

# Unit 2: Heat and Energy in the Earth's Systems

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L6: Can You Graph This?

**Guiding Question:** Explain the ways we can investigate the relationships between different substances or objects

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- **Do Now:** What is the density of an object with a mass of 25g and a volume of 3.2mL? Show your work.



# Notes

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## Mass

- **Mass** measures the amount of matter an object contains.
- In science, mass is usually measured in grams (g) or kilograms (kg).
- $1 \text{ kg} = 1000 \text{ g}$

# Notes

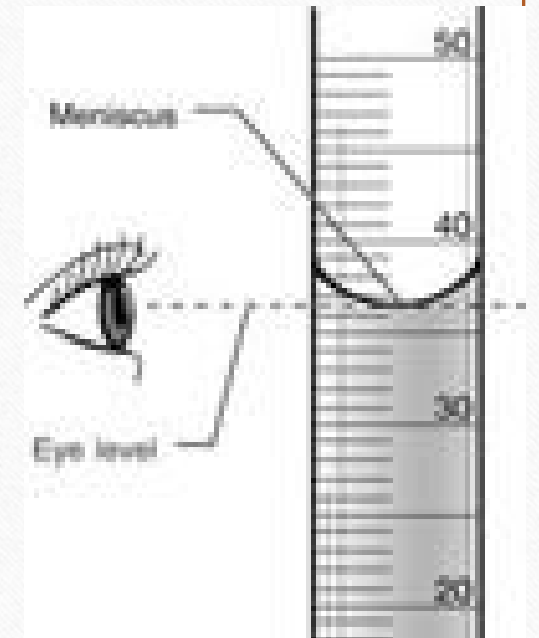
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- **Weight** is related to the force of gravity acting on an object.
  - On Earth mass and weight represent the same thing. However, on other planets your weight will be different (because the force of gravity is different), but your mass will be the same (because you still contain the same amount of matter).
  - Weight is usually measured in pounds (lb).
  - $1 \text{ lb} = 454 \text{ g}$

# Notes

## Volume

- **Volume** measures how much space an object takes up.
- Volume can be measured in many different ways
  - Liquids: use a graduated cylinder
    - Make sure to read the volume from the bottom of the meniscus





# Notes

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- Dry powders: use a measuring cup
- Regularly shaped solids: use a geometric formula
- Irregularly shaped solids or small objects: use water displacement
  - the volume of the object = volume of water and object  
- initial volume of water

# Closure

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- Homework #6 Due on Friday 9/29
- Achieve 3000: These Lights are Too Cool! Due Friday 9/29