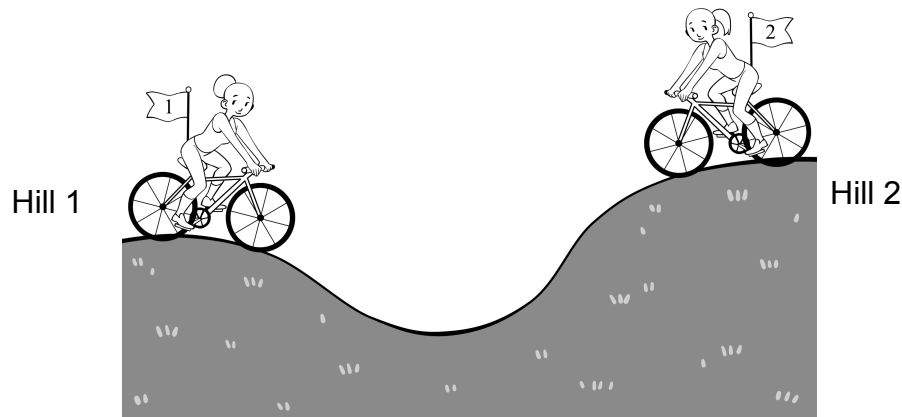


## Energy: Collisions Check for Understanding

1. Use the picture below to help you answer the questions about Maria.



Maria starts at the top of Hill 1 and rolls down it. She then decides to roll down Hill 2, from the top. From which hill will she make it to the bottom with a greater speed—Hill 1 or Hill 2? Circle the answer below.

Hill 1

Hill 2

She will gain the same speed from both hills.

Use your knowledge of energy to explain why Maria will arrive at the bottom with the greater speed from Hill 1 or Hill 2. Make sure to discuss both potential and kinetic energy in your answer.

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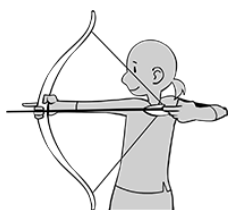
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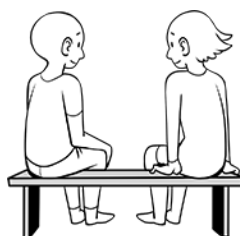
2. Which of these pictures show potential energy that can be converted to kinetic energy? Circle all of the examples that apply.



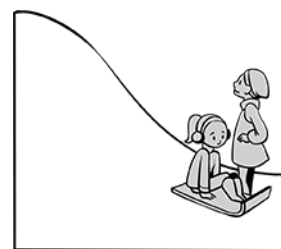
Boy on diving board



Bow and arrow with arrow pulled



People on a bench



Children at the bottom of a sled hill

Choose one picture you circled. Explain how potential energy is shown in the picture and how it will be converted to kinetic energy in that picture.

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3. Draw an arrow that points to where the potential energy is in this picture.



Describe what your arrow is pointing to and how potential energy will be converted to kinetic energy.

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4. Explain why a drum gets louder when hit harder. Use the words **collision** and **kinetic energy** in your answer.



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