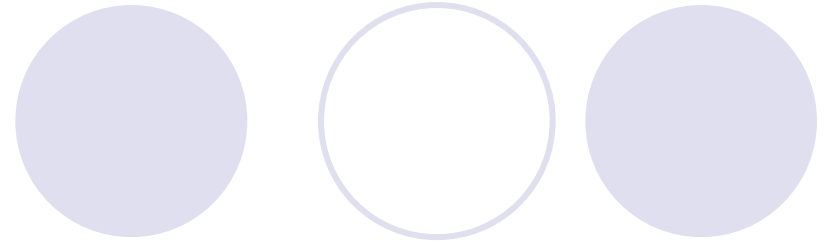


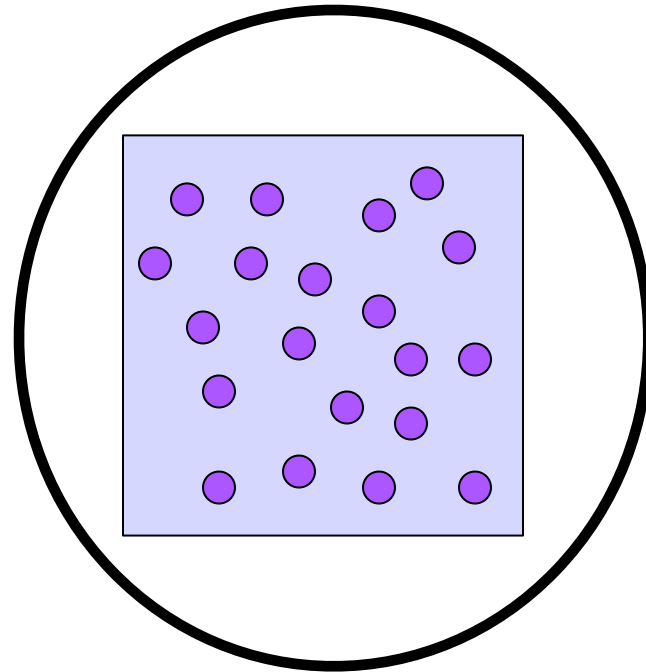
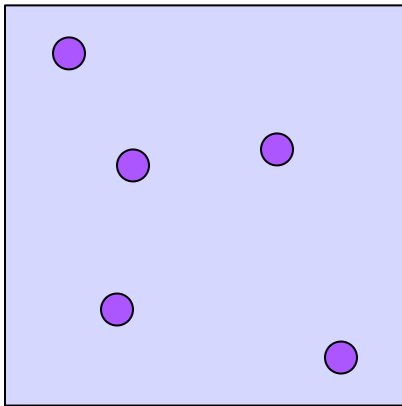
What is density?



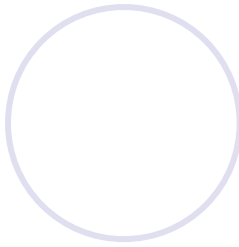
- Density is a **physical property**
- All substances have a density
- Density is a comparison of how much **matter** there is in a certain amount of **space**.

Which one is more dense?

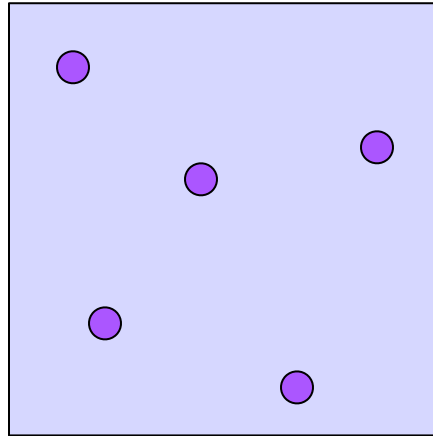
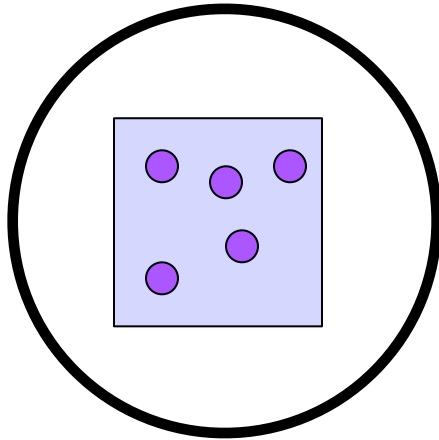
- Demonstration: People in a square
- How about this: Which square is more dense? Circle it.



Which one is more dense?



● Now which one is more dense?



Let's try a density problem together

- Frank has a paper clip. It has a mass of 9g and a volume of 3cm^3 . What is its density?

Given: $m=9\text{ g}$

Required: find density

Analyze: $d = m/v$

Solve: $d = 9/3$

Paraphrase: $d = 3\text{ g/cm}^3$

Work on these problems

● Jack has a rock. The rock has a mass of 6g and a volume of 3cm^3 . What is the density of the rock?

