

# Building A Structure : Rube Goldberg Project Machine Rubric

Student Names: \_\_\_\_\_

CATEGORY	4	3	2	1
<b>Components: chemical reaction</b>	There is an approved, functioning chemical reaction.	There is an approved chemical reaction, but reaction doesn't perform as it should.	There is a partial chemical that doesn't perform as it should.	There is no chemical reaction.
<b>Components: simple machine 1 (pulley)</b>	There is one functioning simple machine that either transfers forces or applies mechanical advantage.	There is one simple machine that either transfers forces or applies mechanical advantage, but it is not functioning properly.	There is a simple machine in name only: the "simple machine" does not transfer force or apply mechanical advantage.	There is no simple machine.
<b>Components: simple machine 2 (inclined plane)</b>	There is one functioning simple machine that either transfers forces or applies mechanical advantage.	There is one simple machine that either transfers forces or applies mechanical advantage, but it is not functioning properly.	There is a simple machine in name only: the "simple machine" does not transfer force or apply mechanical advantage.	There is no simple machine.
<b>Components: simple machine 3 (lever)</b>	There is one functioning simple machine that either transfers forces or applies mechanical advantage.	There is one simple machine that either transfers forces or applies mechanical advantage, but it is not functioning properly.	There is a simple machine in name only: the "simple machine" does not transfer force or apply mechanical advantage.	There is no simple machine.
<b>Components: simple machine 4 (wedge)</b>	There is one functioning simple machine that either transfers forces or applies mechanical advantage.	There is one simple machine that either transfers forces or applies mechanical advantage, but it is not functioning properly.	There is a simple machine in name only: the "simple machine" does not transfer force or apply mechanical advantage.	There is no simple machine.
<b>Components: simple machine 5 (wheel &amp; axle)</b>	There is one functioning simple machine that either transfers forces or applies mechanical advantage.	There is one simple machine that either transfers forces or applies mechanical advantage, but it is not functioning properly.	There is a simple machine in name only: the "simple machine" does not transfer force or apply mechanical advantage.	There is no simple machine.
<b>Components: simple machine 6 (screw)</b>	There is one functioning simple machine that either transfers forces or applies mechanical advantage.	There is one simple machine that either transfers forces or applies mechanical advantage, but it is not functioning properly.	There is a simple machine in name only: the "simple machine" does not transfer force or apply mechanical advantage.	There is no simple machine.
<b>Function (worth 8 points total)</b>	Machine performs end task on the first try (8).	Machine performs end task with only 1 restart/touch but within the time limit (6).	Machine performs end task with only 2 or 3 restarts/touch in less than 2 minutes (4).	Fatal flaws in function with complete failure under typical stresses (2).
<b>Timing</b>	Machine performs end task in more than 15 sec, but less than 2 minutes.	n/a	n/a	Machine performs end task in less than 15 sec or more than 2 min or doesn't complete task.
<b>Construction</b>	Great care taken in construction process so that the structure is neat, attractive and follows plans accurately. Appropriate materials were selected, building guidelines followed.	Construction was careful and accurate for the most part, but 1-2 details could have been refined for a more attractive product. Appropriate materials were selected, most building guidelines followed.	Construction accurately followed the plans, but 3-4 details could have been refined for a more attractive product. Appropriate materials were selected, few building guidelines followed.	Construction appears careless or haphazard. Many details need refinement for a strong or attractive product. Inappropriate materials were selected, few building guidelines followed.

**Individual answer to oral question (4)**

**Subtotal (44)**

**Aesthetics (2)**

**Total (50)**

Partner 1: \_\_\_\_\_ + \_\_\_\_\_ + \_\_\_\_\_ = \_\_\_\_\_  
 Partner 2: \_\_\_\_\_ + \_\_\_\_\_ + \_\_\_\_\_ = \_\_\_\_\_  
 Partner 3: \_\_\_\_\_ + \_\_\_\_\_ + \_\_\_\_\_ = \_\_\_\_\_