

hello



# **Materials** in design





**stone**





brick

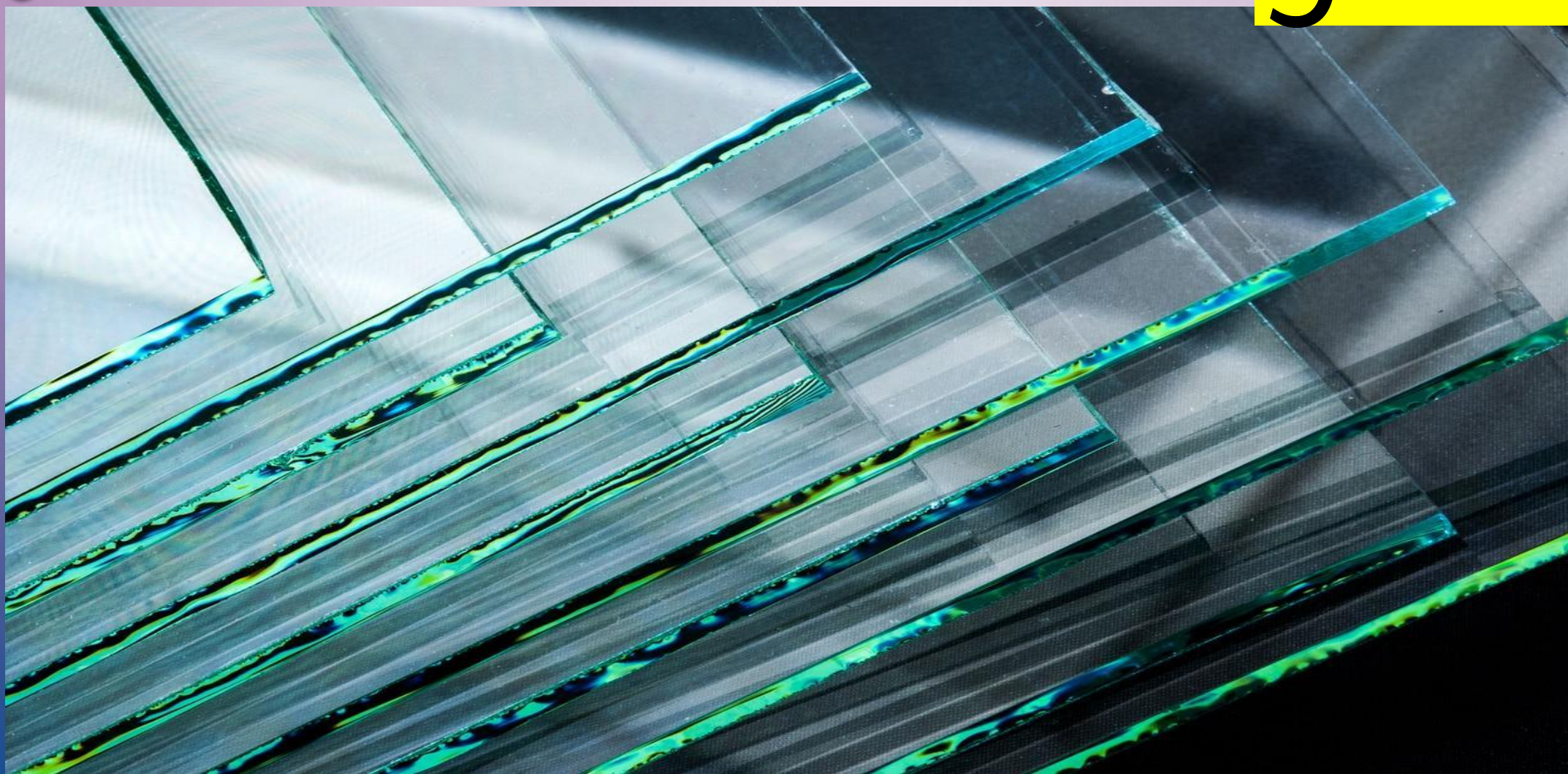




# concrete

