

75. HEADLIGHTS - Human Electricity Obstacle Course

Classroom Activity:

To 'control' a fellow student through an obstacle course. The student walking the course is guided only by coloured lights mounted inside a box worn over the head.

Grade(s): 9 to 11

Course(s) and Strand(s): Technological Education

Exploring Technologies, Grade 9 Open

- A. Technological Design Fundamentals
- B. Technological Skills

Technological Design, Grade 10 Open

- A. Technological Design Fundamentals
- B. Technological Design Skills

Technological Design, Grade 11 University/College

- A. Technological Design Fundamentals
- B. Technological Design Skills

Technological Design and the Environment, Grade 11 Open

- A. Technological Design Fundamentals
- B. Technological Design Skills

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/ Understanding
- Thinking/ Inquiry
- Communication
- Teambuilding skills

Type of Activity: Classroom

Preparation: Varies

Materials/Resources for teachers:

None required

Materials/Resources for students

Provided by the school:



4 lights (different colours), 10' of wire, 4 switches,
Provided by the students: Box, Tape, Batteries

Activity Description:

Working in teams, students build the apparatus and run the obstacle course. One student will be in charge of controlling the other student through an obstacle course. The box must fit snugly around the students head such that they are unable to see anything except for 4 lights. The student completing the obstacle course will not be permitted to see the course prior to beginning. Any verbal contact between the controller and the controlled will result in automatic disqualification. Any physical contact between the controller and the controlled will result in automatic disqualification. Besides key elements such as walk forwards, backwards, left and right, the students must complete 5 additional elements at various stages in the obstacle course. Jump, Duck, Turn around, Sit Down, Lie down. The winner of challenge will be declared based on the time required to complete the obstacle course. Students are required to submit a design package with their outlining their design approach. The design package must contain calculations and design drawings representative of the final device they use in the competition.

The scoring will be as follows:

- 25 points for creativity
- 25 points for competition results
- 50 points for the design package