



Resource: Constraints vs. Criteria

When starting a design project, engineers need to define the criteria and constraints.

The **criteria** are the requirements that must be met. A design is only successful if all the criteria are met.

For example, if we were designing a skateboard, three criteria might be that the skateboard:

- Will roll
- Is light enough to carry
- Is safe to stand on

A **constraint** is defined as a limitation or a restriction. In solving design problems common constraints include time, cost, and materials. These are the limits you need to work within for this task.

For example, if we were designing a skateboard, two constraints might be:

- The materials must cost less than \$100
- Must fit within commonly used skateboard racks