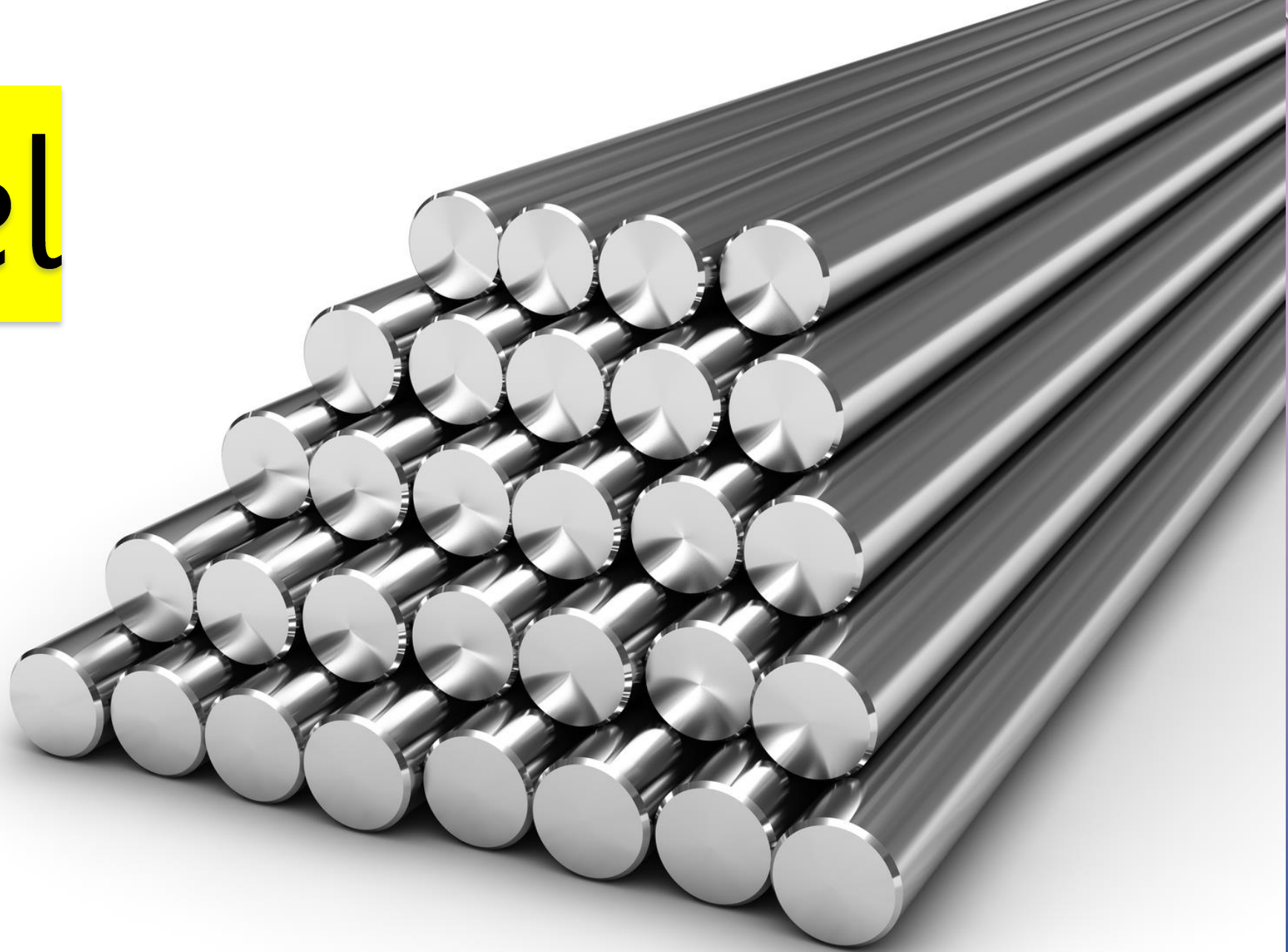


glass





steel





mud





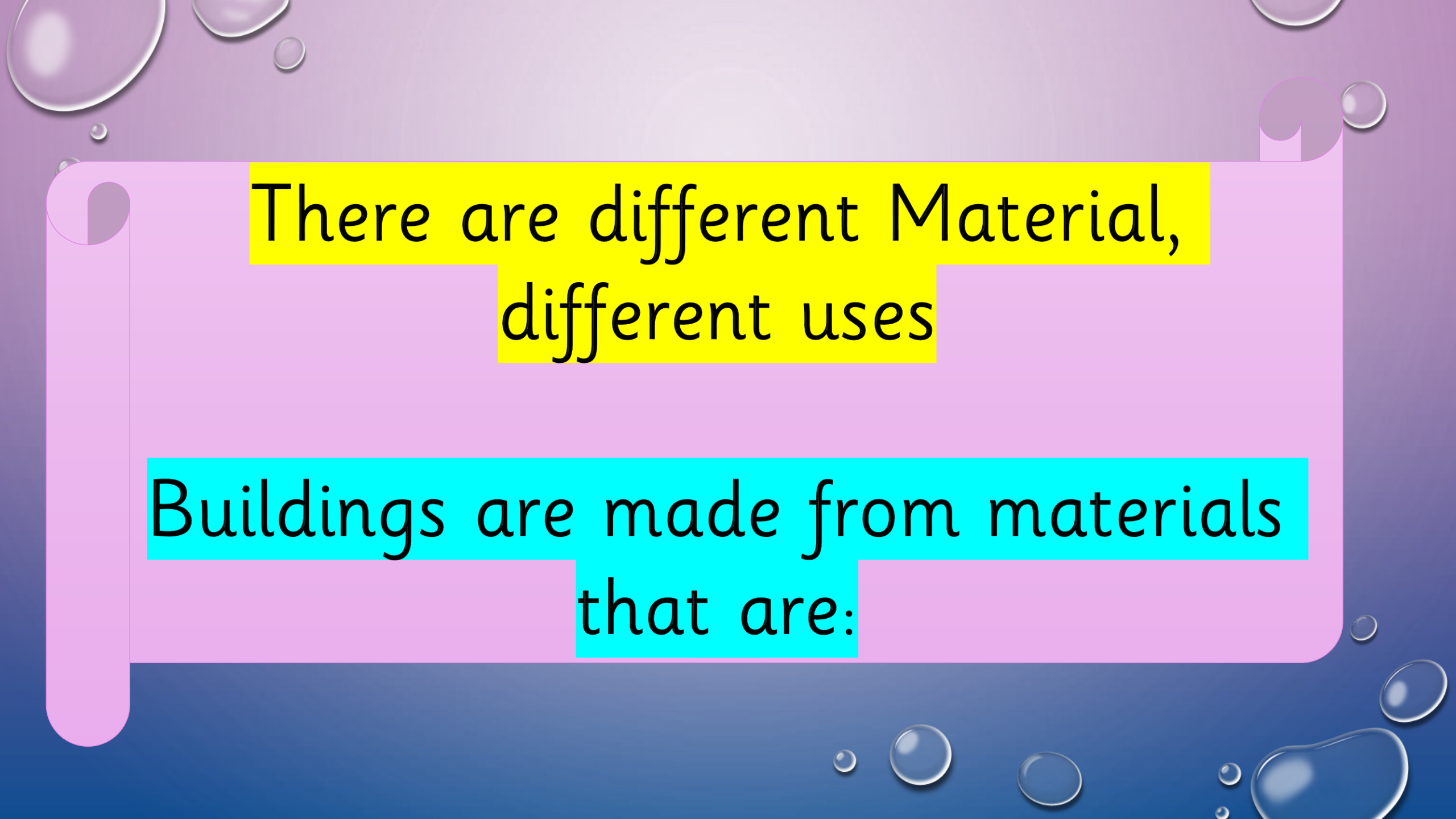
Wood





ice