G: $m=6$, $v=3$

R: $d=?$

A: $d=m/v$

S: $d=6/3$

P: density is $2\text{g}/\text{cm}^3$

● Jill has a gel pen. The gel pen has a mass of 8g and a volume of 2cm^3 . What is the density of the rock?

G: $m=8$, $v=2$

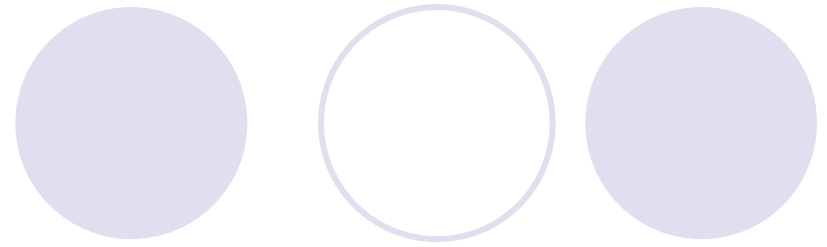
R: $d=?$

A: $d=m/v$

S: $d=8/2$

P: density is $4\text{g}/\text{cm}^3$

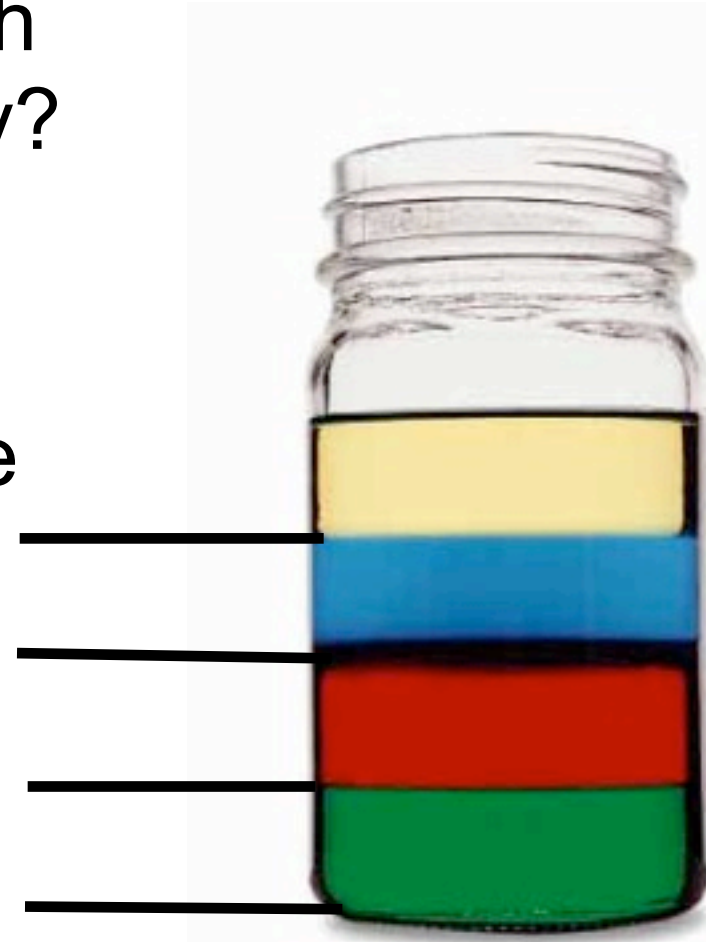
Liquid Layers



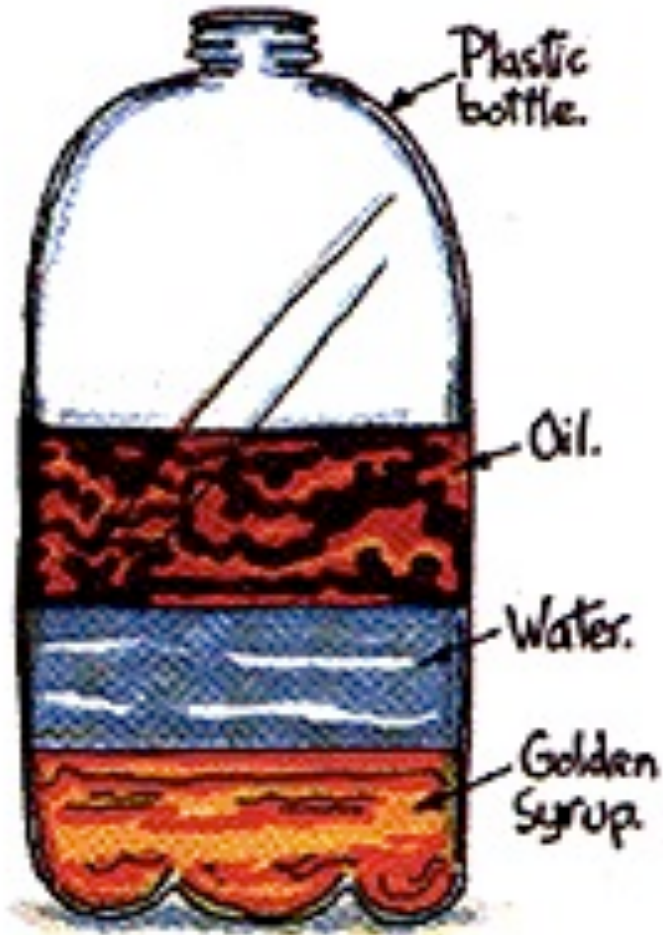
- If you pour together liquids that don't mix and have different densities, they will form liquid layers.
- The liquid with the **highest density** will be on the bottom.
- The liquid with the **lowest density** will be on the top.

