Name: _____ Date: _____

Build Day #2! Per: _____

Directions: It's time for our second build! Using the picture below and what you learned last class about gear trains, build a gear train with an **idler**. That's the fancy small gear between the two larger gears! **CHALLENGE:** You must build this gear train on a piece of metal that is **NOT** your base plate. Attach this piece of metal to your base plate.

1. What is the relationship of the input shaft compared to the output shaft?

   Same direction.

2. Label the drive, driven, and **idler gear**.

   ✓

3. Is the speed increased, decreased, or constant?

   Constant

4. What is the gear ratio?

   60:36:60

5. Is the flow of power reversible e.g. can you make the input shaft turn by turning the output shaft?

   Yes!

6. What is the direction of travel between the input and output gears?

   Same direction.

7. Predict what the direction of travel would be between the input and output gears if the idler gear was eliminated from the mechanism.

   Opposite direction!