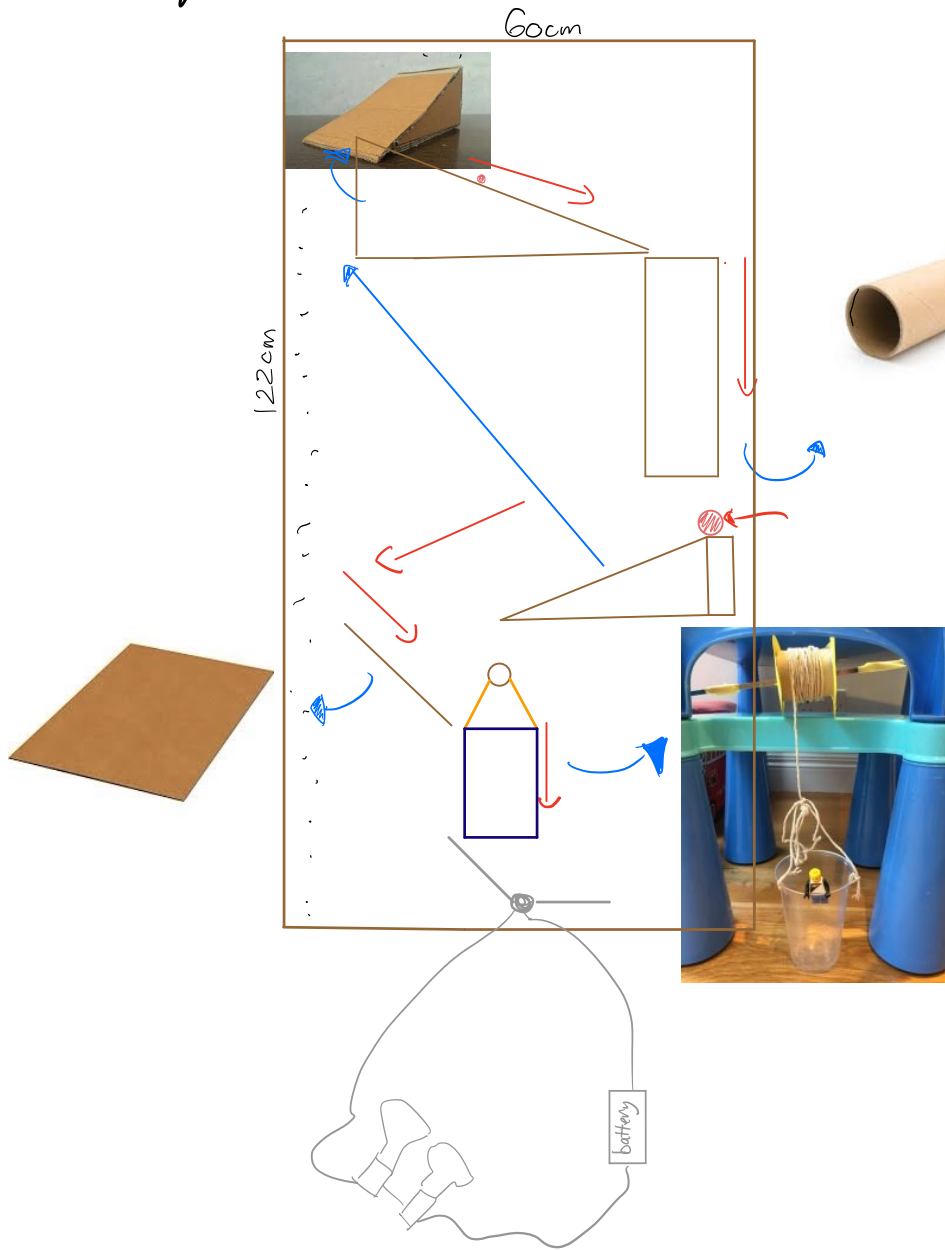


Each square = 5cm

### Draft of Blueprint



### Key

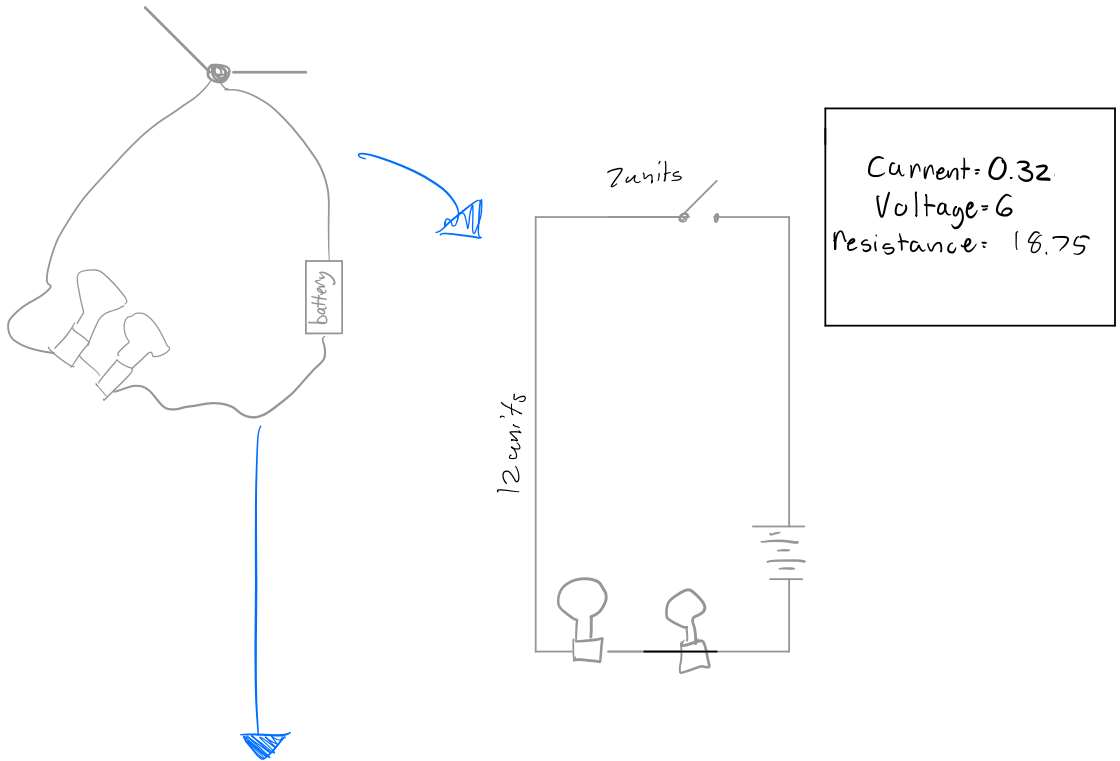
Arrows

- ▨ Math/legend
- ▧ direction of ball
- ▩ reference for material look

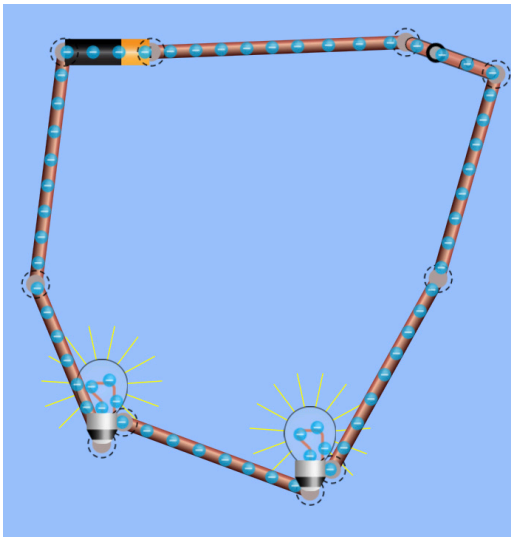
line

- ▭ cardboard
- ▮ plastic
- ▨ string
- ▧ marble
- ▩ chord/voltmeter/light

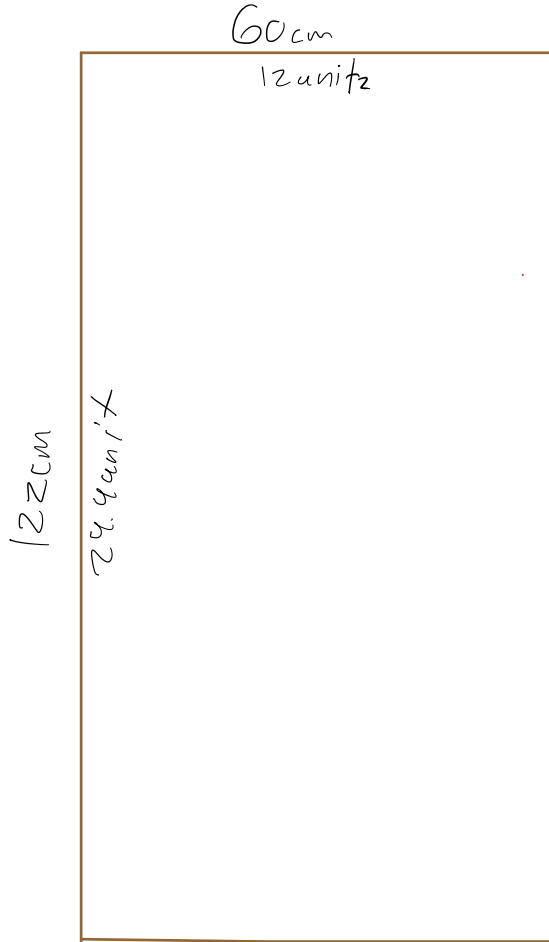
### Circuit Diagram



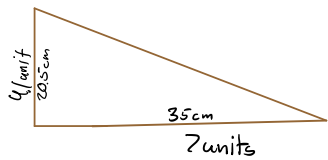
Phet Simulator example



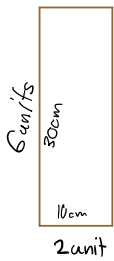
Measurement of objects on the board



$$\begin{array}{r}
 \text{Cm} \\
 60 \times 122 \\
 = 7320 \text{ cm}^2 \\
 \hline
 \end{array}
 \quad
 \begin{array}{r}
 \text{units} \\
 24.4 \times 12 \\
