Please read the entire document before you begin.

You will be learning the history of a catapult. You will design a miniature catapult using craft sticks, rubber bands and a bottle top to launch a projectile. Please use you resources wisely = if you damage them, you will not get replacements.

Please learn about the history of the catapult from <https://www.military.com/video/military-aircraft-operations/catapults/history-of-catapult/3475594046001>

Answer the following questions, in complete sentences, after viewing the video.

What is potential energy? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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What is kinetic energy? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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What is a piston? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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How were catapults used in ancient time? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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Are catapults still used in modern time? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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What is the most important part of the catapult? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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You will get 12 craft sticks, 12 rubber bands, one bottle top (and tape or hot glue to secure your bottle top to your catapult). To design a catapult. You may want to search the web for some ideas.

Take turns practicing using your catapult. Make adjustment to see if you can increase your launching distance. After you have practiced, each group member will take one turn launching and another member will record the distance from the catapult bottle cap to where the projectile lands. This will test the distance your catapult can launch.

Then, you will test of accuracy. Each group member will launch, but please do not remove the projectiles. When the 2nd, 3rd, and 4th person launch, measure the distance from the 1st launch to the 2nd, 3rd, and 4th launches.

Distance

|  |  |  |
| --- | --- | --- |
| Name | Distance from the catapult | Name of measurer |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

Accuracy

|  |  |  |
| --- | --- | --- |
| Name | Distance from 1st projectile | Name of measurer |
|  | XXXXXXXXXXXXXXXXXXXXXXX |  |
|  |  |  |
|  |  |  |
|  |  |  |

Finally, compare your results to other groups. We will discover whose catapult had the furthest distance and whose catapult was the most accurate.

Do you think distance or accuracy would be more important in a catapult? Why? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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