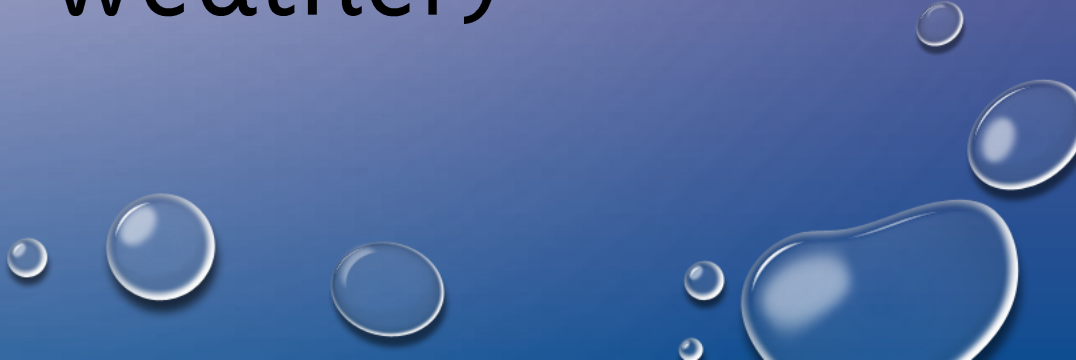


There are different Material,  
different uses

Buildings are made from materials  
that are:



