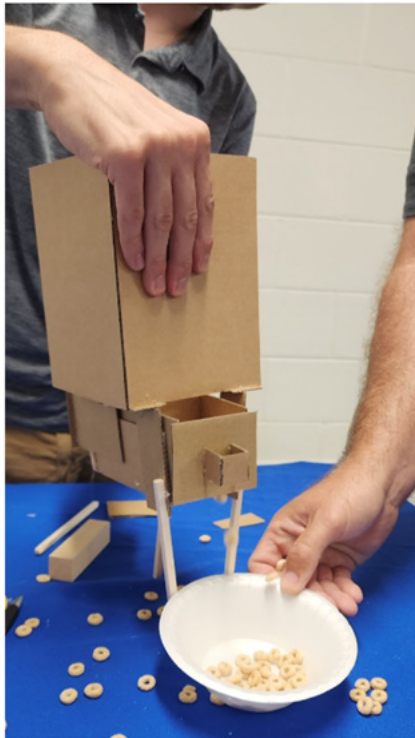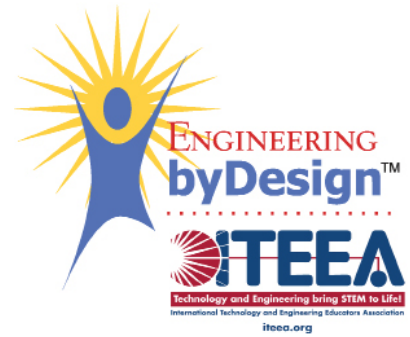# MIDDLE SCHOOL DESIGN BRIEF

Exploring Technology: System Design

Course Description: *Exploring Technology* prepares students by equipping them with an understanding of technology and engineering. With the use of hands-on activities that promote both Technological and Engineering Literacy, students will have opportunities to apply the engineering design process in real-world problem-solving lessons. While exploring technology lessons, students develop a better understanding of how technology is systematically designed and how important the feedback part of the system design is in determining whether the technology is designed as desired.

Course Objective: *Exploring Technology* engages students in the multifaceted world of technology. With technology is most useful when each facet of its creative design is carefully considered, such as its inputs, process, output, and feedback.

Challenge: Students will design and engineer a dispenser for cereal to demonstrate their knowledge and skill obtained.

Criteria: the machine must dispense 1/2 serving of cereal into a bowl when activated. The machine must hold a minimum of three cups of cereal. The machine must have a place to contain the cereal once dispensed. The machine must be freestanding.

Materials: Each group will need some materials that are decided by the teacher. They are items like cardboard, wood scraps, hot glue, glue guns, rulers, cutting devices, cutting mats, bowls, craft sticks, cereal, 1/2 measuring devices, recycled materials (water bottles, plastic containers, etc.).

Virtual Learning: The lesson can be done virtually with items the student has at home such as a marker, rubber band, or ink pen.

Time Frame: 2-3 hours

Evaluation: The students' knowledge, skills, and attitudes are assessed using an Engineering Design Journals and a Performance Rubric.

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