

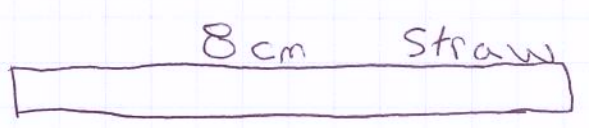
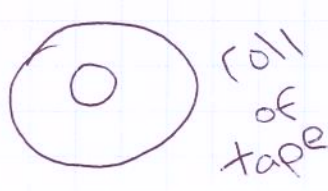
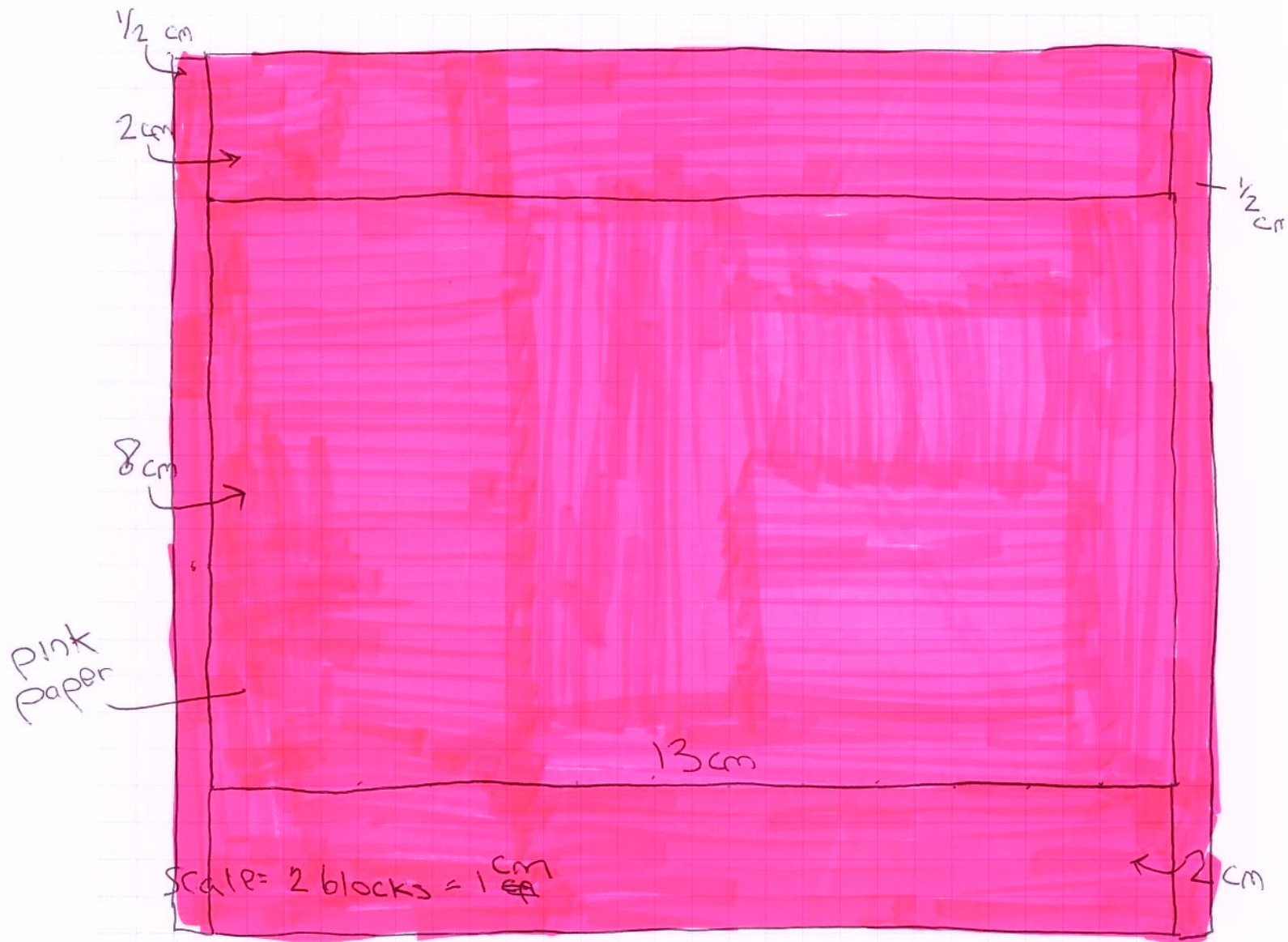
Gravity Racers! Investigating Motion Design Challenge

Name _____ Date _____



Follow the steps to design, build, and test your own gravity powered vehicle...

<p>Problem</p>	<p>State the problem in your own words.</p>	<p>I need to build a car powered by gravity that can roll down a ramp and can go 100 cm without turning. I will build it out of paper and straws.</p>		
<p>Brainstorm Several Plans or Design Solutions</p>	<p>Design and sketch more than one idea for your vehicle.</p>			
<p>Blueprint of Design</p>	<p>Choose one design plan. Draw and label a sketch to use as a blueprint.</p>	<p>Use graph paper.</p>		
<p>Materials</p>	<p>Choose from the materials listed here</p>	<p>Cardstock Construction paper Tissue paper Cardboard milk cartons</p>	<p>Dowels Paper clips Pipe cleaners Straws Wheels Glue or tape</p>	<p>Styrofoam trays Spools Scissors Craft sticks Plastic bottles</p>



<p>Procedure</p>	<p>Carry out the plan. Keep notes about the problems you have</p>	<p>I think that our car will go 100 cm.</p> <p>Our car worked. It went 115 cm!</p>
<p>Check List</p>	<p><input checked="" type="radio"/> Yes <input type="radio"/> No</p> <p><input checked="" type="radio"/> Yes <input type="radio"/> No</p> <p><input checked="" type="radio"/> Yes <input type="radio"/> No</p>	<ul style="list-style-type: none"> ○ Is your vehicle propelled solely by rolling down an inclined ramp? ○ Does your vehicle have a chassis no smaller than 8 centimeters wide and no longer than 30 centimeters from bumper to bumper? ○ Can your vehicle roll down the ramp and travel for at least 100 centimeters?
<p>Results</p>	<p>Evaluate your plan.</p> <p>How might you change your design?</p>	<p>Our car worked. It rolled past 100 cm.</p> <p>I would change the color even though it won't go faster.</p>

Gravity Racers! Test your Vehicle Data Recording Sheet

Using the Scientific Method to Conduct a Motion Science Experiment



Problem	What do you want to learn?	How far will the car roll?			
Hypothesis	Predict what the answer is to your question.	If I roll the car down the ramp, then it will travel <u>100 cm</u> . (How far?)			
Materials	Items you need for the experiment	<ul style="list-style-type: none"> ▪ Ramp ▪ Car ▪ Ruler or objects for nonstandard measuring 			
Procedure	Step by step directions for the experiment	<ol style="list-style-type: none"> 1. Set up the ramp. 2. Predict how far the car will roll. 3. Place the car at the top of the ramp. 4. Let go of the car. 5. Measure how far the car traveled. 6. Repeat the experiment two more times. 			
Results	Fill out the Chart	Distance Traveled in Centimeters			
		Predict	Trial 1	Trial 2	Trial 3
	Car 1	100cm	115cm	132cm	121cm
Conclusion	How far did your car roll? Draw and label a picture of your experiment.	<p>My car rolled 115cm, 132cm, measuring tape and 121cm.</p>			