticking them one on top of other around the bottle till it resembles a volcano. Let it dry.



STEP 3

Once the crater is dry, paint it with shades of red and brown, or as you may like.



STEP 4

Add baking soda and red colour additive to the bottle in the centre of the volcano.



STEP 5

Lastly, pour 1/4th cup of vinegar into the bottle.



STEP 6

Watch your volcano spew lava!



What science says

The volcano erupts because the acidic vinegar comes in contact with baking soda (Sodium Bicarbonate) which is alkaline in nature. This reaction leads to the formation of a new chemical substance known as carbonic acid (H_2CO_3). Due to the unstable nature of this newly-formed substance, the mixture separates into carbonic acid and water within no time. The reaction also results in the production of Carbon Dioxide (CO_2). This leads to the formation of bubbles and the popping noise.