

Teacher Notes:

Give students a chance to work and come up with ideas before you offer suggestions. If they are not arriving at the idea of a column after a few minutes, you may suggest it. A column of paper can be tricky because it requires a balance of forces. If the book is too heavy and leaning the wrong way, it will collapse. Encourage students to find just the right place to balance the book. Also encourage them to experiment with different heights and widths of columns. You might also have students start with small chapter books and then build up to adding a textbook.

This PBS Kids Video shows this same activity:

<http://www.pbslearningmedia.org/resource/phy03.sci.phys.mfe.zcolumnsi/columns-finding-the-strongest-shape/s>

I encourage you to show it to students after they tried it themselves. You may choose to have them repeat the experiment once more after the video and see if they are able to make stronger structures.

Thank you for downloading this freebie from my blog! I have lots of other STEM ideas as part of my Summer STEM Series at More Than a Worksheet. I have lots of STEM products at my TpT store, also More Than a Worksheet!

Many Thanks to the following clip artists!

<https://www.teacherspayteachers.com/Store/Tim-Van-De-Vall>

<https://www.teacherspayteachers.com/Store/Fonts4teachers>



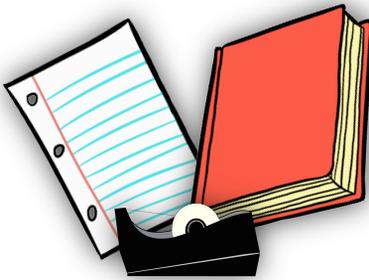
Learning is...



Can you support a heavy book with a single sheet of paper?

Materials:

- one sheet of paper
- 5 cm tape
- heavy book
- clock with seconds



Challenge:

Create a structure that will hold a heavy book off the table for 30 seconds. You may only use one sheet of paper and 5 cm of tape.

Extension Ideas:

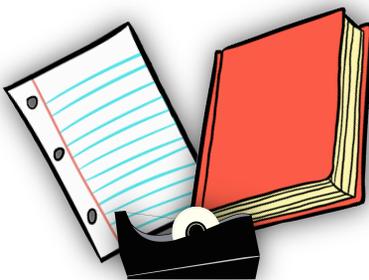
- What is the tallest structure you can build that will support the book?
- How many books can your structure support?

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