# Fighting against water pollution

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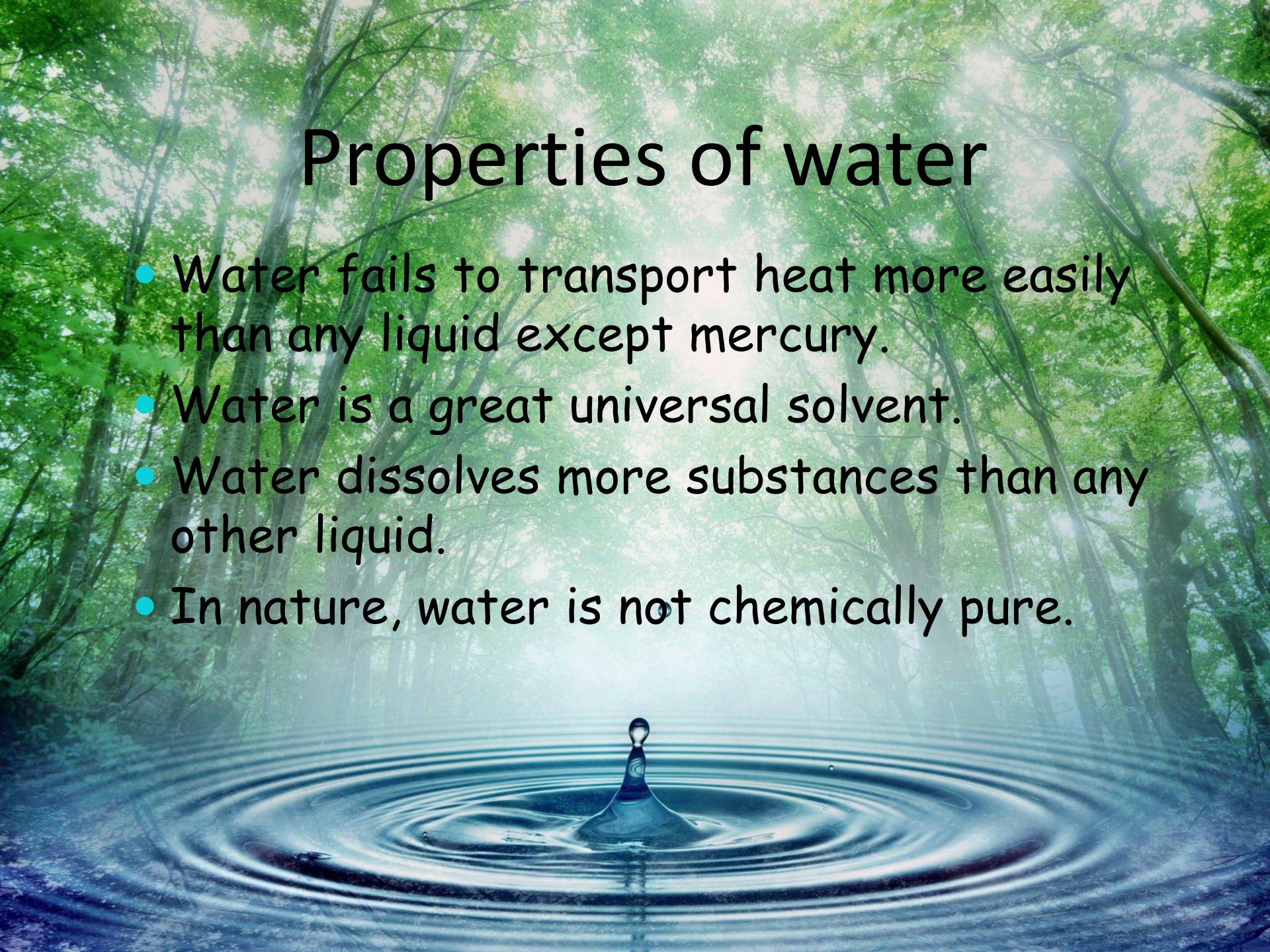
# Water

