

Making Connections: Mechanical Systems SPH4C

Learning Goal: The student will evaluate, on the basis of research, the effectiveness of a common mechanical system in addressing a social or environmental challenge

Instructions: Select one of the following mechanical systems (or another of your choice, in consultation with your teacher) and research its design (identifying the simple machines contained within it), its use(s), and its societal and/or environment impact(s). Present your findings in a pamphlet format. Use photos and diagrams wherever appropriate.

Can Opener	Push Reel Mower
Prosthetic Arm	Robotic Arm
Ventilation System	Braking System
Combustion Engine	Self-Closing Hinge
Wheelchair Lift	Water Turbine
Wind Turbine	Window Balance System
Steam Engine	Water Pump
Vehicle Suspension	Waterway Locks

Other? _____

Evaluation Rubric:

Category	Level 1 (5 marks)	Level 2 (6 marks)	Level 3 (7 marks)	Level 4 (8 – 10 marks)
Design	Includes a description of the mechanics of the design but significant important details are omitted.	Includes a description of the mechanics of the design but some important details are omitted.	Includes a description of the mechanics of the design.	Includes a detailed description of the mechanics of the design.
Uses	Includes a description of most possible uses but significant uses are omitted.	Includes a description of most possible uses.	Includes a description of all possible uses.	Includes a detailed description of all possible uses.
Societal or Environmental impact	Includes a description of the societal or environmental impact but significant important details are omitted.	Includes a description of the societal or environmental impact but some important details are omitted.	Includes a description of the societal or environmental impact.	Includes a detailed description of the societal or environmental impact.
Diagrams	Some photos or diagrams are included.	Some information is supported by relevant labelled photos or diagrams.	Most information is supported by relevant labelled photos or diagrams.	All information is supported by relevant labelled photos or diagrams.
Presentation	Some attempt at organization is apparent.	Pamphlet is organized into sections.	Pamphlet is organized into titled sections.	Pamphlet is organized into titled sections and information is presented in a logical order.

Please record all sources on the back of the pamphlet.