



4-H

STeAMpunk

Invention Challenge

Team/Invention Name:		Team Age Range:
Team Member Names:		
	Team Goals	Completed
Number of Unique Steps: Unique forms of energy transfer, simple machines or uses of stuff. Up to 30 steps		
New Skills: What new skill did you set out to learn and apply? Up to 2 goals		
New Knowledge: What new knowledge did you set out to you learn and apply? Up to 2 goals		
Other goals: What other goals did your team set for themselves? Up to 2 goals		
		Points
Invention Journal Included, written or digital (2pts.)		
Time, less than 2 minutes (2 pts.)		
Successful steps (2 pts. / step) (30 pts. max)		
Completed Goals (1 pt. / goal) (6 pts max)		
Number of Run time interventions (-1 pt.)		
Subtotal (up to 40)		
Additional points for thoughtful reflection, creativity, team spirit, new learning or general awesomeness.		
		10 max

STeAmPunk Invention Goals Clarifications

The STeAmPunk Invention Challenge is designed to inspire creativity and challenge young learners to try and learn new skills, knowledge and attitudes. While it is not a competition against other teams, it can be seen as a competition against yourselves. To encourage each team to set challenging goals, teams are eligible to earn points (50 max) which qualify them for raffle tickets to win prizes at the NH 4-H Makers Expo. Goals should be set and recorded in an Invention Journal at the beginning of the teams' effort. Goals can be changed and revised during the teams' experience.

Number of Unique Steps: Are the number of unique events that make up the chain reaction that is your invention. Events are forms of energy transfer, simple machines or uses of items, etc. Repeating steps like cascading dominoes or marbles counts as a single step or an event like a ball rolling down a ramp used at different places also counts as a single use of that step. (Max 30 points)

For example, a marble rolling down a ramp to topple several dominos which activates another marble on a ramp to a second set of dominoes is only 2 unique steps. Each step is used twice.

New Skills: What new skill did you set out to learn and apply? These are new skills that the team, or a subset of the team set out to learn or significantly improve. (Max 2 points)

For example, learning how to design in Tinkercad and 3-D print parts for our Invention.

New Knowledge: What new knowledge did you set out to learn and apply? This is new information or understanding of a concept that the team, or a subset of the team set out to learn more about. (Max 2 points)

For example, learning about how gear ratios work to change mechanical advantage.

Other goals: Other goals the team may need to work on like communication skills or teamwork. (Max 2 points)

For example, writing letters to local experts so they could help us learn to 3-D print gears for our Invention.

Invention Journal: Teams must keep an Invention Journal to record ideas, goals, changes, successes and failures. This can be in a written or digital format. The Google Science Journal App is a great tool to record observations, notes and photos of your progress. It can be used on a smartphone, tablet or Chromebook. (2 points)

Time: The Invention must take less than 2 minutes to complete. (2 points)

Additional points: Invention Masters have discretion to add up to 10 points for thoughtful reflection, creativity, team spirit, new learning or general awesomeness. So if some of the above goals are not met, but the team shows thoughtful reflection, recognized unexpected learning, shows great team spirit or just plain awesomeness, the Invention Master can award additional points.