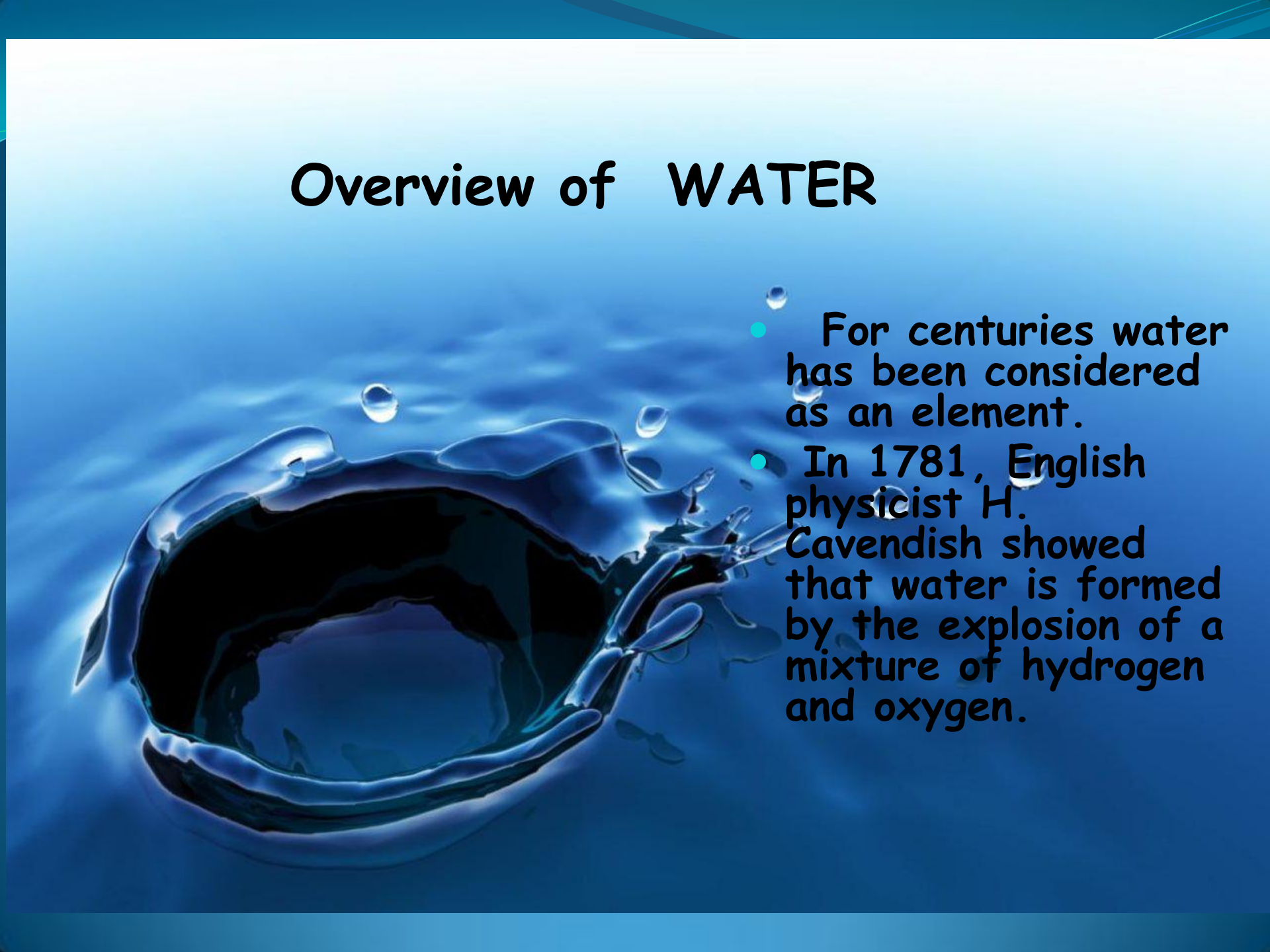
- Water is essential for life .

# Properties of water

- Water fails to transport heat more easily than any liquid except mercury.
- Water is a great universal solvent.
- Water dissolves more substances than any other liquid.
- In nature, water is not chemically pure.



