

OGUN DIGICLASS

SUBJECT: SCIENCE

**TOPIC: PERMEABLE AND
NON-PERMEABLE**





Permeable or Non Permeable?

Can liquid or gas pass through
the material or not?

Sometimes its not too clear - until you think a bit!



Learning Objectives

- ♦ define the meaning of permeable and impermeable
- ♦ differentiate permeable and non permeable
- ♦ Compare the permeabilities of different materials.

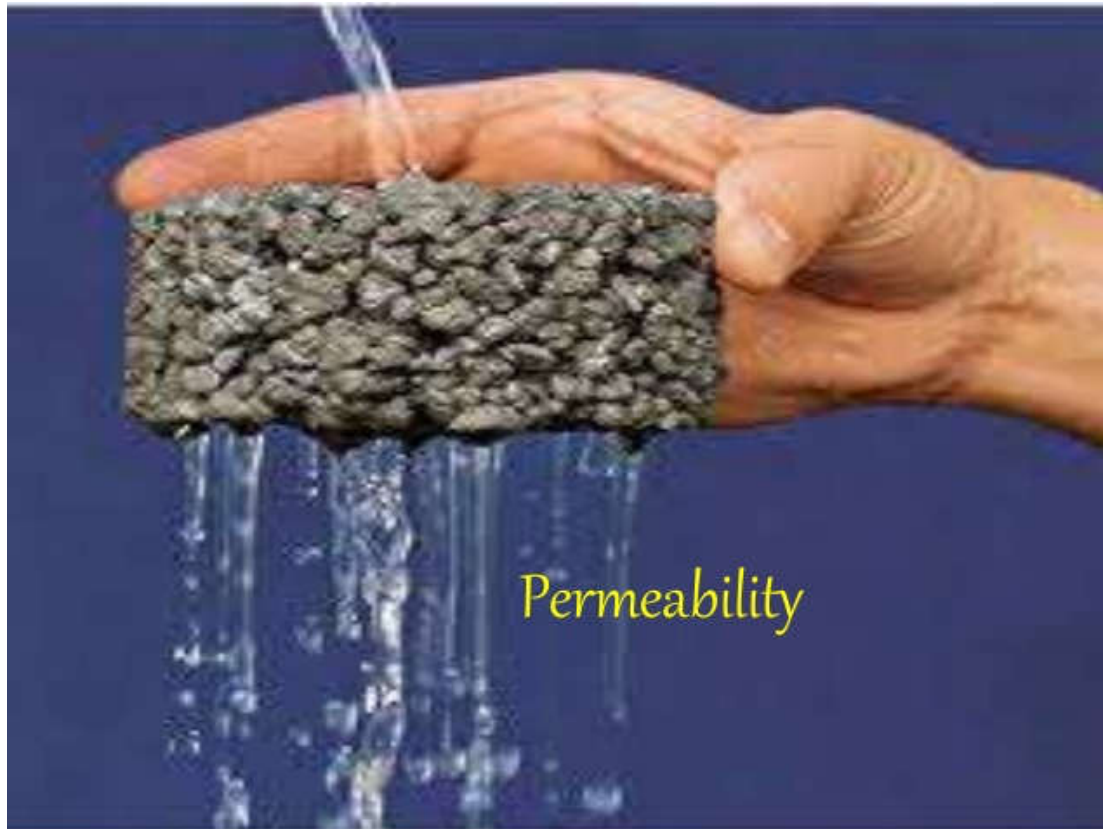


Definition of Permeable

The definition of permeable is a material that allows liquids or gases to pass through. A cloth that liquids can pass right through is an example of something that would be described as permeable.



Permeability is the degree to which water or another liquid is able to flow through a material.





Definition of Non-Permeable

Something that is impermeable **does** not allow water or liquid to pass through it



Impermeable Surfaces

Asphalt
Concrete
Traditional stone, brick or concrete
pavers

Permeable Surfaces

Planting beds
Mulched beds
Gravel
Permeable pavers
Turf

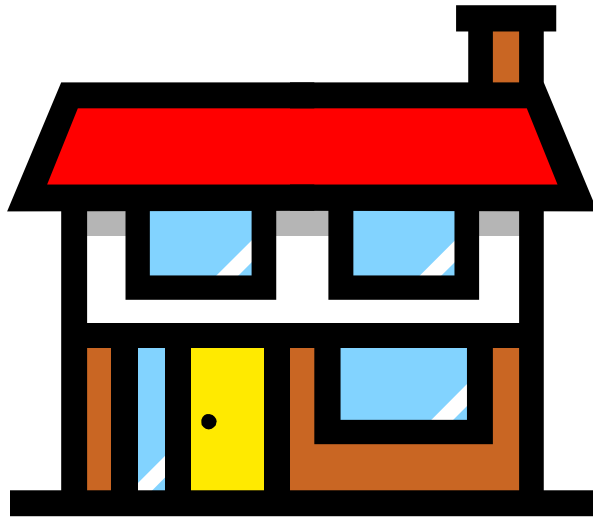




Will the water pass through the sides of the boat?

No because the sides of the boat are not permeable - they are impermeable.

1. What would you not make the boat out of and why?



2. Is the roof of this house permeable or non permeable? Why?

Its non permeable so that it keeps out the rain. It also helps to keep heat in.

3. Why would sponge be no good for the roof of a house?

4. Is sponge a solid?

It is a solid - a soft solid with many holes in its surface

5. Are the windows permeable?
Explain

They let light through - they are transparent but not permeable - liquids and gases cannot pass through the glass

You go to the beach for a day.

6. Can you think of some things that are impermeable that you might find or have with you?

7. Can you think of anything permeable which is natural (part of nature)?

8. How about something man made?

9. Is your skin permeable or impermeable - think carefully and discuss as a class. Give reasons for your ideas.





Answer: No. Because your skin is made of something called stratified squamous epithelium, which is impermeable, so water can't make it through the layers of your skin to rehydrate you. The water will get into your cells, which is why they swell up if you sit in the bath, but it won't go any further (answer to question16)

10. This is a hard piece of stone. Is it permeable? - if you poured water on it would it soak through?



11. Are all rocks impermeable?

How would you know?

12. How about if I had a few pieces of this stone with gaps between them. Would they be permeable then?

13. How about soil? Permeable or impermeable?

14. Where does the water that soaks through the rocks or soil go?

Have a chat and then explain your ideas with reasons.



Opaque, translucent, transparent

15. Can't see through it. **Can liquids or gas pass through? Give an example**

16. Can only just see through it. **Could it be impermeable? Give an example**

17. Can see through it. **Could it be permeable? Give an example**





18. What has the word **SOLID** got to do with this?

19. Can something be solid and permeable?

20. Can something which is not solid be permeable?

Give some examples
for 18, 19 and 20.



1.	2.	3.	4.
5.	6.	7.	8.
9.	10.	11.	12.
13.	14.	15.	16.
17.	18.	19.	20.