

Lesson 7

Penny Whistles

This lesson is inspired by a project introduced by Jay Brockman, Associate Dean of Community Engagement and Experiential Learning and Associate Professor in the department of Computer Science and Engineering and department of Electrical Engineering at the University of Notre Dame.

Penny or Irish whistles work because a vibrating stream of air resonates inside a tube of a given length which produces sound waves at a given pitch. What distinguishes a penny whistle from other types of flutes is its use of a fipple to produce the vibrations. A fipple allows a thin sheet of air to pass beneath the blade.

This project only works if you follow the rules about placement and lengths.

PROJECT OBJECTIVES

- Produce a digital model
- Design and measure with precision
- Understand how to control pitch
- Understand Components
- Understand sketch dimensions



Recommended age range 10+

Category: Beginner lesson

Tags: 3D CAD, 3D printing, 3D printed, beginners, design, education, music, whistle

Software: Fusion 360

Lesson Duration: One 45 minute classes (additional time to print)

Estimated filament use (per person):
~0.82m/~6g

See [Lesson 7](#) for Instructor Slideshows, including Lesson Overview and Walkthroughs, Student CAD help sheets, and Example files.