# Overview of WATER



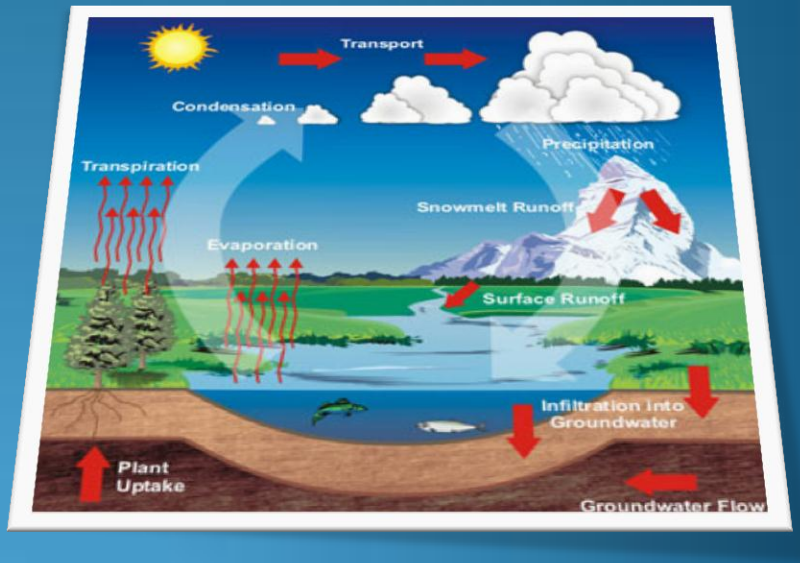
- For centuries water has been considered as an element.
- In 1781, English physicist H. Cavendish showed that water is formed by the explosion of a mixture of hydrogen and oxygen.

# PHYSICAL PROPERTIES OF PURE WATER

| PHYSICAL CONSTANTS | VALUE |
|---|---|
| Appearance | Liquid |
| Color | Colorless in layers thick blue |
| Taste | Tasteless |
| Odor | Odorless |
| Freezing point | 0 degrees C |
| Boiling point | 100 degrees C |
| Density at 4 degrees C | 1g/ |
| Electrical conductivity | Insulator |

# Water cycle in nature

- The sun causes evaporation of surface water.
- Resulting vapors rise in the atmosphere.
- In warm seasons, if the nights are cold, dew is deposited, and if soil temperature is below zero degrees C, frost is deposited.
- Water  from the ground level or resulting from melting snow, in part  refill lakes, streams, rivers, seas and oceans.



# Water Pollution

- Causes :

- Accidental release of waste from various factories.
- Leaks from storage tanks and pipelines.
- Chemical fertilizers.
- Waste and household waste.
- Acid rain.
-. Pesticides and herbicides.


Terrible reality

# Consequences of pollution on nature

- One effect of water pollution, especially serious fertility by nutrient intake little by little, leading to narrowing and disappearing of the lake.
- Serious problems also raise water pollution with heavy metals, especially mercury, which reaches a large food chain accumulation.
- Pollution that can harm tourism is understandable: not many who have not yet met a dirty beach.
- Bacteriological or chemical contamination and radioactive pollution of vegetables and fruit.

# Consequences of pollution on human health

- **Most diseases are caused by the body that people do not drink enough water or drinking water has the best qualities.**
- **I Infectious Diseases**
- **parasitic diseases**
- **II. Noninfectious diseases :**
- **undue fatigue;**
- **• Mercury poisoning :**
- **headache, dizziness, insomnia, fatigue;**
- **visual disturbances**
- **• Pesticide poisoning :**
- **impaired liver function until the formation of chronic hepatitis;**
- **birth defects.**

# WATER POLLUTION CONTROL

- Reducing water consumption in industry.
- Wastewater must be subjected to treatments.
- To destroy pathogens includes the operation of disinfection by treatment with chlorine or nitrogen.
- Construction of dams;
- Construction of special waste collection tanks.
- Construction of water protection areas.
- Construction of wastewater treatment plants in villages

DO NOT DISCARD ANY RESIDUES ON RIVER BANKS AND RIVERBEDS IN ANY WAY!

# Water purification - techniques and solutions

- Technology has developed four major ways of filtering.
- The four types of filter are complementary and aim for various contaminants found in the water.
- Chemical processes
- Physical processes
- Biological processes
- Less known and used narrower electromagnetic radiation sterilization of water aims, in particular for pharmaceutical purposes.

- Of course, to reduce turbidity as more processes become complicated, but we can speak of a widespread standard industrial water purification technology, following the steps below:
- The liquid is maintained in large tanks to allow heavy particles to settle and the light to float. This method provides relatively coarse physical water treatment especially macroscopic impurities, oils, fats, etc.
- In the second step, the particles are dissolved and removed particles in suspension, including organic elements such as microorganisms.
- In the third stage, water is filtered and chemically treated physical to ensure purity.
- These techniques can be added, depending on region and purpose, other specific treatments. With figures indicating millions of deaths worldwide every year due to contaminated water and tens of millions of cases of dysentery the same reason, water purification can be considered a real problem and a reality before which we can not show enough care and dedication .

# Water treatment plants

# THANK YOU FOR YOUR ATTENTION!