**Name:** Celina,Yasmina,Sama,Mireille **Report:** Properties of materials

**You will need**

Half-filled beaker with hot water.

Samples of everyday materials, for example clay, cotton, rubber, glass, plastic, wood, copper, wool, steel.

**Procedure**

Test the materials for the properties below. Write your results in your table.

• ***Is it waterproof?***  
Find out by placing one drip of water on the material. If the water is not absorbed, the material is waterproof.

• ***Does it conduct heat?***Do this test only on waterproof materials.  
Find out by placing the material in hot water, with part of it above the water. After a few minutes, feel the end that is above the water. If this end feels hot, the material is a good conductor of heat.

• ***Is it flexible or stiff?***  
Find out by trying to bend it.

• ***Is it strong?***Find out by pulling and pressing it. If it does not change, it is relatively strong.

• ***Is it transparent or opaque?***  
A material is transparent if you can see through it, and opaque if you cannot.

• ***Is the material brittle?***Do you think it will break if you drop it? If so, the material is brittle.

• ***Is the material hard or soft?***If you can scratch the material with a nail, it is relatively soft.

**Use the table below to record your results.**

| **Material** | **Properties of material** | **One use of the material** |
| --- | --- | --- |
| Cotton | * Cotton is not water proof, it absorbs water. * Cotton is opaque * Cotton is flexible * It is not a strong material; it is stretchy and can also be compressed * Cotton does not break when dropped, however, it can tear apart when used for a long time * Cotton is a soft material and cannot be scratched | In making fabrics, cotton shirts and clothes. |
| Wood | * Wood is not water proof; it can absorb water. * Wood is not flexible and cannot be bent. * It is a strong material that cannot change easily by pressing and pulling. * It is a hard solid material * It is opaque; you cannot see through wood. * Natural wood such as small tree branches is brittle and can break. However, manufactured wood can only break under high pressure and compression. | In making furniture and floors |
| Plastic | * Plastic is waterproof * Plastic did not conduct heat * Flexibility varies in plastics. Some plastics can bend such as ducts while others are stiff like plastic kitchenware. * Plastic is relatively strong. Few plastic items changed in shape based on the thickness of the material. * Plastics if not dyed are mostly translucent, they only allow unclear vision. * Plastic is a hard material; it cannot change in shape easily unless it is heated. * Plastic is brittle; it can break when compression and pressure is applied. | Kitchenware such as plastic plates, spoons, lunchboxes and water bottles. |
| Glass | A glass is not waterproof and it is not flexible and if you tried to see if it is flexible or not it will probably break depending on the type of the glass, the glass is a very good conduct for hot water down glass is not always see though there are different colors but some of the glass is see through and it may break easily if it falls down the material cant be scratched. | We can make phones and we can make cups and even plates |
| Rubber | Rubber is for sure not waterproof and it is not good when you put it in hot water it might melt and it does not stay in its fixed position it is not strong and it can change shape it is for sure not transparent it will not break because it is made out of rubber it is soft and it can scratched. | You can make rubber bands. |
| Steel | Steel is a waterproof material that conducts heat which is stiff, strong and opaque and for sure not brittle as it is hard | could be used for cooking |
| Clay | Clay is a waterproof material but it doesn't conduct heat, it is flexible but it's not strong, it's opaque it's not brittle as it is soft. | can be used for molding and shaping |
| Wool | Wool is not waterproof,it is flexible,the strongness depends on how thick it is,it’s opaqe and it is not brittle and it’s very soft. | can be used for knitting scarfs . |
| Fabric | Fabric is not waterproof,and it’s flexible,it is strong,it is opaque,it is not brittle and it’s soft. | can be used for clothing. |