

2022 SkillsUSA Regional Competition

Additive Manufacturing

“Mini Train/Car” Design Challenge

Additive Manufacturing Teams will design a “Mini Train/Car” that will fit on the supplied wooden track and have it roll down the 6’ track with a 90-degree turn.

Materials & Supplies

AM Teams will need to provide the following:

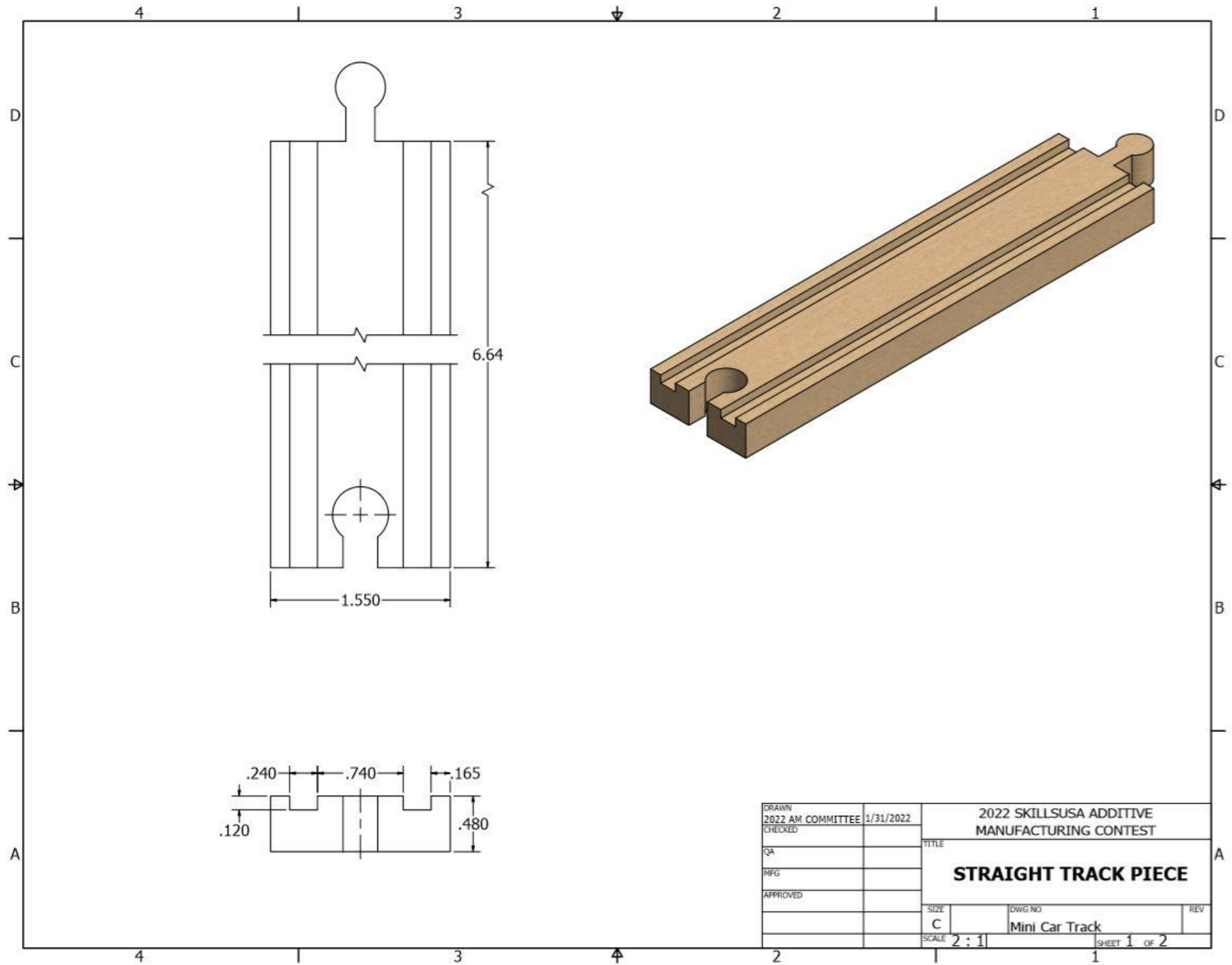
- 3D design
- Thumb drive loaded with 3D design
- Engineering notebook
- Presentation

Materials Provided by Regional Competition Host:

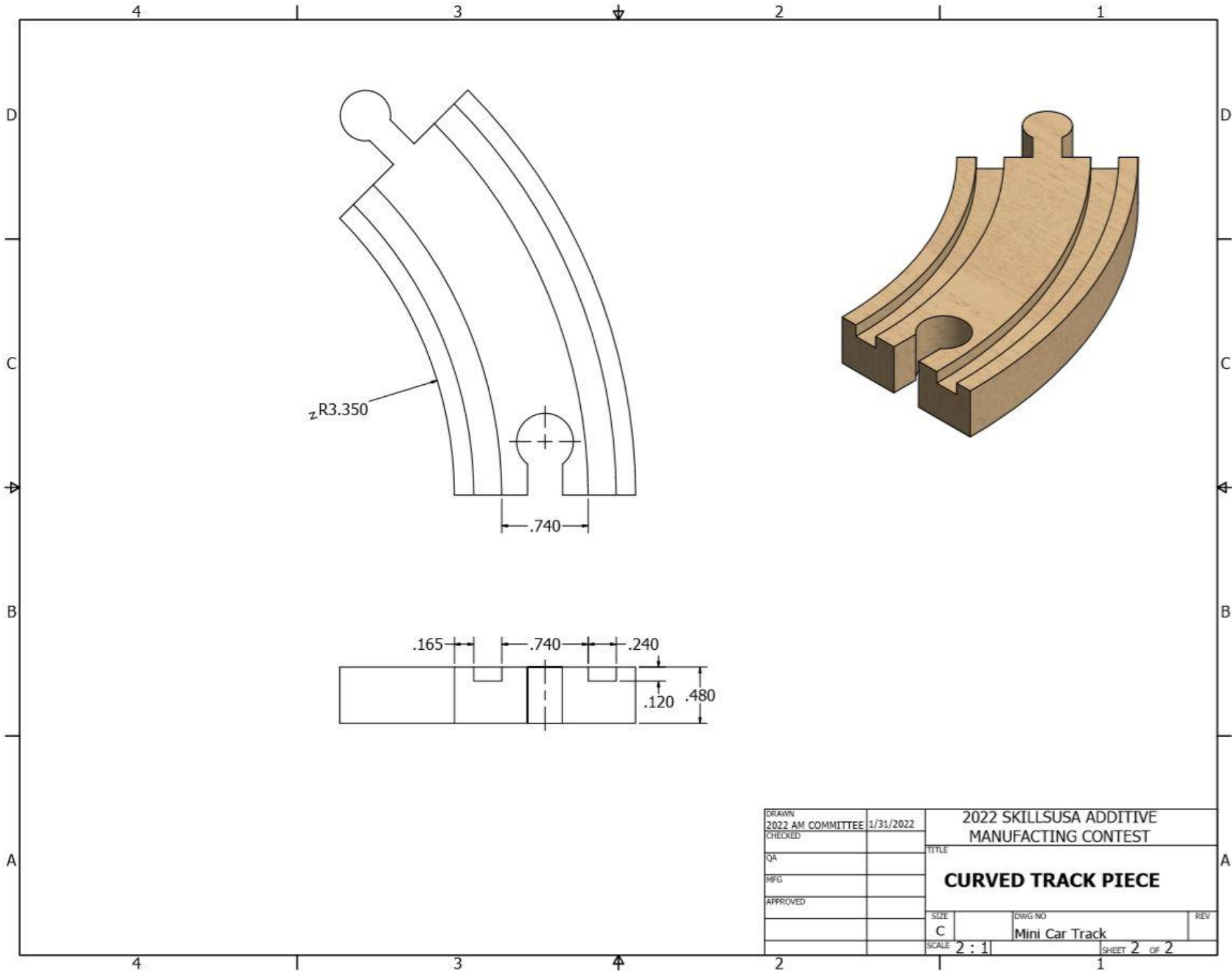
- Track set up

Need to Know Information:

1. The object of the contest is to produce a prototype that has speed and can stay on the track for as long as possible.
2. The prototype will be placed at the top of the hill and held by one team member until the judges say “Go”.
3. Teams will be judged on the following:
 - Prototype Design
 - Engineering Notebook
 - Presentation
 - Distance (reach finish line)
 - Speed
4. The device must follow these 3D printing specs measured in Grab CAD Print:
 - Print time in less than 2.5 hours
 - Prototype has a build volume of no greater than 1.75” x 3” x 2.5”
 - Uses no more than 5 in³ of model material
 - Uses no more than 2 in³ of support material
5. Part Files
 - [Straight Track Piece](#)
 - [Curved Track Piece](#)



