

**PROJECT ID : NSF-SCH-2025-381**

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Topic: A comparative study on water  
purification at home.

## **Abstract:**

Water is something we use everyday but not all water is clean. Some waters has dirt, germs, or bad smell.

In this project I tested four types of water at home.

1. Purified water
2. Boiled water
3. Frozen water
4. Dirty water

## **Statement of the problem:**

When My teacher was teaching about important of future what usage for future generation I thought which method can we use to purify dirt water at home.

Hypothesis:

Before doing the project I thought

- \* Purified and the boiled water would be safe to drink.
- \* Frozen water may look clean but might still have germs.
- \* Dirty water would be the most unsafe.

# **Design of the Study:**

## **Dependent Variables:**

Clean

Purity

## **Independent Variables:**

Filtering

Boiling

Freezing

## **Controlled variable:**

Colour

Bad Smell

pH level

## **Materials:**

- \* Purified water from a water filter.
- \* Water that I boiled
- \* Water that I Froze and then melted
- \* Dirty water
- \* Four transparent glasses
- \* Labels for each glass
- \* pH paper

## Procedure:

I poured each type of water from a water filter into the separate glasses.

\* Smell and the particles in each one .

\* I wrote down what I saw

\* I thought about which one I would drink or not.

\* I used pH test stripes by dipping one strip into each type of water for a few seconds then compared the colour to the pH chart.

water is neutral and dirty water is slightly alkaline.



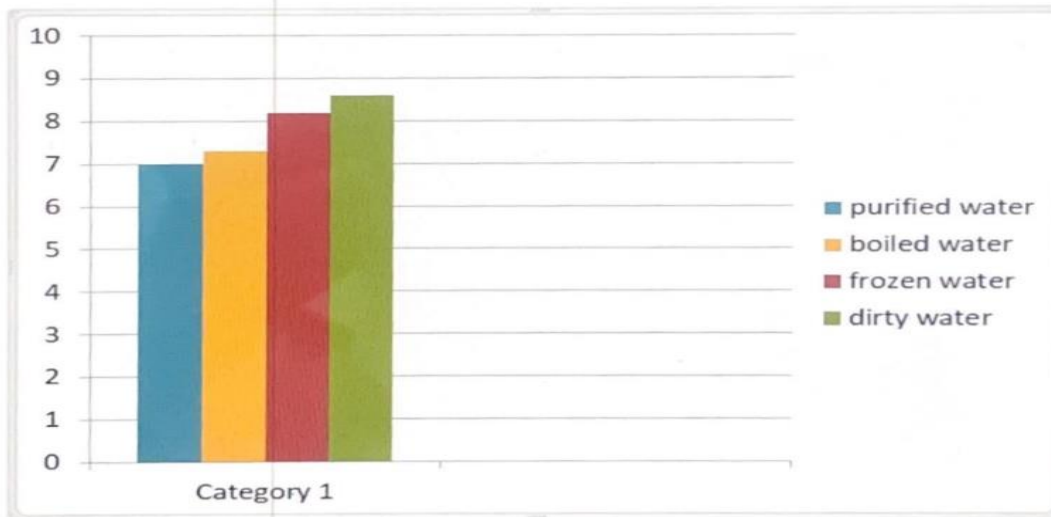


## **Tabulation**

S.no	Water	Ph level	Appearance
1.	Purified water	7	clear
2.	Boiled water	7.5	clear
3.	Frozen water	8.1	clear
4.	Dirty water	8.5	brown

# Graph

## Graph



## **Result:**

- \* Purified water was best- clear and clean
- \* Wild water was also safe- no smell or particles.
- \* Frozen water looked okay but it is not safe to drink.
- \* Dirty water was clearly unsafe to drink - brown colour and visible dirt.
- \* The pH test showed Purified water was pH 7, Boiled 7.2 , Frozen 7.5 ,Dirty 8- showing clean

## **Conclusion :**

- \* Boiled and filtered water are simple but effective ways purify water at home.
- \* Freezing does not remove germs from water.
- \* Ever drink water that looks are smells bad.
- \* Clean water is very important for health.
- \* The test shows clean water is neutral, while dirty water is slightly alkaline due to impurities.