

SYRINGE ROBOT ARM COMPETITION

(INDIVIDUAL OR TEAM; COMPETITIVE)

DESCRIPTION:

This contest provides an opportunity for the student to dunk as many eggs as is possible during a four (4) minute period. Contestants will remove an egg with a robot arm from block A, immerse it totally in water, and complete the work cell by placing it on block B.

GENERAL RULES AND REGULATIONS:

- 1.Entries may be individual or a maximum of five (5) students.
- 2.Manipulators must be hand operated by the builder.
- 3.Base of the robot may be a maximum of 20" x 30". NO other size limitations.
- 4.Power source may be either or combination of hydraulic, pneumatic, and electrical.
- 5.Robot may be constructed from any combination of materials.
- 6.Padding may be installed on the gripper.
- 7.Students must provide two (2) blocks (2" x 2" x 2") with a hole through the center to hold eggs.
- 8.Students will provide a clear plastic container (3" x 5" x 6" or smaller) in which to immerse the eggs.
- 9.Students must provide enough fresh and unboiled eggs to dunk one time each in a four (4) minute time span.
- 10.Team and school names must be prominently displayed on the robot for easy identification.
- 11.Each group will have one (1) person as a pit crew to handle eggs and to help with any repairs during the competition.

CRITERIA FOR JUDGING:

- 1.Safety - Spillage of water, Breakage of eggs
- 2.Time Limit - Number of eggs cycled completely in 4 minutes
- 3.Immersion - Eggs must completely immersed in water
- 4.Grippers - Located at top center of water container when competition begins.
- 5.Egg count - Falls in to water or onto robot arm base - 0 points
- 6.Egg white - Moistens outside of a crack - 0 points
- 7.Egg yolk - Visible within a broken shell Disqualification
- 8.Egg falls from block B - 0 points
- 9.Eggs must be fully released into block B after completing the assigned sequence.

ANY RULES AND REGULATION VIOLATION WILL RESULT IN A -5 EGG PENALTY PER VIOLATION.

AWARDS IN LEVELS I AND II.

