

2022 Grade 4-6 Technology Evaluation

This year the competition can be entered with teams of four students.

This unique opportunity builds on the skills and knowledge acquired in the science and technology curriculum. The focus of the challenge will have student teams of four designing, constructing and communicating in an effort to develop a device to solve a problem or situation. The design parameters will be set. The challenge given in these scopes preceding the event will incorporate all skills that will be posted March 21, 2022. The situation will be open ended so that students will have the opportunity to use a design process and cross a variety of strands from the curriculum. Knowledge of gears, levers, pulleys and systems are key to success.

For EACH Design and Technology Team:

You may use **ONLY** the following:

- Work Surface (2' x2' piece of wood) to protect tabletop
- 2 'C' clamps (to secure bench hook/mitre box and work surface to table top)
- 1 mitre box/ bench hook
- 1 junior hack saw & extra blade
- 1 hand drill
- 2 pkg. drill bits (various sizes)

- 1 ruler
- safety goggles (1 per participant)
- 1 gear making jig (optional)
- 1 snips
- 2 E-Z jigs (for making square corners)
- 1 large pair scissors
- 1 electrical extension cord (if required for glue gun)
- 1 power bar (if required for glue gun)

Consumables (purchase these):

- 15 pieces of jinks wood 1 cm x 1 cm x 30 cm
- 20 popsicle sticks
- 10 metal paper clips
- 6 gears (2 of each of 3 sizes) and bushings that fit in the center of these
- elastic bands

- 8 pulleys (2 of each of 4 sizes)
- brass fasteners
- 4 wooden dowels (wooden skewers may be substituted)
- tubing
- 6 straws (that fit over the dowels)
- cards of gusset corners
- 8 wheels (16 if you use thin bristol board wheels)

- 15 glue sticks
- Roll of string
- 1 roll masking tape
- 5 sharpened pencils, eraser
- small pencil sharpener
- 5 pieces of paper (for sketches and planning)

Junior (4-6) Technology Evaluation 2022

School: _____ School Board: _____

Team Members: _____,
 _____,

Product Evaluation:

Evidence of safety considerations	0	1	2	3	4
Efficient and Creative use of materials	0	1	2	3	4
Appearance: Neat and aesthetically pleasing	0	1	2	3	4
Structurally sound	0	1	2	3	4
Evidence of stability	0	1	2	3	4
Use of materials to solve problem	0	1	2	3	4
Effective creation of blockade devices	0	1	2	3	4
Effective ability to pick up blockade devices	0	1	2	3	4
Ability of device to drop off devices in appropriate spots	0	1	2	3	4
Effective use of rotation system to move blockade devices from road to shoreline	0	1	2	3	4
Ability to move "vehicle" along roadway to deliver blockade devices	0	1	2	3	4
Creativity of Solution	0	1	2	3	4
Effectiveness of apparatus (problem solution)	0	1	2	3	4
Operates independent of contestants fingers or hands (using cranks, levers, pulleys etc	0	1	2	3	4

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Process and Presentation Evaluation

Appropriate use of tools and materials	0	1	2	3	4
Evidence of designing and planning before construction begins	0	1	2	3	4
Rationale for the solution selected	0	1	2	3	4
Steps followed in developing the solution (including revisions and improvements)	0	1	2	3	4
Correct use of terminology (gears, pulleys, gear systems etc)	0	1	2	3	4

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Presentation

Organization of presentation	0	1	2	3	4
Clarity of presentation	0	1	2	3	4
Delivery (poise, eye contact)	0	1	2	3	4
Creativity of presentation	0	1	2	3	4
Enthusiasm and motivation	0	1	2	3	4
Marketability of device	0	1	2	3	4

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TOTAL: _____