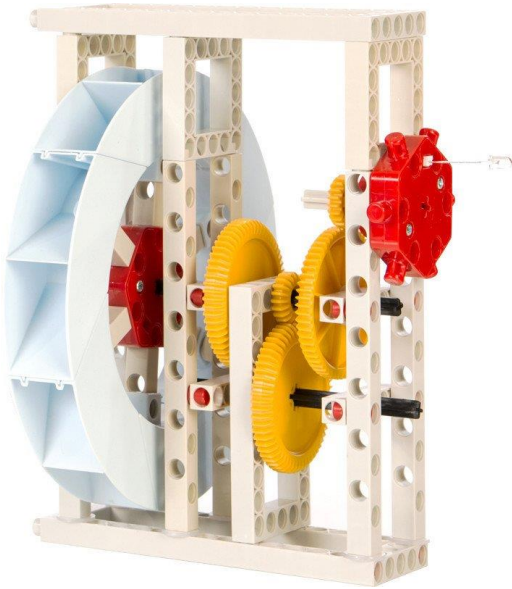


## Hydrowheel Exercise



Follow the steps and think about the questions below, they are meant to guide you through the process. Remember to answer all the questions.

As a team, you will use your knowledge and understanding on Hydropower and learn how to apply it in order to calculate the energy into the system and the power output. You will learn about the importance of efficiency.

- ❖ Does the Hydrowheel work? Spin the wheel both ways, the LED should light up when you spin it in one direction.
- ❖ What type of energy goes into the system if the water source is 0.7 meters above the water wheel? Calculate the energy into the system and show your work. Assume the mass of water into the wheel is 0.15 kg/s and gravitational constant is  $9.81 \text{ m/s}^2$ :

- ❖ Find the current and voltage using the voltmeter. What is the power output that the system produces? Remember  $\text{Power} = \text{Voltage} \times \text{Current}$
- ❖ Find the efficiency of the Hydrowheel using the power in and power out ( $\text{power out}/\text{power in}$ ):