



# VIRTUAL ENGINEERING MERIT BADGE

HARLEY-DAVIDSON MUSEUM

# AT HOME ACTIVITIES

## Requirement 1

Find a manufactured item that you have at home (like a toy or appliance), and with adult supervision, investigate how and why it works as it does.

## Requirement 4

Learn about a current Harley-Davidson Engineer.

## Requirement 6C

Using an electronic device such as a mobile phone or music player, find out how sound travels from one location to another. Explain how the device was designed or ease of use, function, and durability. Was there anything unique to the sound or the way that it traveled?

## Requirement 6E

Do an experiment to show how mechanical, heat, chemical, solar, and/or electrical energy may be converted from one or more types of energy to another.

## Requirement 9

Choose three engineering jobs and describe the type of education, training and experience required for this profession. Why do these careers interest you?

# VIRTUAL SESSION

## Requirement 2

Learn about the engineering of motorcycles and how the motorcycle has influenced the world today while you walk through the museum.

## Requirement 3

Understand the work of six different types of engineers and explain how their work is related.

## Requirement 4

Discuss what engineers at Harley-Davidson do.

## Requirement 5

Make an original design for a piece of scout patrol equipment, toy, or household item. (An improvement to something that already exists).

## Requirement 7

Learn what it means to be a registered Professional Engineer and be able to name types of engineering work for which registration is most important.

## Requirement 8

Explain how the Engineer's Code of Ethics is like the Scout Oath and Scout Law.

# Activity # 1

## Requirement 1

**Find a manufactured item that you have at home (like a toy or appliance), and with adult supervision, investigate how and why it works as it does.**

What item did you investigate?

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What kind of engineering activities were needed to create your item?

What did you learn about your item upon investigation? How did you get the information?

# Activity # 2

## Requirement 9

**Choose three jobs in the field of Engineering and describe the type of education, training, and experience required for this profession. (You might need to use the internet, with parental permission of course!) Why do these careers interest you?**

Engineer #1:

Engineer #2:

Engineer #3:

# Activity # 3

## Requirement 4

**Log onto google classroom and under "At Home Activities - Meet an HDMC Engineer" choose one of the Engineers to learn more about what they do in their job as engineers!**

Name of current Harley-Davidson engineer:

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What kind of work does this engineer do?

What is a recent project this engineer has worked on? What was their role in the project?

How is this engineer's work done and how are results achieved?

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What kind of tools does this engineer use?

