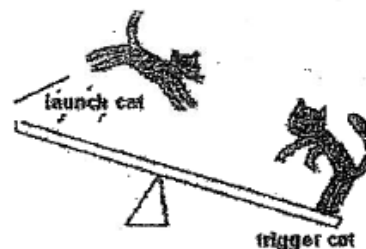


Cat-A-Pult Student Sheet

Materials: cat-a-pult, 2 soft foam cats (launch cat and trigger cat), target

Safety: Make sure you are behind the launch arm and no one is in cat's flight path.



To launch your cat:

1. Place cat-a-pult on designated launch site
2. Set the release force (green) and the tension force (orange) to setting shown in the Data Table below for trial 1
3. Load one foam cat onto the end of the launch-arm so that the cat fits snugly. Press the launch-arm down until it locks in the “ready” position. The cat-a-pult is now loaded and ready for launch.

Launch Data:

Trials	release force (green)	tension force (orange)	distance (cm)
1	1	1	
2	2	1	
3	1	2	
4			
5			
6			
7			
8			

4. Carefully drop the trigger cat straight down onto the large flat trigger plate from a height of 6 to 12 inches.
5. Record the launch distance of your cat (where it first hits the ground) and circle any trial numbers in the table that hit the target.
6. Repeat steps 2 through 5 using the given launch forces in the table.
7. After your third launch, it is now your turn to determine tension settings for launches. Record the release force setting and launch information in the table.
8. Answer the questions on the back.

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Questions:

1. What was your longest distance? _____

Your shortest distance? _____

2. Which knob controlled the distance?

Green-release force or Orange-trajectory force

3. Which knob controlled the height?

Green-release force or Orange-trajectory force

4. Which knob did you find most helpful in hitting the target?

Green-release force or Orange-trajectory force

5. At what settings did the launch cat come closest

to the target? _____

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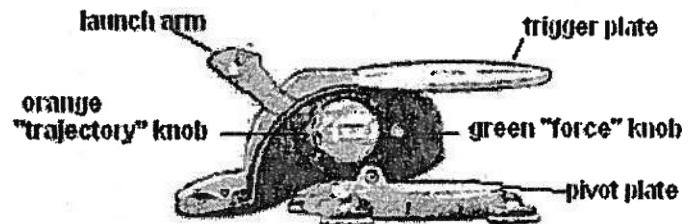
Student Help Sheet

Green knob - "release force" adjuster.

1-5 setting marks, with 1 the weakest and 5 the strongest setting. **This knob controls how far and how fast the cat will fly.**

Orange knob - "tension force" adjuster.

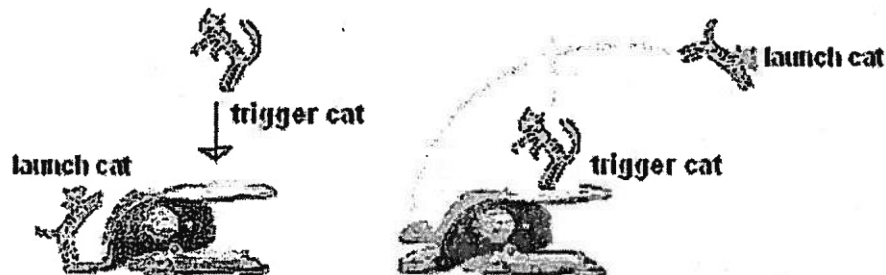
1-5 setting marks, with 1 the shortest and 5 the longest. **This knob controls how high in the air the cat will fly.**



Rotation - The cat-a-pult body also rotates on its base. You can turn the cat-a-pult toward target.

Launch trigger - Cat drop. You only need to drop one of the cats from a height of 6-12 inches. Too strong of a hit on the launch plate will break the cat-a-pult not improve distance.

Example of launch:



Teacher: helpful hints:

Activity notes and safety tips:

1. Event logistics:
 - Have 2 to 3 adults (or reliable student helpers) to help run event makes it much easier.
 - Consider setting this event up in a corner to help control launched objects and students.
 - Wait until target area is clear of adult/student helper retrieving launched objects before allowing students to launch objects. (want to make sure no one is hit by flying object.)
2. Make to have a Student Helpful Hints card next to each launch space on the mat.
3. Demonstrate how to drop the trigger cat so that students see how easily it launches cat.
 - Students should only trigger the cat-a-pult by dropping the cats or lightly tapping on the trigger plate. Remind them to **NOT** hit, step on or use force on the trigger plate to launch the cat. It does not improve distance it will only break the cat-a-pult.
 - (cat-a-pults can be found at Educational Innovations, Inc. teachersource.com)
 - Never aim the cat-a-pult at others and keep students out of launch area so that they will not be hit by flying objects.
4. Remind the students that due to time, they only have 8 tries to hit the target and it's okay if they don't.

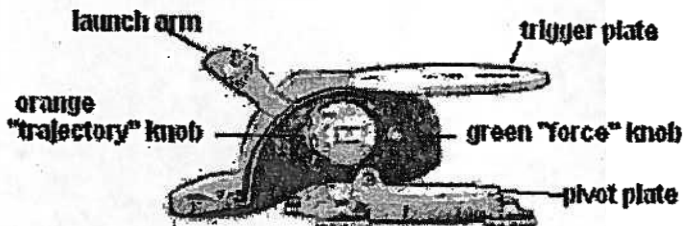
Cat-a-pult parts:

Green knob - "release force" adjuster.

1-5 setting marks, with 1 the weakest and 5 the strongest setting. **This knob controls how far and how fast the cat will fly.**

Orange knob - "tension force" adjuster.

1-5 setting marks, with 1 the shortest and 5 the longest. **This knob controls how high in the air the cat will fly.**



Rotation - The cat-a-pult body also pivots on its base. You can turn the cat-a-pult toward target.

Launch trigger - Cat drop. You only need to drop one of the cats from a height of 6-12 inches. Too strong of a hit on the launch plate will break the cat-a-pult not improve distance.

Example of launch:

