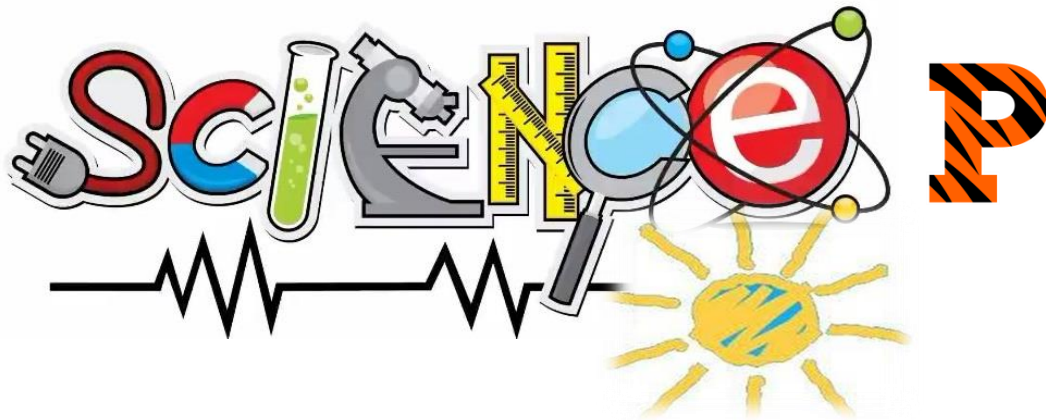




Name _____

3rd Grade Science Remote Learning Packet

Week 6



Dear Educator,

My signature is proof that I have reviewed my scholar's work and supported him to the best of my ability to complete all assignments.

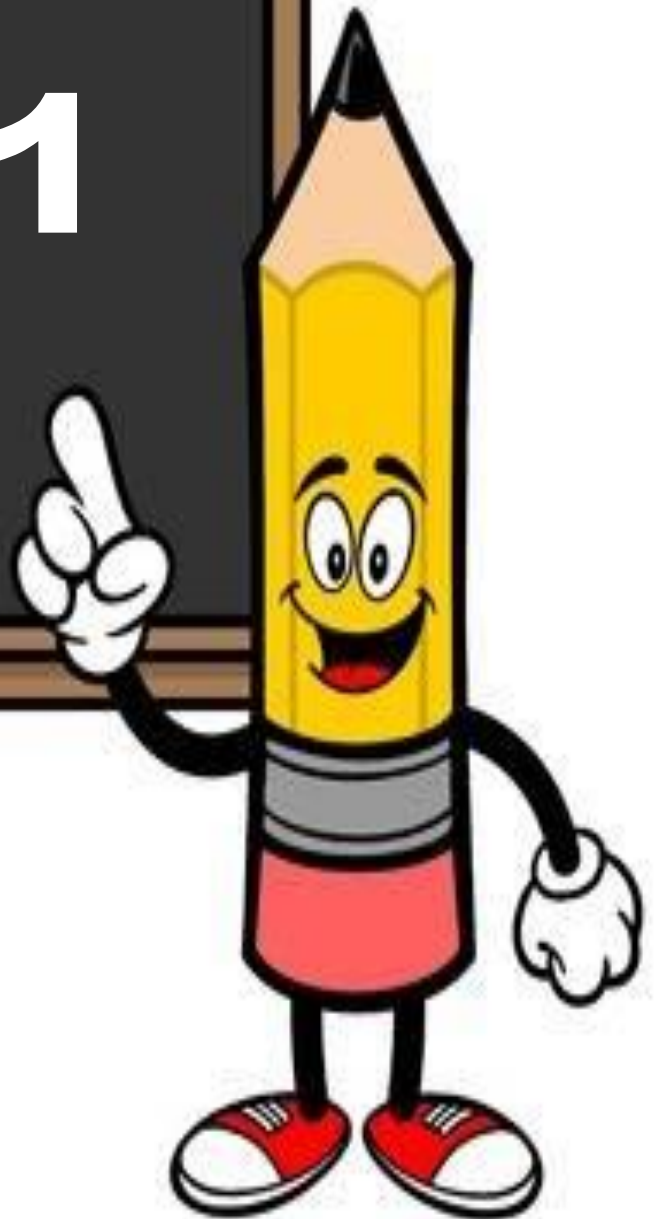
(Parent Signature)

(Date)

Parents please note that all academic are also available on our website at www.brighterchoice.org under the heading "Remote Learning." All academic packet assignments are mandatory and must be completed by all scholars.



Day # 1



Name: _____ Week 6 Day 1 Date: _____

BCCS-B

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Guided Notes: What makes bridges so strong?