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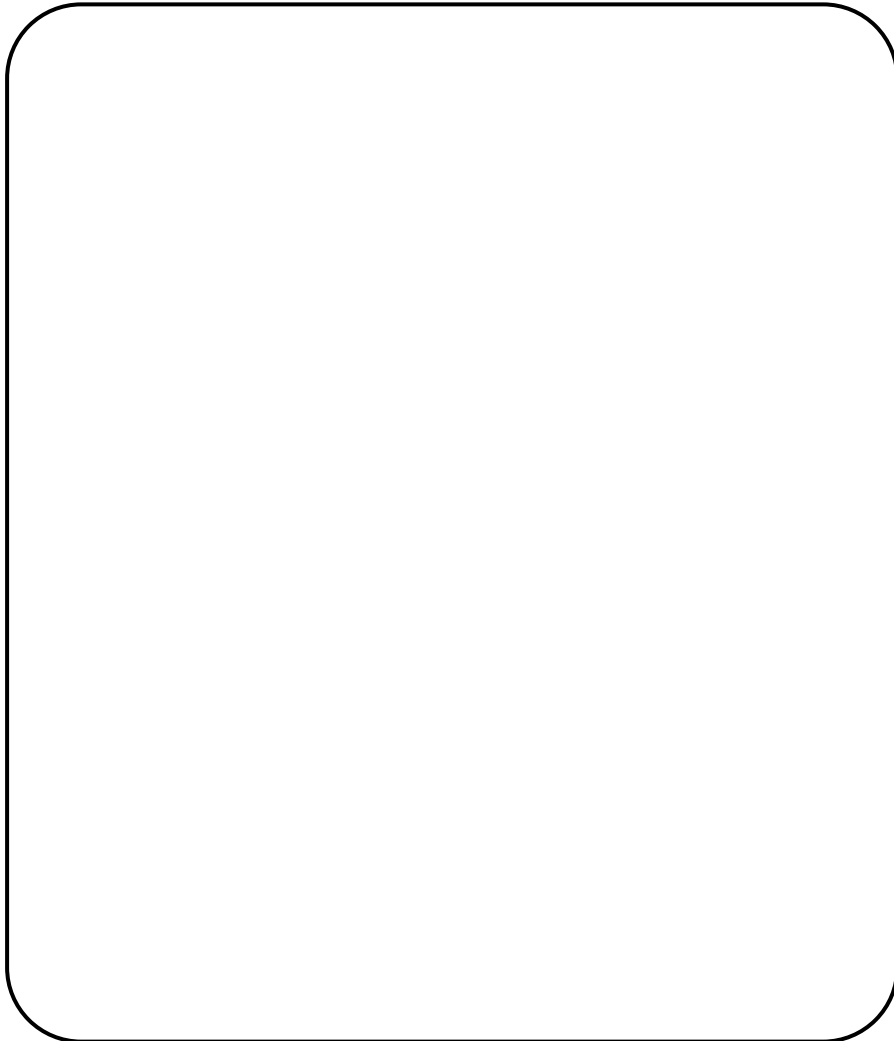
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What did you learn about this Harley-Davidson engineer?

## Activity # 4

### Requirement 6C

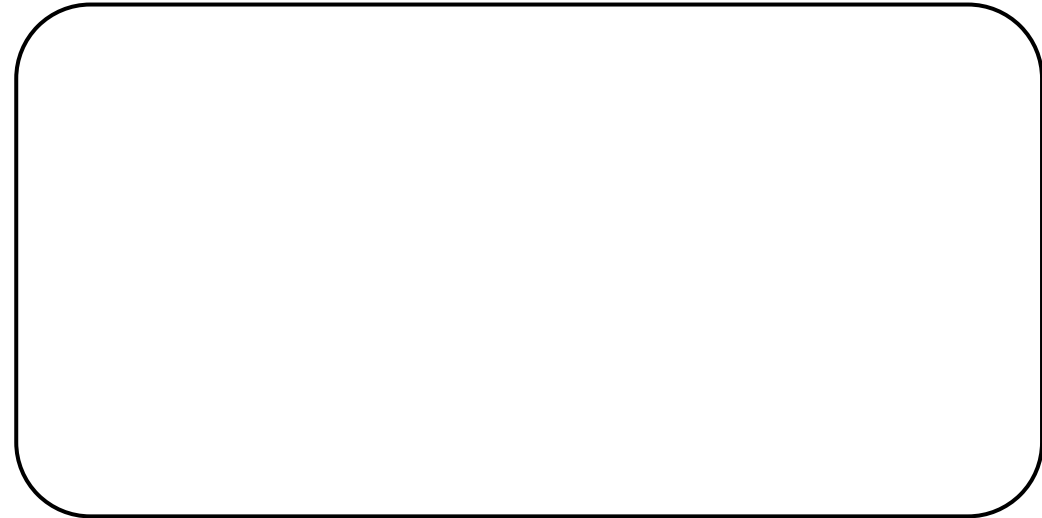
Conduct an experiment to show how mechanical, heat, chemical, solar, and/or electrical energy may be converted from one or more types of energy to another. Explain your results. Feel free to include pictures or video of your experiment!



## Activity # 5

### Requirement 6E

Using an electronic device such as a mobile phone or music player, find out how sound travels from one location to another. Explain how the device was designed or ease of use, function, and durability.



Was there anything unique to the sound or the way that it traveled?

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