Buildings are made from materials that are:

- **Strong** (to last)
  - **Safe** (to protect people)
  - **Available** (found nearby)
  - **Comfortable** (for the weather)
- 





**strong**

To last





safe

To protect people



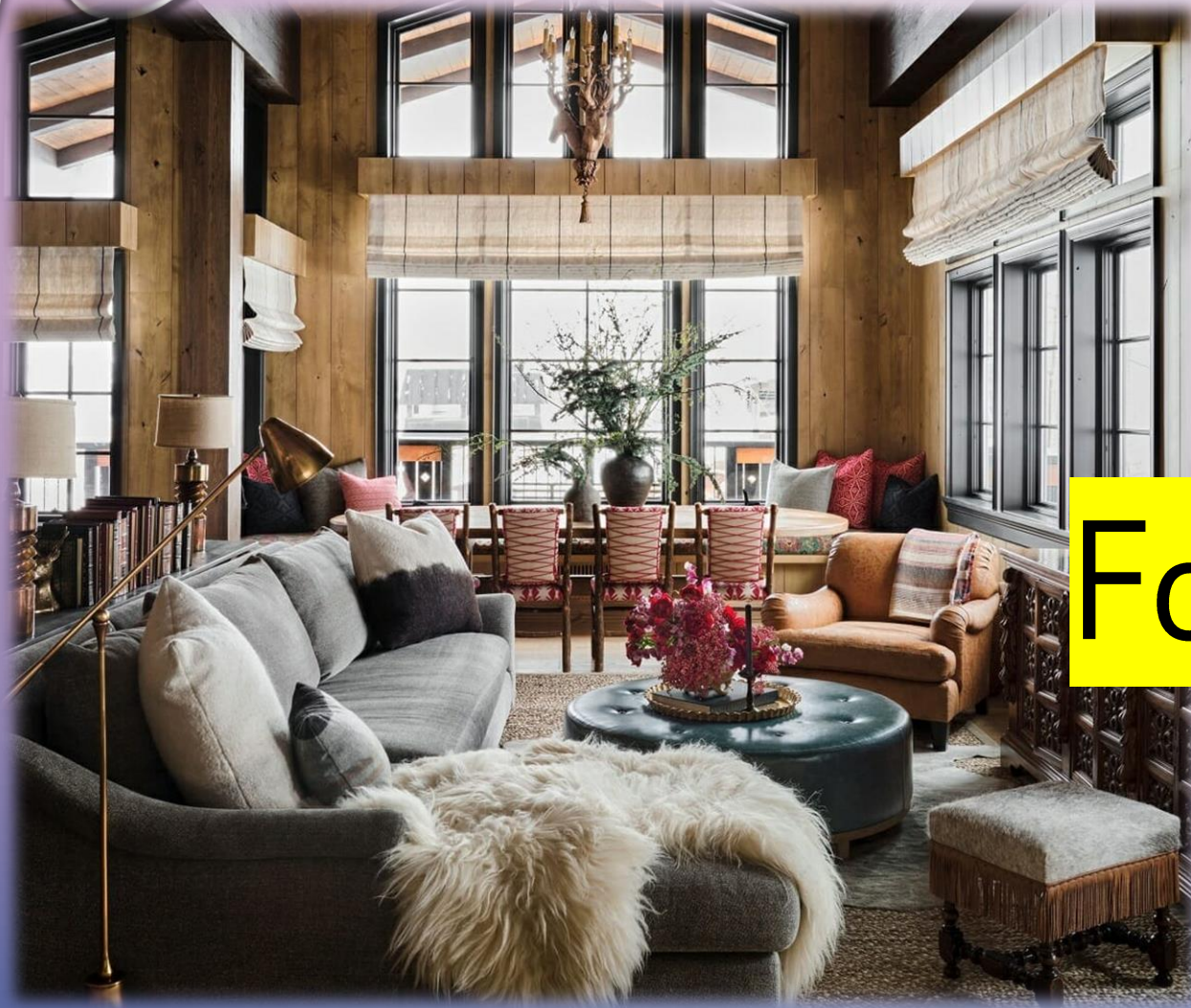


available

Found nearby







comfortable

For the weather

Watch movie





## 2. Climate Changes What We Build With In Hot and Dry Places:





- It is better to use thick walls made of mud brick or clay







- It is better to use thick walls made of mud brick or clay

- These materials keep the inside cool.

