

Colorado JCL Catapult Contest Rules

1. Only one catapult per school may be entered in this state convention contest. The catapult must be an entirely new machine, not a modified version of 1 entered in previous competitions.
 2. The catapult must fit into one of two categories:
 - a. LARGE: the base may not be larger than 3 feet in any dimension, including length of any arm.
 - b. MEDIUM: the base must be between 1 and 2 feet in any dimension
- N.B.: Due to unpredictable weather, this competition may be held inside a large gymnasium. Please keep in mind that there is a 30-foot-high ceiling which limits the height of the catapult's effective trajectory!
3. The catapult may be made of any materials, except that the spring mechanism may not contain any metal parts. No air pressure or firepower may be utilized in the launch process. No flames, explosives, or liquids of any kind are allowed to be brought to the competition site. The catapult must operate without tipping over. Since the competition will occur inside a large building, please do not rely on stakes to secure the catapult to the ground.
 4. The catapult may not be made from a kit of pre-fabricated materials.
 5. For LARGE catapults, a firing pin (or release mechanism) is required to help prevent injury to the operators.
 6. Unsafe operation of any catapult, regardless of size, will result in disqualification from the contest.
 7. A cost limit is being imposed this year and costs must be reported on the pre-registration form. Regardless of catapult size, the limit is \$60 for all materials in any given catapult.
 8. The catapult must be fully assembled & tested prior to registration upon arrival at the CoJCL State Convention.
 9. The catapult must be able to send the standardized contest projectile. Regardless of size, the standard projectile will be a hackesack which is provided to each team by the officials at the time of the contest.
 10. Each catapult team will have one practice shot. Please do not plan any other practice shots on our site before or after the competition. We must prove that we can operate this competition in a reasonably controlled manner for the protection of all individuals and the avoidance of property damage. N.B.: Anyone who operates a catapult must be willing to pay for any damage by credit card before leaving the convention.

11. JUDGING CRITERIA FOR DISTANCE AND ACCURACY ON FOLLOWING PAGE.

12. Two additional awards will be given in each size category:
 - a. best looking catapult
 - b. funniest, suitable, creative LATIN name for the catapult (which must be clearly labeled on the unit itself as well as reported on the registration form).
13. Each catapult must be stored, in an area to be designated by the CoJCL Co-Chairs, where it will not be used or adjusted or risk damage, both before and immediately after the Catapult Contest.
14. The purpose of this contest is to promote interest in the technology of Classical civilizations, to spread enthusiasm, and to foster further dedication to excellence in the arts, athletics, and academics of this topic.

Accuracy in Catapult Competition:
“Ratio of Accuracy to Distance”

We should count accuracy as a function of distance, otherwise--to illustrate with an extreme, but obvious example--a catapult that shoots two five-foot shots with a distance between them of five feet (50% of the total distance shot) would win over a catapult that shot two 150-foot shots with a difference between them of ten feet (6.67% of the distance). The latter actually is accurate, while the former is in fact quite inaccurate; converted to the scale of the 150-foot shot, the distance between shots would be 150 feet--no comparison at all. Thus I suggest the following formula to calculate accuracy as a percentage of distance and stated as a range from zero (dead-on with both shots) to one (as far apart as possible). Zero to one is nice and clean.

Procedure:

Divide the distance between shots (“Accuracy” A) by the sum of the two tosses (T) to find a ratio of accuracy to distance (R):

$$A \div (T + T) = R$$

Lower ratios equal higher accuracy.

Notes and Examples:

For ease of comparison we will stick to round numbers.

Obviously the distance between shots cannot be higher than the sum of the two shots’ distances (supposing someone shot the two in opposite directions). For example, two 100-foot shots in opposite directions could have a distance between them of 200 feet. Divide that 200-foot distance by the sum of the two shots, also 200 feet, and you arrive at an accuracy ratio of 1.00--the theoretical limit (and dangerous for the people watching).

$$200 \div (100 + 100) = 1.00.$$

Just as obviously the best accuracy would be two shots with no distance between them at all. For example, two 100-foot shots could have a distance between them of zero feet. Divide that distance of zero by the sum of the two shots, 200 feet, and you arrive at an accuracy ratio of 0.00--the other theoretical limit (and dangerous for the approaching enemy).

$$0 \div (100 + 100) = 0.00$$

Two 100-foot shots with 3 feet between them: $3 \div (100 + 100) = 0.015$

Two 100-foot shots with 4 feet between them: $4 \div (100 + 100) = 0.02$

Thus we see that the lower the ratio of accuracy to distance, the better the shot.

