

# 7. Hero's Engine (Newton's Third Law)

**Subject:** Physics

**Objective:** To introduce students to a basic scientific principle.

**Logistics:** Hands-on experiment by individual students.

**Materials:**

*empty soda can*

*string*

*nail*

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**Procedure:**

**Step 1:** Each student will prepare a “Hero” engine using a soda pop can. Students bring in can the week before experiment is done. Instructor can pre-drill can before next class (see diagram).

**Step 2:** Fill can with water and tie string to top of can. Instruct student how to use a nail to direct the flow of water.

**Step 3:** Some cans will spin faster than others when filled with water. Discuss reasons for different rates of turning.

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**Vocabulary:** *force, action, reaction, scientific law, Isaac Newton, Hero*

**What they Learn:** Newton's Third Law explains why rockets fly and how jet engines work.