 = 289.8 \text{ units}^2
 \end{array}$$

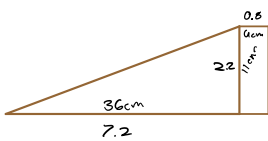


$$\begin{array}{r}
 \text{Cm} \\
 20.5 \times 35 \\
 = 717.5 \\
 \hline
 = 366.75 \text{ cm}^2
 \end{array}
 \quad
 \begin{array}{r}
 \text{units} \\
 4.1 \times 7 \\
 = 28.7 \\
 \hline
 = 14.35 \text{ u}
 \end{array}$$



$$\begin{array}{r}
 \text{Cm} \\
 2(5 \times 3.14 \times 30) \\
 = 2(471 \text{ cm}) \\
 = 942 \text{ cm}
 \end{array}
 \quad
 \begin{array}{r}
 \text{units} \\
 2(1 \times 3.14 \times 30) \\
 = 2(94.2) \\
 = 188.4 \text{ units}
 \end{array}$$

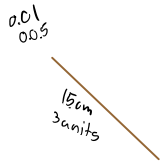
Square		triangle	
Units	cm	units	cm
$2.2 \times 0.8$	$11 \times 4$	$7.2 \times 2.2$	$36 \times 11$
$= 1.76 \text{ unit}^2$	$= 44 \text{ cm}^2$	$= 15.84$	$= 396$
