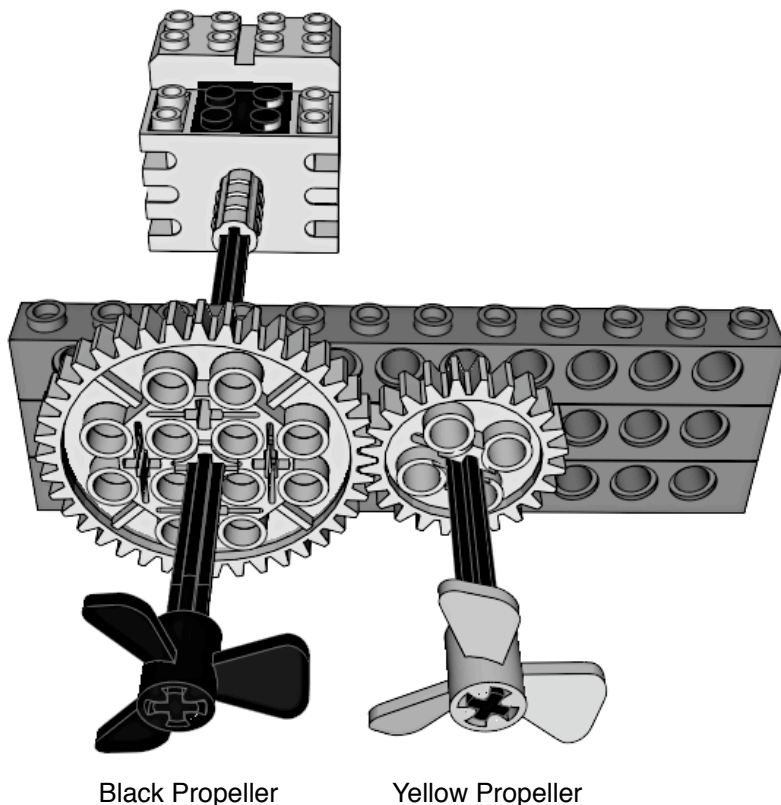


# BUILD IT

## Gears Assessment

### Part 1

Consider the following gear system.

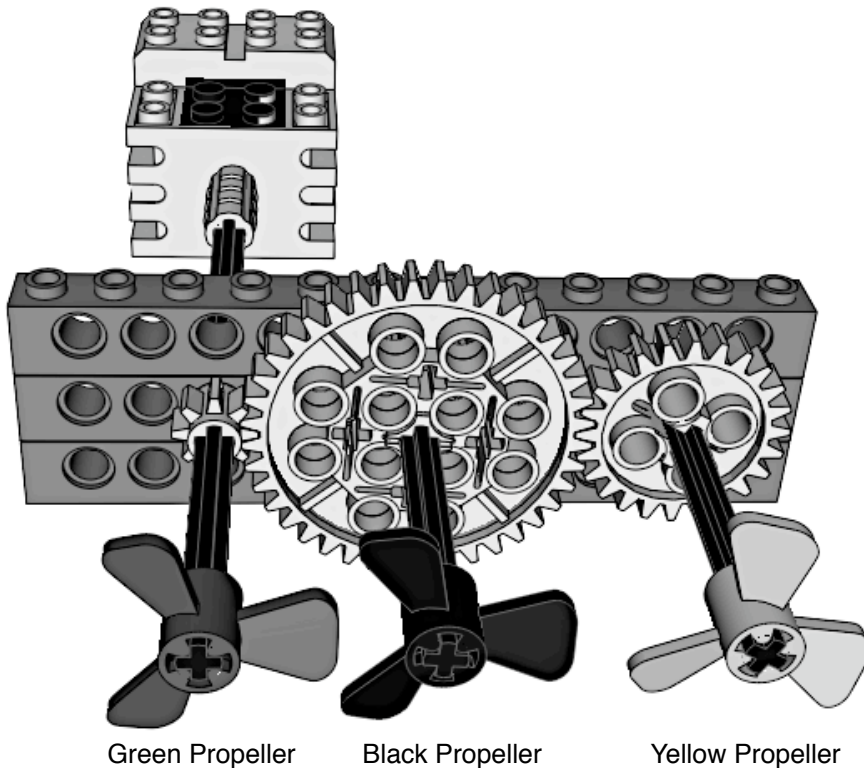


When the motor is turned on:

1. How will the spinning speeds of the two propellers compare?
  - (A) The black propeller will spin faster.
  - (B) The yellow propeller will spin faster.
  - (C) They will both spin with the same speed.
2. How will the twisting forces (torques) of the two propellers compare?
  - (A) The black propeller will exert more twisting force.
  - (B) The yellow propeller will exert more twisting force.
  - (C) They will both generate the same twisting force.
3. How will the spinning directions of the two propellers compare?
  - (A) They will spin in the same direction.
  - (B) They will spin in opposite directions.

## Part 2

Consider the following gear system.



When the motor is turned on:

4. How will the spinning speeds of the three propellers compare?
  - (A) The green propeller will spin fastest.
  - (B) The black propeller will spin fastest.
  - (C) The yellow propeller will spin fastest.
  - (D) They will all spin with the same speed.
  
5. How will the twisting forces (torques) of the three propellers compare?
  - (A) The green propeller will exert the greatest twisting force.
  - (B) The black propeller will exert the greatest twisting force.
  - (C) The yellow propeller will exert the greatest twisting force.
  - (D) They will all generate the same twisting force.
  
6. How will the spinning directions of the three propellers compare?
  - (A) The green and black propellers will spin in the same direction, but the yellow propeller will spin in the opposite direction.
  - (B) The green and yellow propellers will spin in the same direction, but the black propeller will spin in the opposite direction.
  - (C) The black and yellow propellers will spin in the same direction, but the green propeller will spin in the opposite direction.
  - (D) All three propellers will spin in the same direction.