Potential and Kinetic Energy
Ball Bounce Investigation

Problem: How does the drop height of a ball affect the bounce height of the ball?

Materials:
- Racquetball
- Meter Stick
- Post-it tabs

Procedure:
1. With a partner, gather your supplies: a racquetball and a meter stick.
2. Decide who is holding the meter stick, who is dropping the ball, and who is recording the data.
3. Make sure the meter stick is held vertically with the 0 cm down on the floor and the 100 cm toward the ceiling.
4. Start by holding the ball up to the meter stick at 50 cm.
5. Drop the ball and watch how many centimeters the ball bounces back up. (Use the top of the ball for your observation)
6. Repeat 3 more trials at 50 cm and record. Then find the mean.
7. When dropping the ball from 150 cm, you will need to measure 150 cm up from the floor and mark a wall with a post-it and drop the ball from this height.
8. Continue the activity until you’ve completed all 4 trials for all 3 heights.

<table>
<thead>
<tr>
<th>Height of Drop</th>
<th>Height of Bounce</th>
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<tbody>
<tr>
<td></td>
<td>Trial 1</td>
</tr>
<tr>
<td>50 cm</td>
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<tr>
<td>100 cm</td>
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<td>150 cm</td>
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Prompt: Write a scientific explanation for how the drop height of a ball affects the height of the bounce.

Claim:____________________________________________________
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Evidence:____________________________________________________
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____________________________________________________

Reasoning:____________________________________________________
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