

Hydraulic Arm Rubric

| | Level 4 | Level 3 | Level 2 | Level 1 |
|------------------------------------|---|--|---|--|
| Knowledge and Understanding | Students designed the arm using hydraulic principles in effective, efficient, and innovative ways. | Students designed the arm using hydraulic principles in effective ways. | Students designed the arm using hydraulic principles. | Students designed the arm using some hydraulic principles. |
| Application | Students built the machine accurately according to the design. The mechanism meets the challenge on the first try. | Students built the machine accurately according to the design. The mechanism meets the challenge. | Students built the machine mostly according to the design. The mechanism meets the challenge. | Students built the machine mostly according to the design. The mechanism meets the challenge with some modifications. |
| Thinking and Investigation | Student had a detailed design plan that included at least one drawing with labelled parts. Students altered their design based on testing. | Student had a design plan that included at least one drawing with labelled parts. Students altered their design based on testing. | Student had a design plan that included at least one drawing with labelled parts. Students altered their design. | Student had a design plan. Students altered their design somewhat. |
| Communication | Drawing is detailed, accurate, and to scale. Students were able to describe several of the arm's features and their design process. | Drawing is accurate and to scale. Students were able to describe several of the arm's features and their design process. | Drawing is accurate. Students were able to describe several of the arm's features and their design process. | Drawing is mostly accurate. Students were able to describe some of the arm's features and their design process. |