**Car Design Worksheet**

**Problem**

You need to design a car that will roll down a track at the fastest possible speed.

**Constraints**

Your car must be designed to roll down a specified track (which limits the maximum size of your car). You only have **$700** to purchase supplies to construct your car. You may only use the materials listed below, purchased for the cost shown.

**Material Costs**

|  |  |
| --- | --- |
| **Item** | **Cost per Item** |
| Lifesaver Mints | $75 per mint |
| Straw | $100 per straw |
| Popsicle Stick | $50 per stick |
| Masking tape | $50 per 12” section |
| Notebook Card | $25 per card |
| Paper Clips | $25 per clip |

**Imagine**

Brainstorm several ideas you have for building a really fast car. If needed, use a piece of scratch paper to draw pictures.

**Design**

Draw out your car design and label each of the different materials used (mints, tape, straw, etc.).

**Build**

List how much of each material you will need to build your car. Multiply the amount you need by the cost of the material and then add all of the amounts together. How much is the total cost of your car? Do you have enough money?

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Item** | **Cost per Item** | **Number Purchased** | **Number x Cost** | **Total Cost of Purchase** |
| Lifesaver Mints | $75 per mint |  |  |  |
| Straw | $100 per straw |  |  |  |
| Popsicle Stick | $50 per stick |  |  |  |
| Masking tape | $50 per 12” section |  |  |  |
| Notebook Card | $25 per card |  |  |  |
| Paper Clips | $25 per clip |  |  |  |
| **Total Spent** | | | |  |
| ***EXAMPLE:*** | | | | |
| ***Lifesaver Mints*** | ***$75 per mint*** | ***4*** | ***4 x $75*** | ***$300*** |
| ***Paper Clips*** | ***$25*** | ***2*** | ***2 x $50*** | ***$100*** |
| ***Total Spent*** | | | | ***$400*** |

**Test**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Group Name** | **Time (1) in seconds** | **Time (2) in seconds** | **Distance Jumped (1) in cm** | **Distance Jumped (2) in cm** |
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How fast was your car compared to all of the other cars?

Did it jump farther than any of the other cars?

What are two things you would change about your car to make it work better?

**Graphing**