

SAVING

Rapunzel

Rapunzel's braid has been cut off. What can you build to help her escape from the tower with the prince?

First, you have to build your tower! Use the craft rolls provided and some tape to build it. Don't forget to cut a hole at the top for the window!

Next, decide how she's going to escape. Look at the materials provided and think about how you might use them to build an escape route. You are not limited to these materials - use other items you have at home.

The following are some guidelines and things to consider as you design and build.

Her braid is gone, but she has some twine. However, it's not long enough for her to simply hang out of the window and climb down.

Your design must be strong enough to carry her down. Test its strength by pulling gently on it. Does it stay together and attached to the tower?

Think about simple machines. Would a lever, pulley, or an inclined plane work? Can you incorporate one simple machine into your design? See page 2!

If your initial design doesn't work, evaluate. How can you redesign it? Use the reflection page to write about what works and what didn't.

 Watch Miss Lynn tell the story of Rapunzel here: <https://youtu.be/mOYKY2GI5eY>

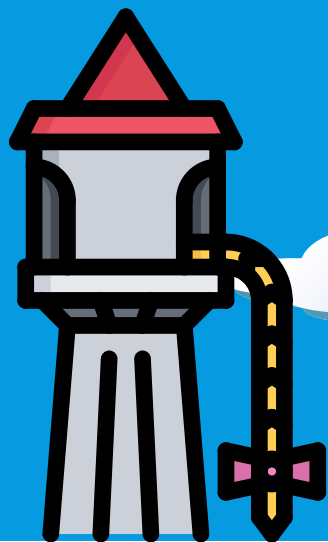
 For more Rapunzel fun, check out our digital escape room here: <https://forms.gle/nigZpm7BApRUXV8X8>

Share a picture of your escape route with us (with a grown-up's permission)!



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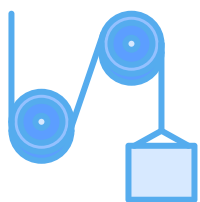




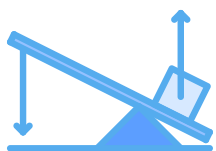
SIMPLE

Machines

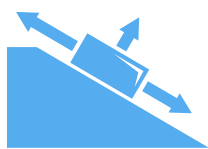
A simple machine is a tool that makes tasks easier by changing the direction or the amount of force needed for a task. Consider incorporating one or more of these simple machines in your design. How could they help Rapunzel escape?



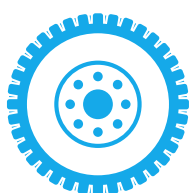
Pulley - Usually used to move things from a low place to a high place. Has a wheel (sometimes two) and a rope. Can it be used to move Rapunzel from a high place to a low place?



Lever - Usually used to more easily move heavy objects. It is a plank that rests on something underneath. When one side goes down, the other side goes up. Can this help Rapunzel?



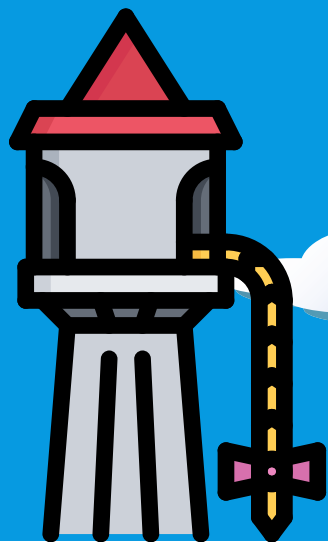
Inclined Plane - Like a lever, this is usually used to move heavy objects. It has a gently sloped surface so that objects can be moved up with less force. How might this be used to get Rapunzel down? Think about the force that would be exerted going down.



Wheel and Axle - Friction, when things rub together, can slow down movement. A wheel and axle can help reduce friction by allowing things to roll. Could this help Rapunzel? Consider safety!

Learn more about simple machines here:

<https://www.generationgenius.com/videolessons/simple-machines-video-for-kids/>



Reflection

Use the space below to reflect on your design process. What worked? What didn't? How did you improve upon your design, or did it work right away? Did you use any simple machines? Which ones, and why?