What makes bridges so strong? _____

Vocabulary:

1. **Bridge:** a structure _____ over something (such as rivers) so that people or vehicles can get _____
2. **Charles Ellis:** _____ for the design of the Golden Gate Bridge
3. **Engineer:** someone who uses Science to _____ things
4. **Pillar:** a large _____ that helps to _____ something (such as a bridge)
5. **Arch:** a usually _____ part of a structure that is over an opening and that _____ a wall or other weight about the opening
6. **Suspension bridge:** a bridge that is _____ two or more cables that are held up by _____
7. **Truss:** a strong _____ of beams, bars, or rods that _____ a roof or bridge

Video Exploration:

Discuss: How could you keep a bridge from sagging? _____

What are the names of the two cities that Charles Ellis is designing a bridge to connect? _____

What is the name of the famous bridge that Charles Ellis designed? _____

Discuss: Do you think bridges you've seen so far give you any ideas about how you could make a strong paper bridge? (Think about how you can support the bridge so it doesn't sag.) _____

Exit Ticket:

After seeing all the types of bridges—pillar, arch, suspension, and truss—is there one type of bridge that you think will work best when designing your own bridge out of paper? Why do you think this type of bridge will work the best?

Bridge challenge

The problem:

Using only two sheets of paper, build a strong bridge that will reach across a 6-inch gap. The bridge must be at least 3 inches wide.

The test:

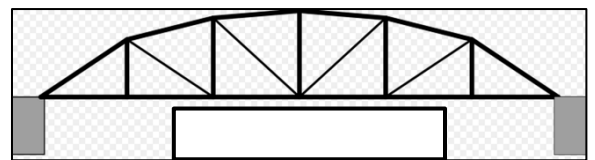
How many pennies will your bridge hold before it collapses?

You need:

- paper
- scissors
- pennies
- a pencil
- two stacks of books of about the same height
- a ruler
- a Bridge Designer's Notebook sheet

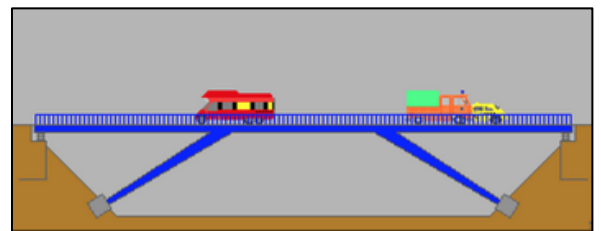
Here's what you do:

1 Place the stacks of books 6 inches apart, using your ruler to measure the gap.

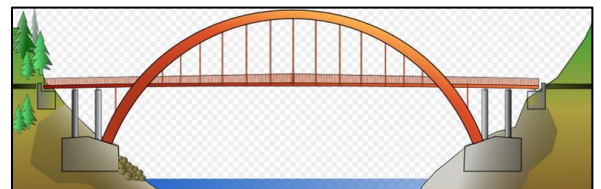


2 Think about bridges that you have seen.

Can you make something that has the same shape out of paper?



