

PROJECT: Collapsible Shovel

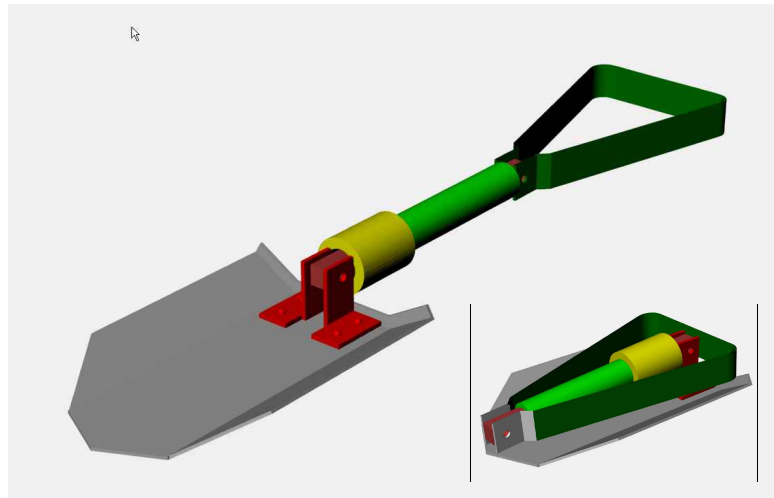
Special thanks to J. Allen & B. Fromhart!

The Purpose...

In this activity you will fabricate a portable, collapsible shovel - perfect for camping, hiking, snowboarding and more! Can you dig it?

The Preparation...

For this activity you will need the following:



CHOOSE METRIC

- 2mm steel sheet 225 x 155 x 2mm
- 25 x 5mm flat bar 560mm long
- 14 x 1.6mm square tube 210mm long
- 3.5x3.5x3mm angle iron 80mm long
- 38mm aluminum round 50mm long

OR IMPERIAL

- 16ga steel sheet 8-7/8" x 6-1/8"
- 1" x 1/8" flat bar 22" long
- 1/2" 16ga square tube 8-1/4" long
- 1-1/2 x 1-1/2" 1/8" angle iron 3" long
- 1-1/2" aluminum round 2" long

FASTENERS

- 1"-8UNC threaded rod 5-3/4" long

- 1/4-20 x 1-1/4" capscrew (two)
- 1/4"-20 Nyloc® nut (two)
- 1/2" flat washer
- 3/16 solid rivets (4)

TOOLS

- Scriber, Ruler and Protractor
- Hacksaw
- Drill press
- Lathe
- Foot Shear
- Box & Pan brake
- Hammer and Centerpunch
- Vice
- File

The Procedure...

1. Blade
2. Handle
3. Shaft
4. Brackets
5. Sleeve
6. Nut