Fishing Rod

Name(s): _____   **Date:** _____

NGSS GOALS	BRONZE	SILVER	GOLD	PLATINUM
1. Student work related to this Crosscutting Concept: In this project, we built a model to help Jack and Jill catch a big fish.				
Developing and Using Models: Use a model to generate data to test ideas about designed systems.	• We built a fishing rod that can catch fish. ☐	• We met Bronze. • Our fishing rod included a working reel and pulley. ☐	• We met Silver. • Our fishing rod included a fixed and moveable. ☐	• We met Silver. • Our fishing rod included a fixed and moveable. ☐
2. Student work related to this Practice: In this project, we investigated how the different pulley designs in our fishing rod affect the effort and speed required to use the fishing rod.				
Planning and Carrying Out Investigations: Collect data about the performance of a proposed object under a range of conditions.	• We made predictions and observations for at least two of the set-ups given on our worksheet. ☐	• We met Bronze. • We made predictions and observations for all three set-ups shown on our worksheet. ☐	• We met Silver. • We used a stop watch and recorded how much time was need to reel in a fish for each set-up. ☐	• We met Gold. • We used a ruler to measure how far our fish moved while we reeled them in. • We calculated how fast we reeled in our fish using the speed equation, speed = distance/time. ☐
3. Student work related to this Practice: We labelled our best fishing rod. We explained how the parts of our fishing rod work separately and how they work together to catch fish.				
Systems and system models: Systems may have sub-systems and be a part of a larger complex system. Use models to present systems and their interactions such as inputs, processes, and outputs.	• We labeled one important part of the fishing rod. ☐	• We met Bronze. • We labeled the hook, crank, and pulleys. ☐	• We met Silver. • We explained how the hook, crank, and pulleys work as separate parts of the fishing rod 'system'. ☐	• We met Gold. • We explained how the hook, crank, and pulleys work together in the fishing rod 'system' to catch a fish. ☐

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