		$\hline$	$\hline$
		$= 7.89$	$= 198$



Square plus triangle

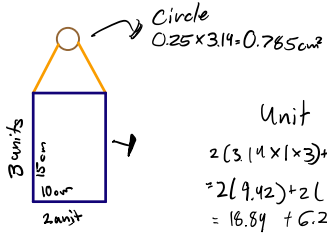
Cm:  $44 + 198 = 242 \text{ cm}^2$

Units:  $1.76 + 7.89 = 4.65 \text{ unit}^2$



$$\begin{aligned} &\text{Unit} \\ &3 \times 0.01 \\ &= 0.03 \end{aligned}$$

$$\begin{aligned} &\text{Cm} \\ &15 \times 0.005 \\ &= 0.75 \end{aligned}$$



$$\begin{aligned} &\text{Unit} \\ &2(3.14 \times 1 \times 3) + 2(1 \times 3.14) \\ &= 2(9.42) + 2(3.14) \\ &= 18.84 + 6.28 \\ &= 25.12 \text{ cm}^2 \end{aligned}$$

$$\begin{aligned} &\text{Cm} \\ &2(3.14 \times 0.5 \times 1.5) + 2(0.5 \times 1.4 \times 0.5) \\ &= 2(2.355) + 2(0.785) \\ &= 4.71 + 1.57 \\ &= 6.28 \text{ cm}^2 \end{aligned}$$