**Draw Your Own Rube Goldberg Project**

**Purpose:**

The purpose of the Rube Goldberg project is to apply what you learned about the 6 simple machines in creating complex machines and demonstrate how potential and kinetic energy are transferred from one form to another.

**Your task:**

* Draw/create a blueprint of a Rube Goldberg machine to perform one of the six tasks below.
* Demonstrate an understanding of how simple machines can create complex/compound machines.
* Analyze how potential energy is stored in your Rube Goldberg machine and its conversion to different types of kinetic energy.
* Identify types of potential and kinetic energy demonstrated by your design.

Your Rube Goldberg must complete **one** of the following tasks or create a task on your own:

* ***TURN ON A LIGHT BULB***
* ***PUT OUT A CANDLE FLAME***
* ***STAPLE AT LEAST TWO PAPERS TOGETHER***
* ***FILL UP A DIXIE CUP WITH WATER***
* ***POP A BALLOON***
* ***RING A BELL***

Complete the chart below showing the types of simple machines used to build your Rube Goldberg machine.

|  |  |  |  |
| --- | --- | --- | --- |
| Type of Simple Machine | Letter(s) in drawing of machine | What object represents the machine? (ex: wheelbarrow represents 2nd class lever) | What work is being done? |
| Levers: 1st class |  |  |  |
|   2nd class |  |  |  |
|   3rd class |  |  |  |
| Pulley: |  |  |  |
| Screw: |  |  |  |
| Wedge: |  |  |  |
| Incline Plane: |  |  |  |
| Wheel & Axle: |  |  |  |

**Step 2:** What is the name of your machine? ­­­­­­­­­­­­\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Step 3:** What task is your machine trying to accomplish? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Fill in the chart below showing how *energy is transferred* in your Rube Goldberg machine. **Follow the example.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Object doing the work | Object be worked on | How is the energy transferred (being pushing, pulling, etc)? | What is the result of the energy transfer? | What letter does this represent in your drawing? |
| **Ex:** Marble | Button on fan | Marble falls off table, lands on fan, presses button. | Fan turns on and begins to spin. | F |
| 1.  |  |  |  |  |
| 2. |  |  |  |  |
| 3. |  |  |  |  |
| 4. |  |  |  |  |
| 5. |  |  |  |  |

Names \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Block \_\_\_\_\_\_\_

**RUBE GOLDBERG MACHINE PROJECT RUBRIC**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Total Points 50** | **Self-Score** | **Teacher-Score** |
| **Drawing/Planning of Your Machine** |  |  |  |
| * Simple machine and Energy transfer planning charts are complete.
 | **10pts** |  |  |
| * Includes **ALL** parts and 10 steps/stages
 | **10pts** |  |  |
| * Each stage labeled with a letter (see example)
 | **10pts** |  |  |
| * Each type of machine correctly labeled.
 | **10pts** |  |  |
| * Neat with **NO** cross-outs/smudges. Not ripped or torn. Drawing appropriate size. Drawing must be colored on copy paper.
 | **10pts** |  |  |

**POINTS FOR DRAWING YOUR MACHINE:**

 **Total: \_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Total Points 50** | **Self-Score** | **Teacher-Score** |
| **Written description of your machine.** |  |  |  |
| * Paragraph form
 | **10pts** |  |  |
| * Each stage included
 | **10pts** |  |  |
| * Each stage labeled with a letter (see example)
 | **10pts** |  |  |
| * Explain the energy transfers taking place in each stage.
 | **10pts** |  |  |
| * Written paragraph matches drawing 100%
 | **10pts** |  |  |

**WRITTEN DESCRIPTION OF YOUR MACHINE: Total: \_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_**

**FINAL GRADE: \_\_\_\_\_\_\_\_\_\_\_\_\_**