

Hand Generator

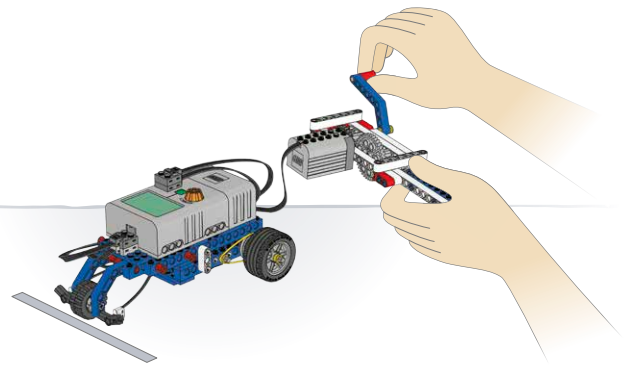
Name(s): _____

Date and subject: _____

Build the Hand Generator and the Joule Jeep

(Building Instruction booklet 1A and 1B, to page 15 step 16).

- Test the models functionality. Loosening bushings can reduce friction
- Connect the plugs properly by pressing them firmly together
- Make sure to return the joules (J) reading to zero before testing
- Mark a start line for your Joule Jeep



Turn and go

First, predict how many generated joules (J) you will be able to accumulate by turning the handle of the Hand Generator after a time period of 60 seconds (sec.).

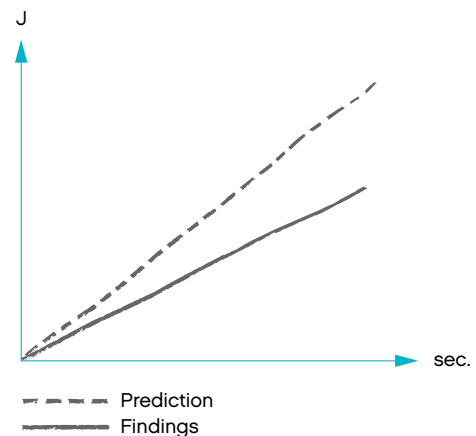
Graph your prediction in a system of coordinates as illustrated opposite.

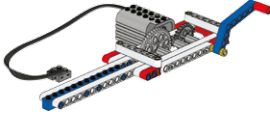
Then, investigate the amount of joules accumulated at 10 second intervals. Read and record your findings.

Graph your findings in the same system of coordinates as your prediction. Remember to reset the Energy Meter before each investigation.

Next, mark a starting line for your Joule Jeep and find out how far the Joule Jeep can run on the amount of accumulated joules.

My Joule Jeep travelled a distance of _____



	10 sec.	20 sec.	30 sec.	40 sec.	50 sec.	60 sec.
My prediction	(J)	(J)	(J)	(J)	(J)	(J)
My findings	(J)	(J)	(J)	(J)	(J)	(J)

Gearing up

(Building Instruction booklet 1A and 1B, to page 16 step 1).

First, rebuild the Hand Generator's gearing. Look carefully to see what difference the new gearing will make to the speed. Predict how many generated joules (J) you will be able to accumulate by turning the handle of the Hand Generator after a time period of 60 seconds (sec.).

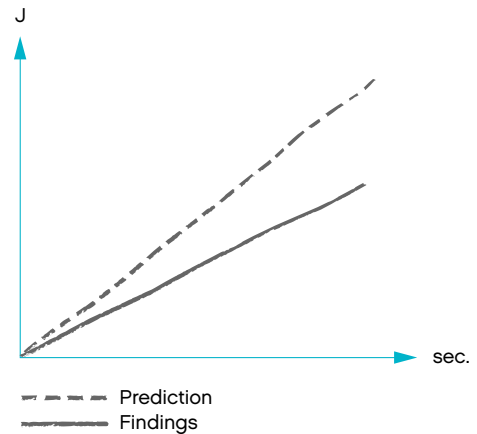
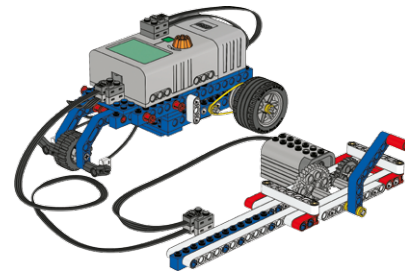
Graph your prediction in a system of coordinates as illustrated opposite.

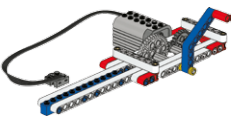
Then, investigate the amount of joules accumulated at 10 second intervals. Read and record your findings.

Graph your findings in the same system of coordinates as your prediction. Remember to reset the Energy Meter before each investigation.

Next, mark a starting line for your Joule Jeep and find out how far the Joule Jeep can run on the amount of accumulated joules.

My Joule Jeep travelled a distance of _____



	10 sec.	20 sec.	30 sec.	40 sec.	50 sec.	60 sec.
My prediction	(J)	(J)	(J)	(J)	(J)	(J)
My findings	(J)	(J)	(J)	(J)	(J)	(J)

Identifying variables

Identify and write down at least three variables, explaining clearly how these affect the efficiency of the Hand Generator and Joule Jeep.