- Example: Traditional houses in Yazd, Iran use mud bricks and wind towers



# Tropical/Rainy Places







bamboo



palm leaves



light wood





Roofs are steep so rain slides off quickly





- Example: Thatched houses in Southeast Asia use palm or grass roofs





## In Tropical/Rainy Places:

- It is recommended to use bamboo, palm leaves, or light wood
- Roofs are steep so rain slides off quickly
- Example: Thatched houses in Southeast Asia use palm or grass roofs

# Sustainable Buildings

Green buildings





These are buildings designed to  
be

good for the environment

And

save resources

like water energy and materials



# Sustainable Construction Methods



Reduce Waste



Recycle



Conserve Energy



Build Green  
Buildings



Use Sustainable  
Resources



**To use solar panels to get power from the sun**





# Natural materials in construction



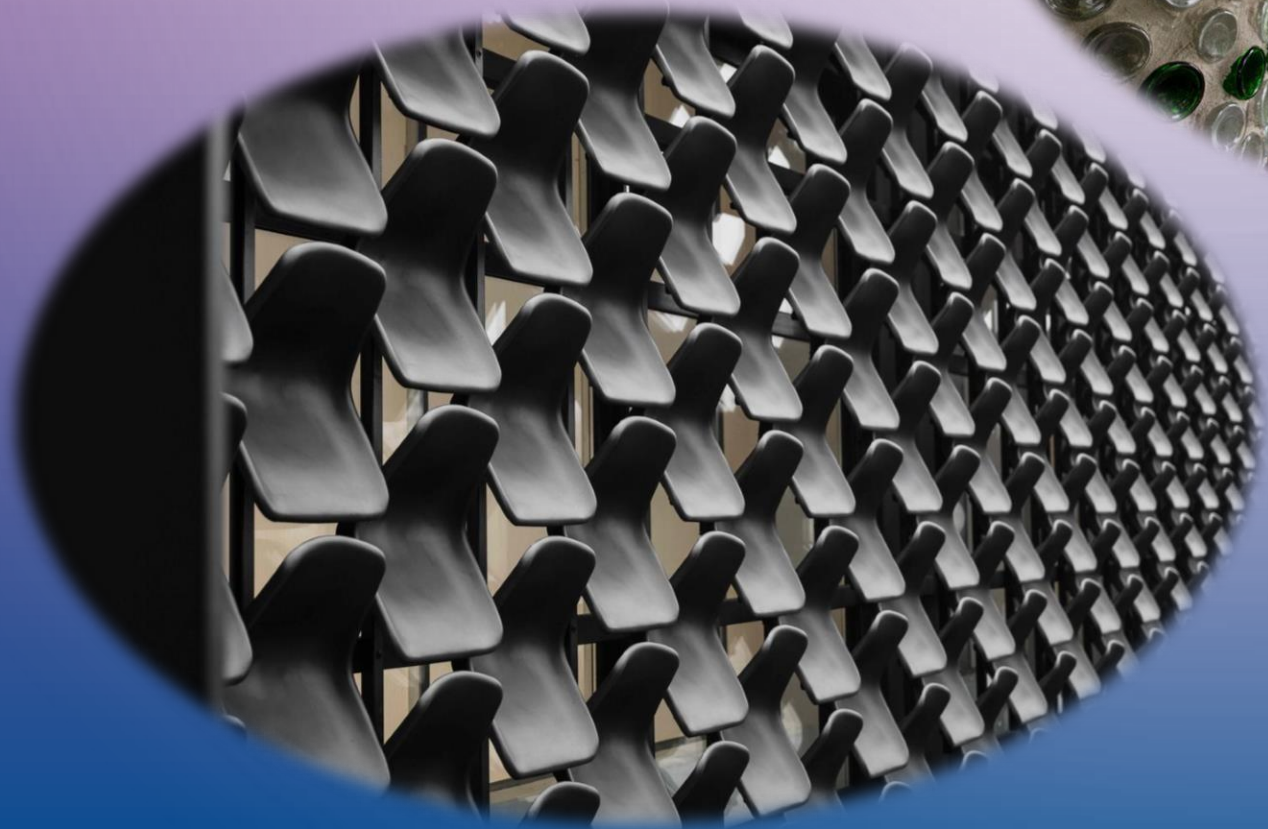


# Bamboo





# Recycled materials









# Green roof

Plants growing on rooftops





# Rain water collection





# Rain collector to water plants





# The Edge in Amsterdam





# The Edge





# Bosco Verticale

Vertical forest