Liquid Layers

- Check out this picture. Which layer has the highest density?
- Which layer has the lowest density?
- Imagine that the liquids have the following densities:
 - 10g/cm^3 . 3g/cm^3 .
 - 6g/cm^3 . 5g/cm^3 .
- Which number would go with which layer?



Liquid Layers – Try with your neighbour



- Which liquid has the highest density?

- _____

- Which liquid has the lowest density?

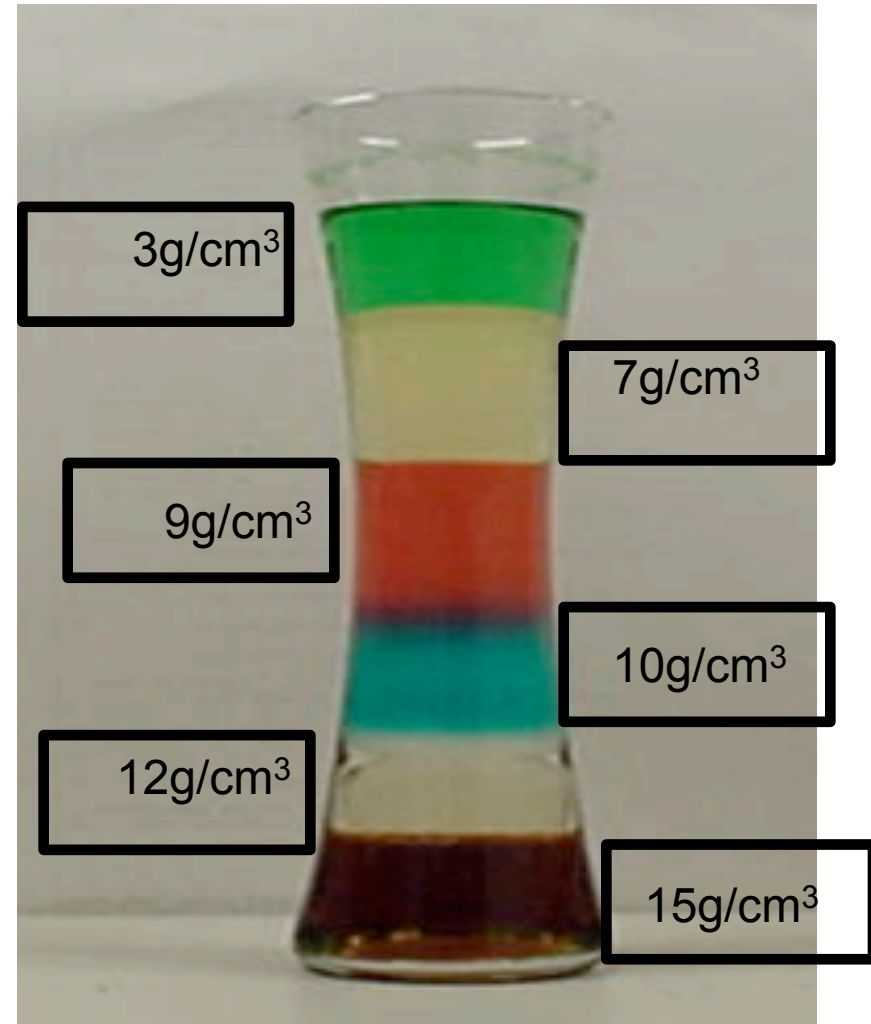
- _____

- Which liquid has the middle density?

- _____

Liquid Layers – Try on your own!

- Imagine that the liquids on the right have the following densities:
 - 15g/cm^3 10g/cm^3
 - 3g/cm^3 9g/cm^3
 - 7g/cm^3 12g/cm^3
- Match the colours to the correct densities.



Review



- What is the formula for density?
- What happens if you pour together liquids that have different densities?
- Will the liquid on the top have the highest or lowest density?
- Will the liquid on the bottom have the highest or lowest density?