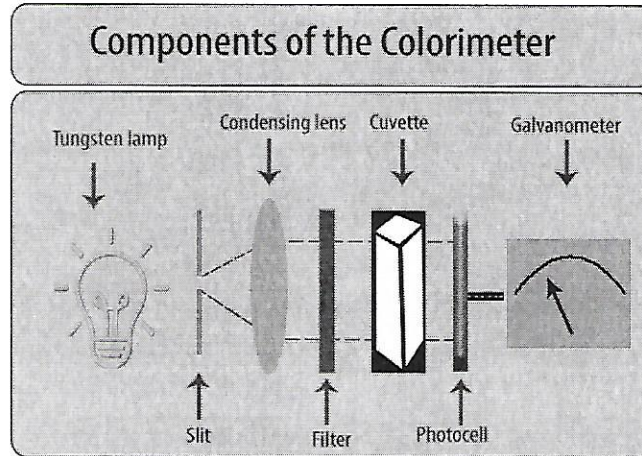


## Shoebbox Colorimeter



### Necessary Info

What is a colorimeter?

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How does it work?

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### Part 1: Construction of Colorimeter

#### Materials

- Shoebox
- Knife
- Laser
- 6 cuvettes
- Cuvette rack
- Lens tissue paper
- Cork
- Photocell
- Multimeter set to 2000 mV
- Plasticene

Set up the above materials as per the above diagram (with 2 parts missing).

Sketch and label your set up.

What is LASER light?

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Why is a red LASER being used instead of a white light source?

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What is the difference between a colorimeter and the spectrophotometer you are going to be using next week??

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## Part 2: Solution Preparation

### Materials:

- 5 and 10 mL pipets
- Pipet pump
- 6 test tubes
- Test tube rack
- Markers
- Beaker of 100 % stock solution
- Tap water bottles
- Parafilm squares

Make 4 solutions of 12.5 % 25 % 50 % and 75 %.

Show 1 sample calculation:

Which parts are we not using in our design?

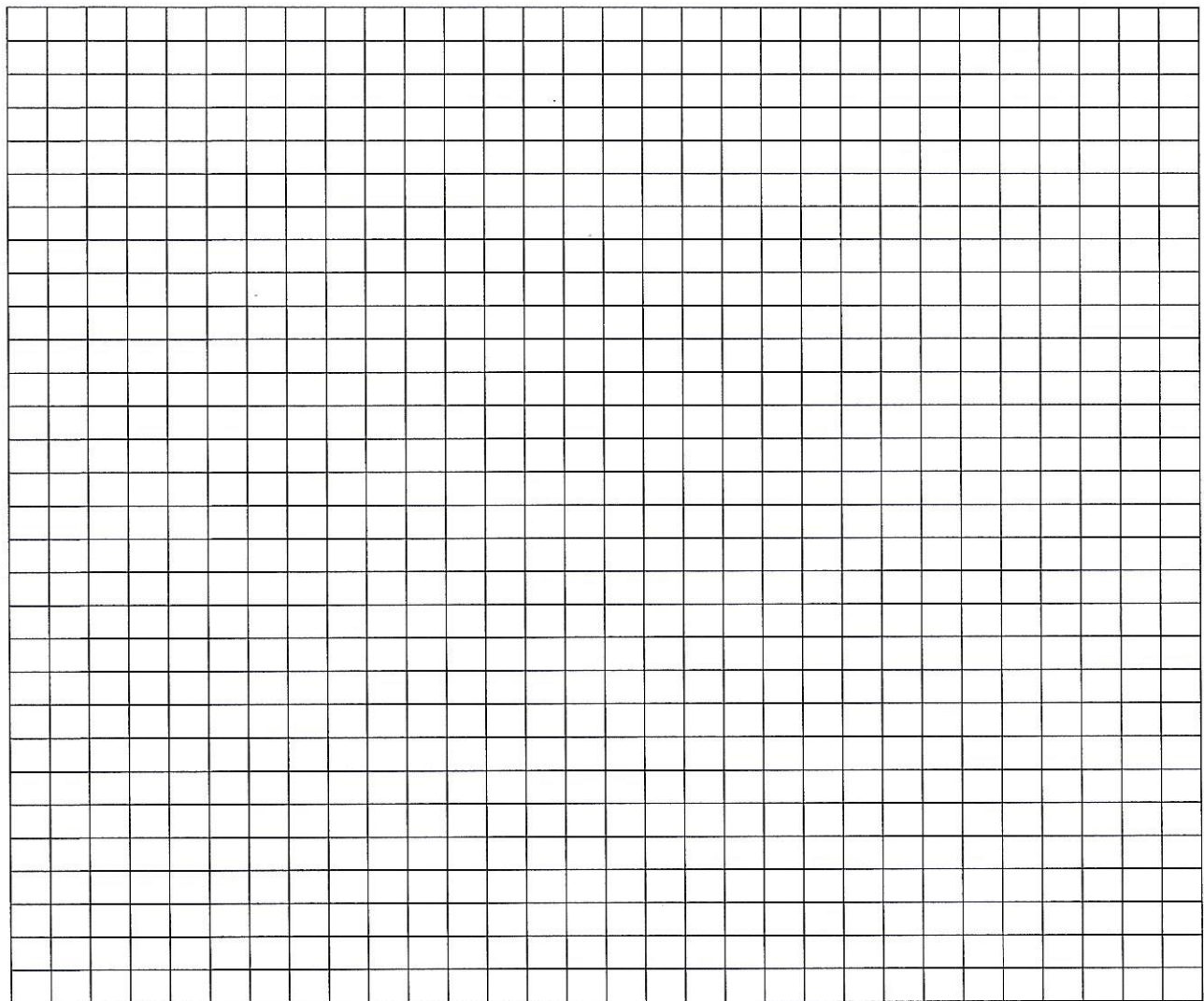
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How might this affect our results?

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## Part 3: Collecting data and constructing a graph of voltage versus concentration

<b>Solution concentration</b> ( )					
<b>Voltage</b> ( )					



**Beer's Lambert Law**

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**Conclusion**

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