NORTHEASTERN UNIVERSITY
CAPSULE PD for Teachers

Design Challenge Activity for Day 1

Design a Three-legged Office Chair

Description:

Picture this for a moment. You are an engineer working for a company called Product Innovation Corporation (PIC) with headquarters in Boston, Massachusetts. You work for the company Design Department. PIC specializes in designing and manufacturing office furniture such as chairs, tables, etc. PIC is an environmentally-conscious company. Your design team is charged by your company to produce a sustainable design of an office chair, i.e. minimize the impact of the chair design on the environment. Within this context, your team must come up with a design that minimizes the material used to make the chair.

Design Goal:

Design a chair that uses the least amount of material

Design Specs: Chair must

- use only three legs (legs must be **at least 10 inches tall**)
- be stable and safe; i.e. chair would not fall backward or sideway easily
- support of maximum weight of 300 lb (as much weight as possible for the construction-material-based prototype)
- aesthetically pleasing
- Comfortable
- Have arm rests
- Have a back
- Promote healthy posture, i.e. forces the user to sit straight without arching their back

Design Constraints: Chair must

- Use the least amount of material
- Cost under $150
- Recyclable at its end of life

Team Work:

Your design team consists of two designers: you and another teacher

Design Time:

You must finish your design within 60 minutes

Design Resources:

It is up to you and your team member

Deliverables:

- A three-legged chair prototype
- 2 minutes per team to pitch their design to PIC customers (us in the room)

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