



## Academic Activity Chapter 5

# Systems of a Bicycle

A system in engineering is a collection of parts, people, or subsystems that work together to perform a function. The drive system of a bicycle has several elements that work together to translate the downward force of the rider's foot into the forward motion of a bicycle. Go online or study your own bicycle and complete the following tasks and questions in detail.

1. Sketch and label the drive system on a multi-gear bicycle.

2. Describe in detail the interactions and connections between the pedals and the large front sprocket including:
  - a. What turns the front sprocket?

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- b. How is the force translated from the pedals to the front sprocket?

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3. Identify the type of drive system a bicycle uses.

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**4.** Describe in detail the interactions and connections between the large front sprocket and the chain including:

**a.** How is the force translated from the front sprocket to the chain?

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**b.** What does the chain translate the force to?

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**5.** What is used to change the amount of force applied to the rear wheel? How is this accomplished?

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