

SOLAR WATER PURIFIER

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Class: IX

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Introduction

A solar water purifier is a simple device that uses the heat energy of the sun to clean dirty or salty water. It works on the principle of the natural water cycle, providing safe drinking water in rural areas and during emergencies.

Aim

To demonstrate how solar energy can be used to purify dirty or salty water.

Materials

- Glass bowl
- Plastic sheet
- Collection tube
- Dirty or salty water
- Sunlight



Procedure

1. Pour the dirty or salty water into glass bowl.
2. Cover the bowl with a plastic sheet, sealing the edges.
3. Place one end of of collection tube inside the bowl and the other end outside.
4. Put the purifier in a spot with good sunlight.
5. Leave it under the sun for several hours.

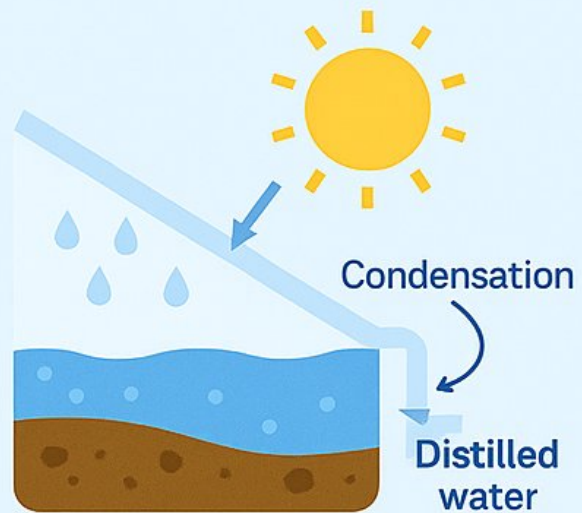
Project Schedule (Timeline)

Week	Activity	Description
1	Research	Study how solar distillation works and gather materials!
2	Design	Draw the purifier model (glass cover, black base, collection tube)
3	Construction	Build the solar water purifier using materials (glass bowl, plastic sheet, etc.).
4	Experimentation	Test the purifier with different times of sunlight exposure. Record data.
5	Observation	Measure temperature, TDS, and water clarity.
6	Data Analysis	Create graphs, analyze results
7	Report Writing	Write your conclusion and prepare your project display board

Research and Materials

Solar distillation

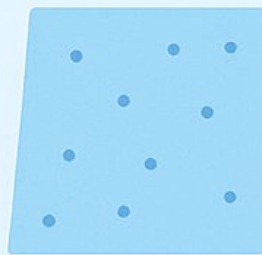
Solar distillation is a process that uses solar energy to evaporate water and separate it from contaminants.



Materials



Glass bowl



Plastic sheet



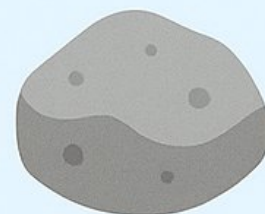
Black paint



Collection cup

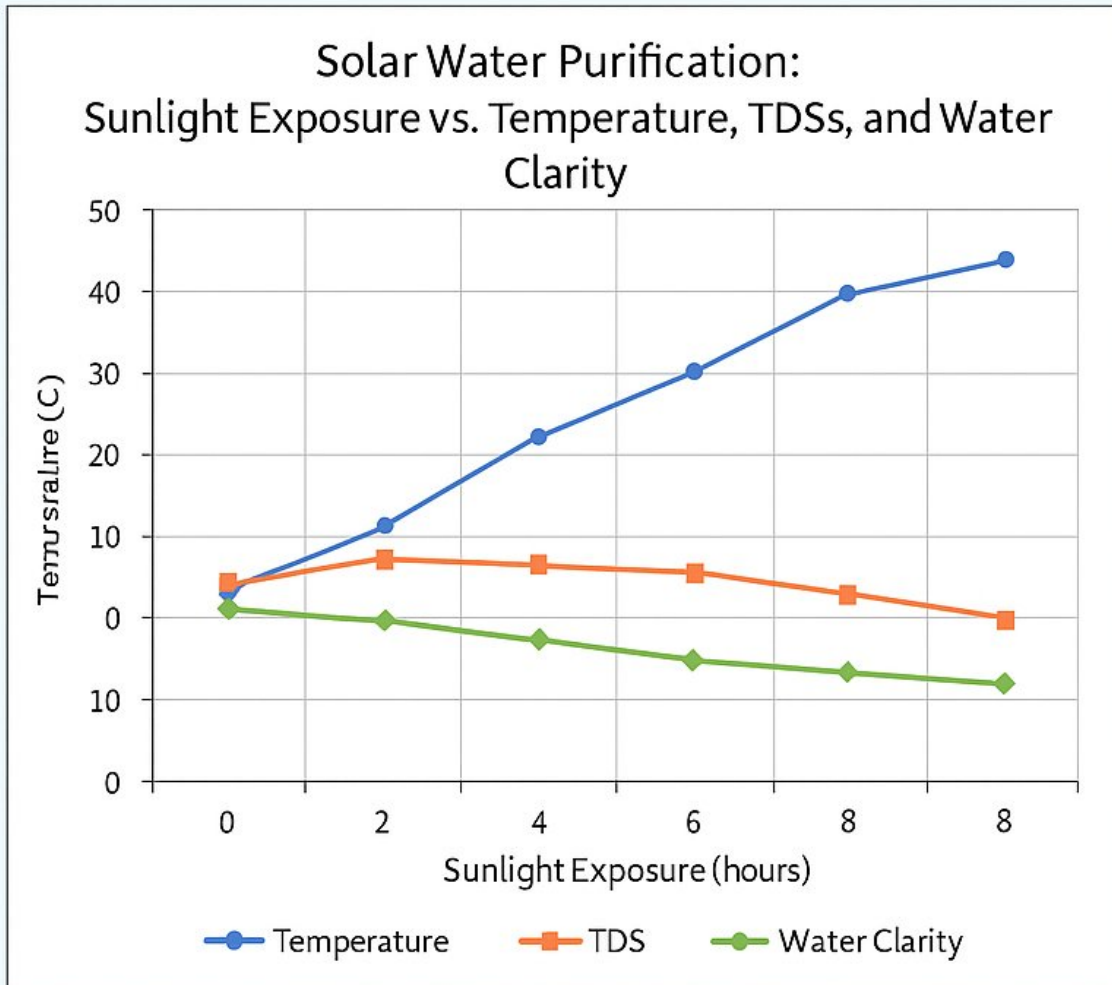


Tape



Small stone

Graphs and Results



Purified water sample



Investigation of
water parameters

Solar Water Purifier

Model and Process Images



Data Analysis and Final Conclusion

The solar water purifier effectively reduced the TDS level and improved water clarity, with longer sunlight exposure leading to better results.

It demonstrates the potential of using solar energy for water desalination and purification.