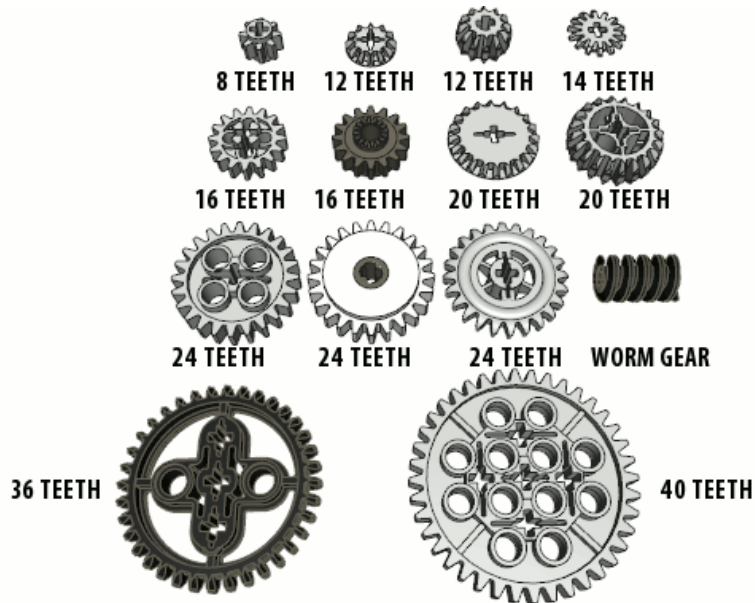


## Engineering Challenge Worksheet

**Engineering Challenge:** *Design a gear set that will lift the provided weight the fastest.* From what we've observed in the demonstration, we know that a large gear attached to the motor and a smaller gear being driven can lift light objects very quickly, but suffers when trying to lift heavy objects. Conversely, a small gear on the motor and a large gear being driven lifts very slowly, but can lift very heavy objects.

1. First, **design your gear set.** From the chart below, choose which gears you will use, and indicate which one will be attached to the motor, and which will be driven.



Attached to motor (driver gear): \_\_\_\_\_

Driven by motor: \_\_\_\_\_

Gear ratio: \_\_\_\_\_

Time to lift binder weight: \_\_\_\_\_

2. Next, implement your design and write a short performance summary. *If you were to revise your design, what would you change and why?*

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3. Visit other groups and inspect their designs. *How do your classmates' designs compare to yours?*

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