DRAWN 2022 AM COMMITTEE	1/31/2022	2022 SKILLSUSA ADDITIVE MANUFACTURING CONTEST	
CHECKED		TITLE	
QA		STRAIGHT TRACK PIECE	
MFG		SIZE	DWG NO
APPROVED		C	Mini Car Track
		SCALE 2 : 1	SHEET 1 OF 2

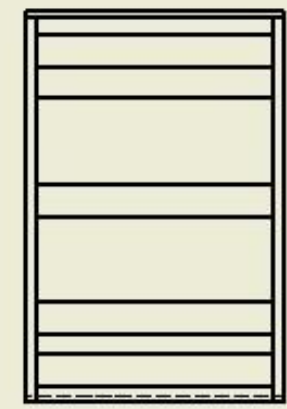
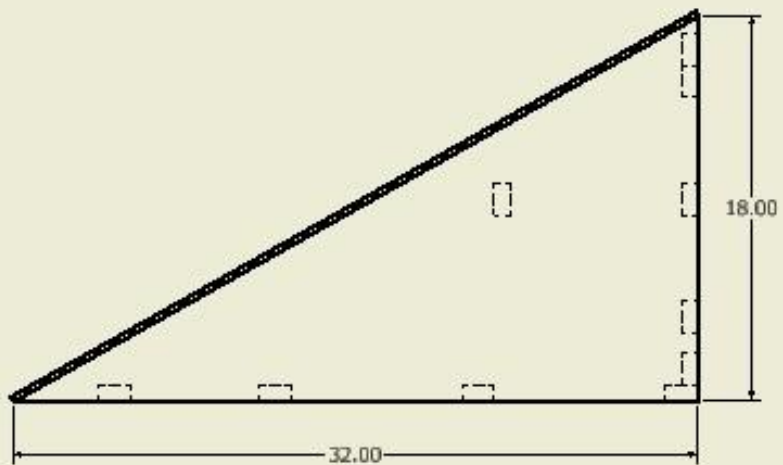
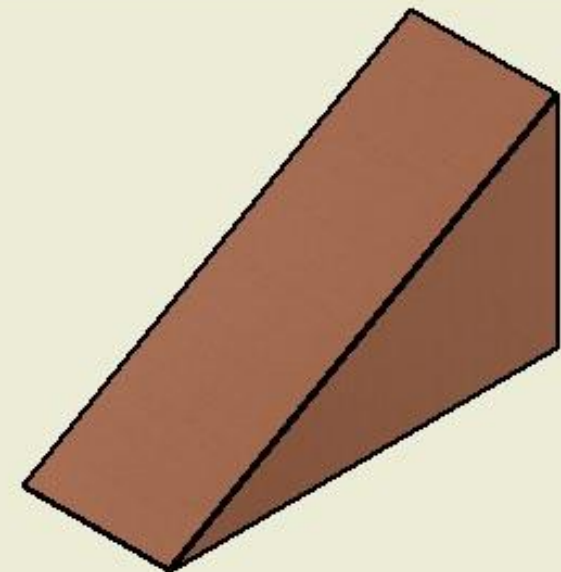
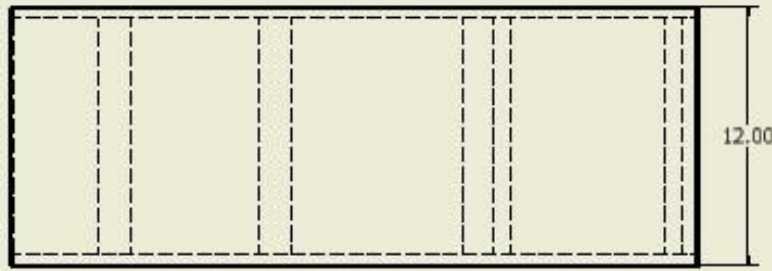


DRAWN 2022 AM COMMITTEE 1/31/2022		2022 SKILLSUSA ADDITIVE MANUFACTURING CONTEST	
CHECKED		TITLE	
QA		CURVED TRACK PIECE	
MFG		REV	
APPROVED		SIZE C	DWG NO Mini Car Track
		SCALE 2 : 1	SHEET 2 OF 2

4 3 2 1

D
C
B
A

D
C
B
A



DESIGNER	2/4/2022	2022 SKILLSUSA REGIONAL ADDITIVE MANUFACTURING CONTEST	
DATE		TITLE	
DR		RAMP	
CHKD		SIZE	PROJECT
APPVED		C	RAMP CONFIGURATION
		SCALE	SHEET 1 OF 1
		1 / 4	