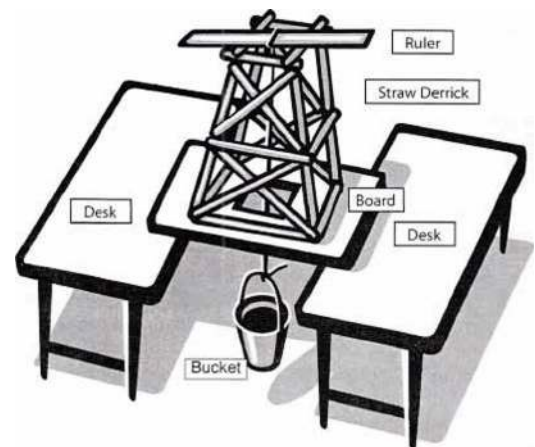


## Derrick Design Sketch (label all materials)



### Design Rules:

- Only materials are straw and tape.
- Derrick should not exceed 45cm.
- Use as few materials as possible.

1. What are the criteria for a successful derrick design?

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2. After testing the strength of your structure, what improvements do you think you could make to your design?

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3. Did you use as few materials as possible?

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### Group Instructions:

1. Gather 10 straws and cut a small slit at one end of each straw. Place the slit end of one straw into the inside of the next straw to create one long tube. Tape over the connections to create an airtight seal.
2. Place carton of chocolate milk on the floor. Choose someone to stand, insert the straw tubing into the milk and try to bring the liquid to the top of the tubing using his or her suction.
3. Remove a couple of straws from the tubing and try to bring the liquid to the top again.
4. Answer the questions below.

### Questions:

**1. Which length of straw tubing required the most effort to bring the liquid to the top?**

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**2. Does the length of the straw “tubing” make a difference to the amount of suction needed to lift the chocolate milk?**

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**3. How do you think the width of the straw would affect the amount of suction needed?**

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**4. What would you change or like to do differently if you tried this experiment again?**

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