Colorado JCL Catapult Contest Registration Form

In order to plan for the smooth operation of this contest, a pre-registration is required.

CATAPULT NAME (if known): _____

CATAPULT SIZE (circle one): MEDIUM / LARGE

TOTAL COST of MATERIALS for CATAPULT \$ _____
(N.B.: Provide a detailed, itemized list of costs on the back of this form)

SCHOOL: _____ JCL SPONSOR: _____

JCL SPONSOR's signature (required for permission to enter this contest) _____
It is strongly suggested that the JCL Sponsor sign this form only after all information & signatures have been provided

CATAPULT TEAM CAPTAIN : _____

CAPTAIN's HOME PHONE : (____) _____ &/or E-MAIL: _____

Both signatures requested below are required, regardless of the age of the student team captain, to confirm that the following statement is true. In addition, the accompanying Liability Release form must be completed by the parent of each team member.

"I have read and understood the 15 rules provided for the CoJCL Catapult Contest. I agree to follow them."

TEAM CAPTAIN's signature _____ & date: _____

TEAM CAPTAIN's PARENT's signature _____ & date: _____

Only students whose names are listed on this form and who have a Liability Release completed by a parent may operate a catapult at this event.

ADDITIONAL CATAPULT TEAM MEMBERS :

"I _____ have read and understood the 15 rules provided for the CoJCL Catapult Contest. I agree to follow them."

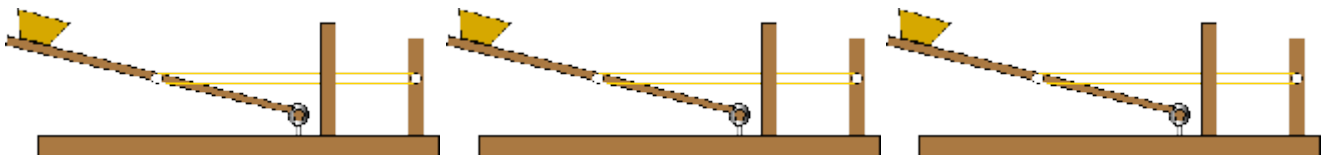
TEAM MEMBER's signature _____ & date: _____

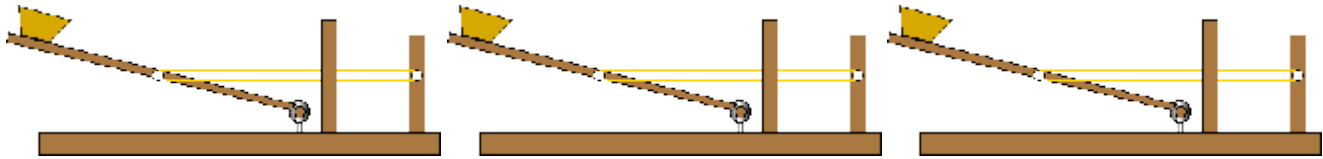
"I _____ have read and understood the 15 rules provided for the CoJCL Catapult Contest. I agree to follow them."

TEAM MEMBER's signature _____ & date: _____

"I _____ have read and understood the 15 rules provided for the CoJCL Catapult Contest. I agree to follow them."

TEAM MEMBER's signature _____ & date: _____





CoJCL Catapult Contest

Liability Release

WHEREAS the undersigned (herein called "Parent" or "Parents") is (are) the natural parent(s) or guardian(s) of the undersigned _____ (herein called "Student") who desires to participate in the Catapult Contest at the state convention of the Colorado Junior Classical League (CoJCL); and

WHEREAS the undersigned desire(s) that the Student participate in this April 2010 Catapult Contest.

NOW THEREFORE, in consideration of the premises and of the educational value to the Student of participating in said activity and for other good and valuable considerations, Parent(s) and Student hereby consent and agree as follows:

1. Student may participate in all activities associated with the abovementioned activity as provided by CoJCL.
2. The Undersigned is (are) responsible for payment of all costs incurred by Student, whether for damage or injury, associated with the abovementioned activity.
3. The Colorado Junior Classical League and its agents (including teachers, sponsors, officers, and chaperones) are released and discharged from any and all liability whatsoever for any claim, demand, or action which may arise by reason of the Student participating in said activities associated therewith, and the undersigned hereby agree to fully indemnify CoJCL and hold CoJCL harmless from and against any and all claims, other party or parties by reason of or resulting from any claim, loss, or injury sustained because of the Student's participating in said activities associated therewith.

SIGNED this the _____ day of _____, 2010.

Parent(s) / Guardian(s) Signature

Student's Signature

