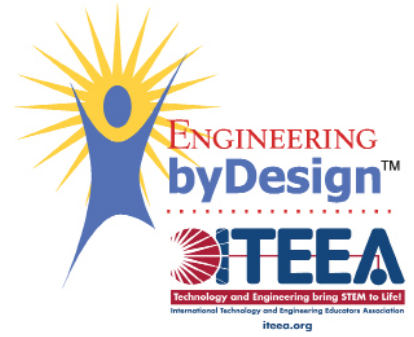


MIDDLE SCHOOL DESIGN BRIEF

Gear Train Lesson



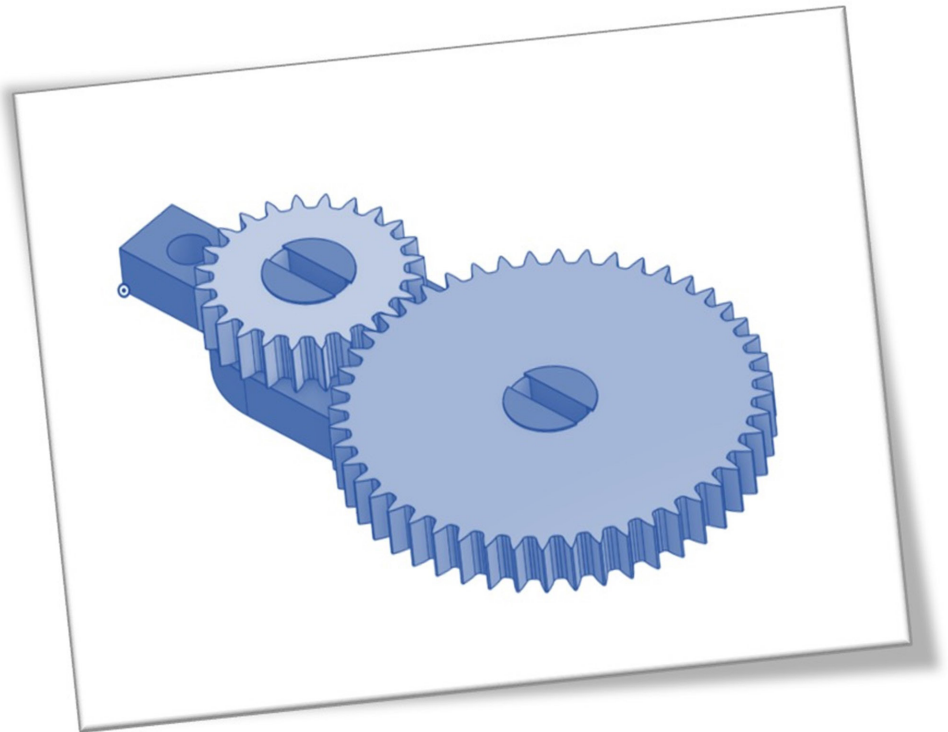
Description: A gear train is the foundation of any mechanical system that is formed by mounting gears on a frame, allowing the gear teeth to engage to transmit torque or power to the device.

Lesson Objective: A gear train consists of two or more gears that are mounted onto a rotating shaft. They transmit torque or power to mechanical systems.

Challenge: Students will define concepts of gear ratio and be able to identify a gear train setup as they produce a working product.

Criteria: Applying the knowledge of gear train ratios and CADD skills, students will follow a STL drawing to CADD a working gear train model.

Materials: [Onshape](#) is a browser-based, three-dimensional parametric modeling system that is free for education. We recommend the use of an Educational Enterprise account, but it is not required. Onshape can run on iOS, Android, Chromebooks, or any device that runs a modern web browser.



Time Frame: 2 hours

Evaluation: Students will be evaluated using the rubric provided on each handout.

This EbD™ Middle Design Brief was authored by Ashley Fore and ITEEA's STEM Center for Teaching and Learning.