3 Experiment!

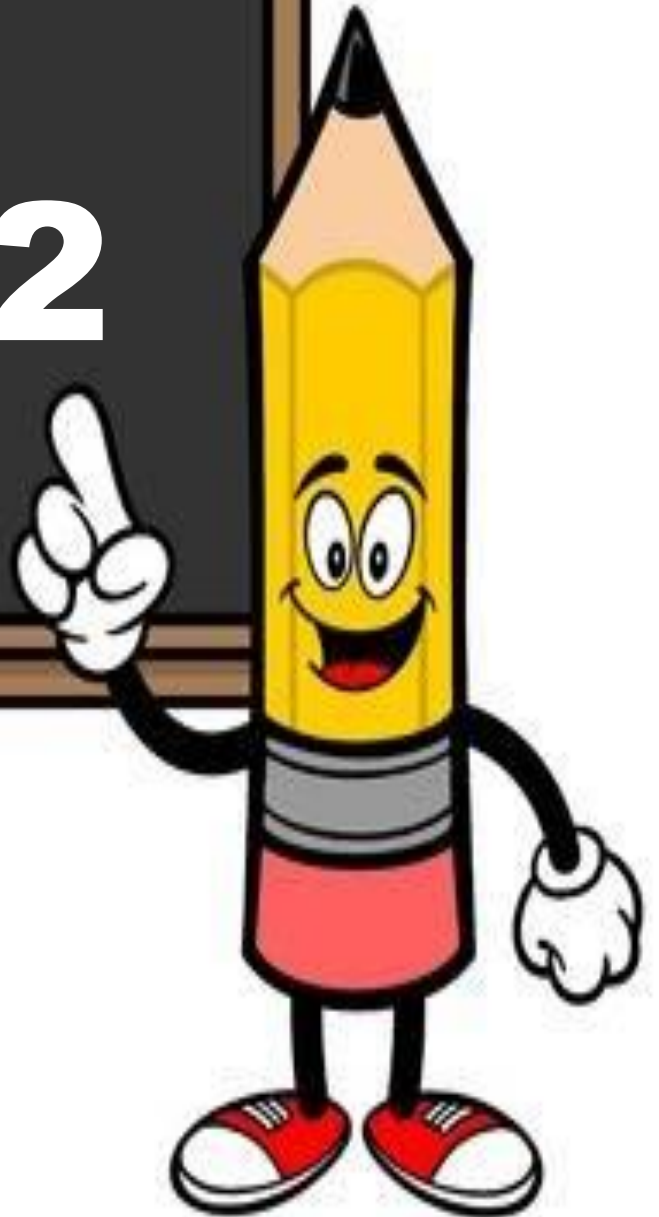


- Make a paper bridge across the gap between the books.
- Put pennies on your bridge, one by one. Watch what happens when pennies push downward.
- Keep adding pennies until the bridge collapses.
- Think about how you could change your bridge so it's better at fighting the downward push.
- Change your bridge and try again. Build at least three different designs.

4 Keep track of your experiments on your Bridge Designer's Notebook.



Day # 2

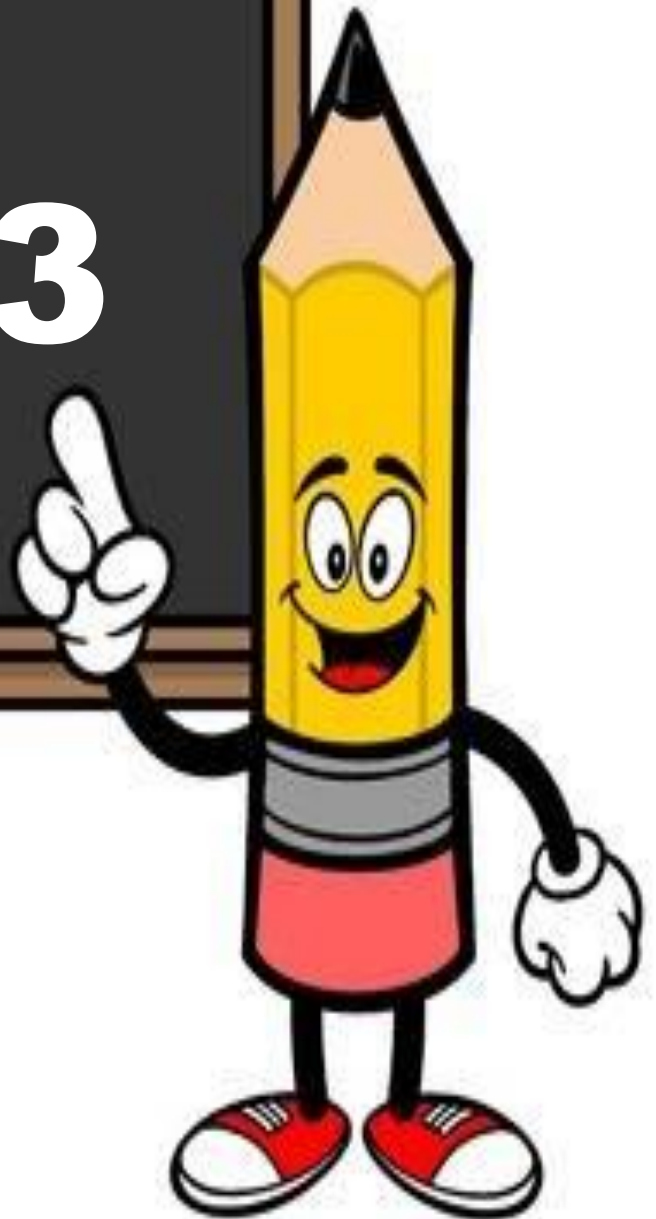


<p>How many pennies did this bridge hold? _____</p>	<hr/> <hr/> <hr/> <hr/>
<p>Bridge #3</p> <p>How many pennies did this bridge hold? _____</p>	<p>To make a stronger bridge, we will _____</p> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>

You can use lots of paper when you are experimenting—as long as your final bridge has only two pieces of paper.



Day # 3



Name: _____ Week 6 Day 3 Date: _____

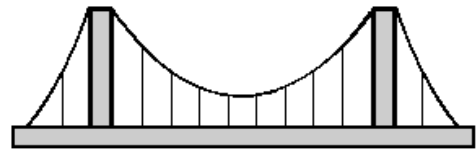
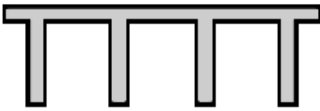
BCCS-B

Harvard Princeton Yale

Invisible Forces Mystery 2: What makes bridges so strong?

End of Mystery Assessment

1. Here are pictures of different bridge designs. Draw arrows to show where the bridge is being supported:



2. When your paper bridge failed, what did you learn? What did you do differently the next time to make your bridge stronger?
