Defining Design

Description
This activity provides a short introduction to the concept of design and aims to get students thinking about the ubiquity of design in everyday life.

For an excellent overview of the design process, see pages 1–36 of Karl Ulrich’s *Design: Creation of Artifacts in Society*, listed in the Resources section. Information from the book could be used to supplement the Design component of this module.

Lesson Objectives
The student will be able to:

- Recognize that examples of design can be found everywhere that there are humans
- Recognize that designing always involves thinking creatively in order to solve problems

Terminology
Artifact: a product of human art and workmanship. Ulrich (2011, p. 2) describes an artifact as “any product of intentional creation, including physical goods, services, software, graphics, buildings, landscapes, organizations, and processes.”

Design: the act of developing solutions to problems through the creation of objects, systems, or environments.

Empathy: the ability to understand the feelings of another person. This is achieved through relationship building. Empathy involves listening, creating connections, and caring for others.

Design thinking: a methodology that combines the practice of empathy with creative and analytical approaches used to foster innovation. Design thinking involves cross-disciplinary collaboration; it draws inspiration from approaches used in engineering and manufacturing, the arts and social sciences, and business. Design thinking supports flexible approaches to problem solving, allowing the model to be personalized and customized to a wide variety of different settings.

Planned obsolescence: also known as built-in obsolescence, planned obsolescence involves intentionally designing products to possess a predetermined, limited life cycle. Some manufacturers consider designing for obsolescence a strategic advantage to boost sales over the long term of a product’s market availability.

Estimated Time
40–60 minutes
Recommended Number of Students
20, based on the BC Technology Educators’ Best Practice Guide

Facilities
- Regular classroom space with desks/chairs for all students
- Projector with computer, speakers, and Internet access

Tools
None

Resources
Design: Creation of Artifacts in Society by Karl T. Ulrich
Freely available in digital format at http://opim.wharton.upenn.edu/~ulrich/designbook.html

Technology Education 11 and 12: Drafting and Design Integrated Resource Package, 2001
(BC Ministry of Education)
http://tinyurl.com/z3kzczz

(BC Ministry of Education)
http://tinyurl.com/jcmo3n4

Teacher-led Activity
Part 1: Design in the World
Invite students to provide examples of anything that has been designed. Based on the examples provided and ensuing conversation, it should become clear that design and human creativity are intimately related to one another and that examples of design can be found anywhere that people are found.

Reinforce to students that within the discipline of design, regardless of what is being designed, it is always being designed for something, namely to solve a problem (i.e., meet a need). Though creativity is an essential ingredient of the design process, not all art is designed to solve a problem—within the fine arts, many works are created primarily to convey emotions and for their aesthetic appeal.

Invite students to engage in small-group discussion on the following topics:
Q1: Is creating something for profit the same as fulfilling a “need”?

A: Designing products can be a way to create a “need” that did not previously exist. Designers may also deliberately introduce *planned obsolescence* into the artifacts they create in order to increase profits. Examples include short-lived light bulbs, disposable batteries, and disposable cameras.

Q2: Do children and young adults *need* cell phones?

A: Answers may vary, and may contribute to a lively debate in the classroom.

**Part 2: Artifacts and Design**

Show the students the cover of Karl Ulrich’s book *Design: Creation of Artifacts in Society* (see next page). Ask students to reflect on the full title of the book and examine its cover. You may wish to ask the following questions:

Q1: What is an artifact?

A: Any product of human art and workmanship

Q2: What are the artifacts that are being displayed on the cover?

A: Spindle adapters for 45 rpm records

Q3: Why do you think the author chose the artifacts he did for the book’s cover?

A: Answers may vary. The spindles may signify the inevitability of changes in technology over time and the creation of new artifacts to replace outmoded ones. Industry, manufacturing, the arts, and leisure and recreation are all impacted by these changes. Invite students to provide examples.

Invite students to reflect on how sometimes artifacts from the past can become fashionable again many years later (e.g., “retro” clothing, vehicles, furniture, and even sound systems). How does design impact these trends, and vice-versa?

The variety of spindles that appear on the cover may also demonstrate how a variety of objects that all serve the same purpose can be designed in many different ways.

**Extension Activity**

Have students choose any artifact that they can reasonably bring to class and briefly present it (2–5 minutes), explaining its unique design features and the solution that the artifact poses to a problem.

**Assessment**

Student participation in class discussion.