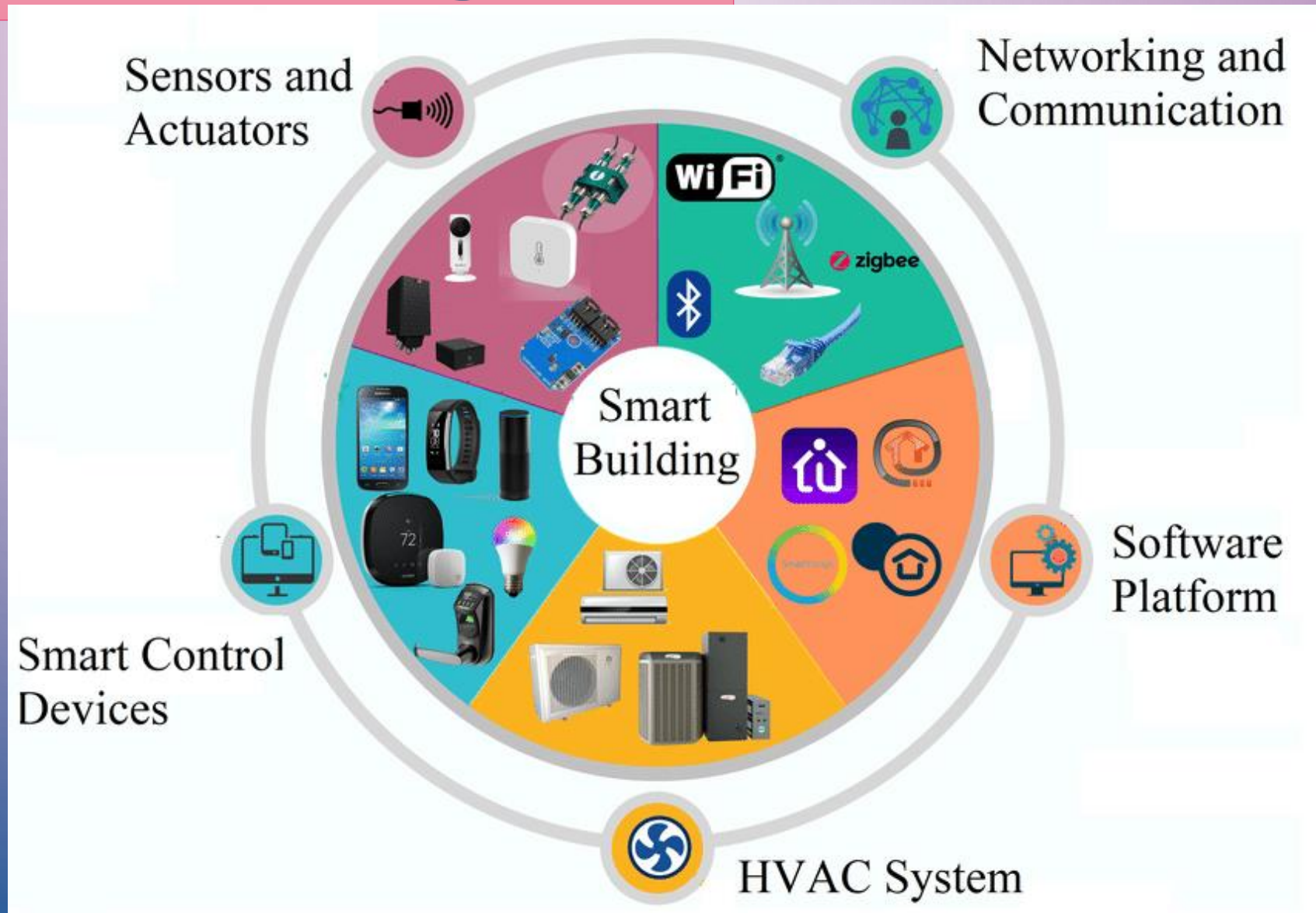








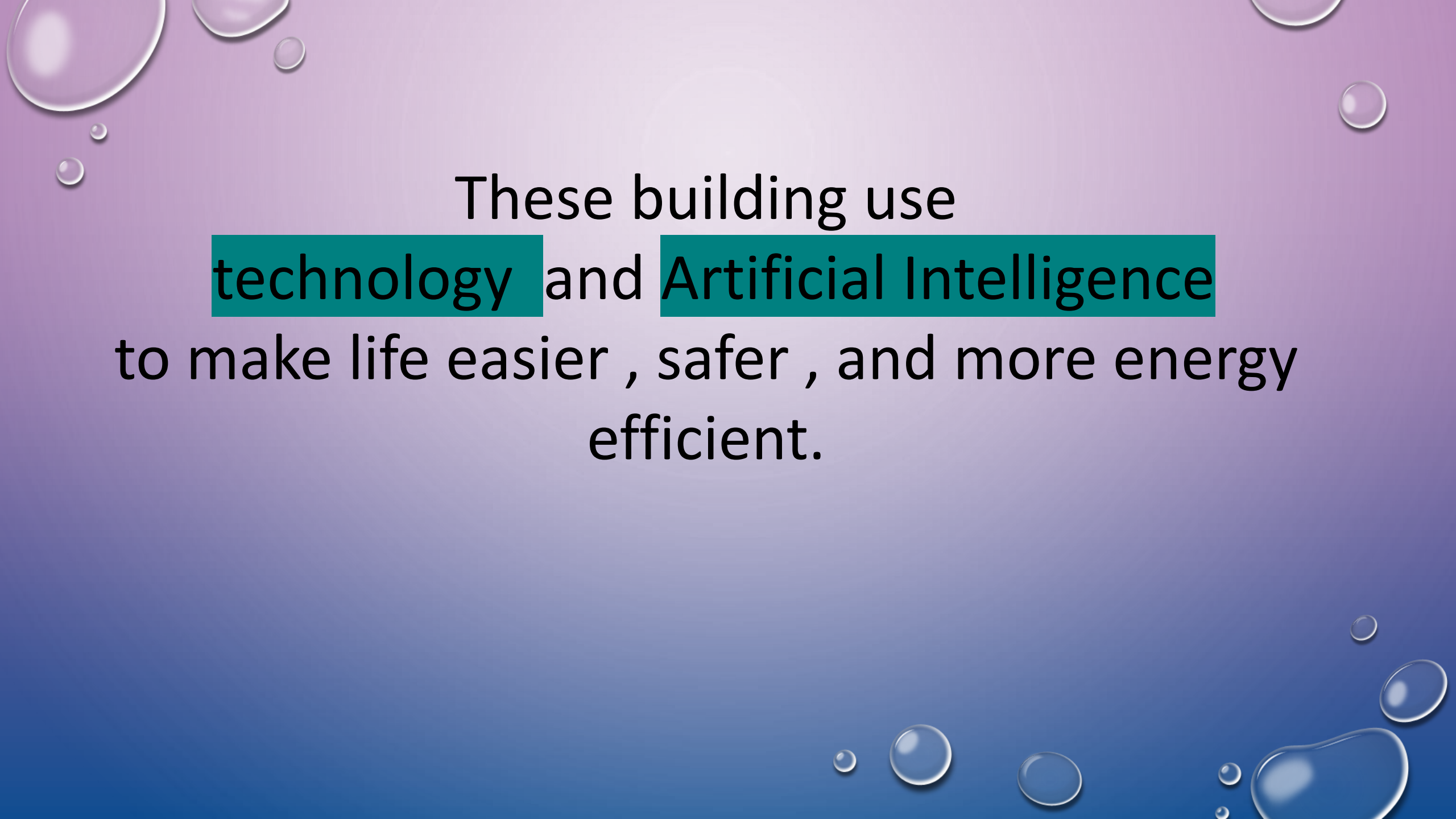
# Smart buildings











These building use  
technology and Artificial Intelligence  
to make life easier , safer , and more energy  
efficient.





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Automatic lights

: turn off when no one is in the room

Smart thermostats:

change the temperature based on weather

Sensor: air quality , lights level or motion

Security cameras and alarm:

That are connected to phones

