

27. Super Yo-Yo

Classroom Activity: Design and construct a yo-yo to be released from rest at great height (2 or 3 stories). The yo-yo must complete at least one yo-yo cycle. The designs must be supported by data, analysis and drawings.

Grade (s): 11 and 12

Course(s) and Strand (s): Science

Physics, Grade 11 University

B. Kinematics

C. Forces

Physics, Grade 12 University

B. Dynamics

Physics, Grade 12 College

B. Motion and its Applications

See supplementary document Ontario Curriculum Alignment for Engineer-in-Residence Secondary Classroom Activities: Science and Technological Education for relevant overall and specific expectations.

Assessment Categories:

- Knowledge and Understanding
- Thinking and Investigation
- Communication
- Team-building skills

Type of Activity: Classroom/ Lab or Independent Study

Preparation: Approx. 30 minutes

Time needed to complete the task: 75 minutes. (Students are expected to research the subject outside class)

Materials and Resources for Teachers:

<http://www.yotopia.com/HTML/tricks.html>

Materials and Resources for Students:

Glue, scissors, found materials for the body of the yo-yo, string, xacto knife

Activity Description:

Review linear motion and Newtonian physics. Demon-



strate yo-yo tricks, if possible.

Divide the students into teams and outline the contest.

Students build their yo-yo's and they are tested. The distance between the position of the yo-yo at its highest point after initial release and the position of the yo-yo at its lowest point will be measured.

The greatest distance wins.