Incan Grass Bridge Challenge

Length:

2 (45 minute) class periods. 1 class period to answer the reading questions and begin building, 1 class period to finish building and test the bridges.

Instructions:

* Explain to the students the challenge and the materials provided.
* Have the students choose their groups (or you choose them). It works best with 3-4 students per group.
* If possible, show this quick NOVA video on Inca Suspension Bridges.
	+ Introduction Bridge Video: <http://www.pbslearningmedia.org/asset/eng06_vid_incabridge/>
* Students need to first answer the reading questions to get background information on these grass bridges. I make them show me the questions before I give them the supplies.
* Students are given the rest of the class time to make their inventions along with half of class the next day.
* Make a big production about the time running out. Tell the students when they have 10 minutes, 5 minutes, 1 minute, then give the 10-second countdown. I do not let the students touch what they have made at the end of the 10 seconds.
* The second half of class the second day test out the student’s inventions by having each group come up one at a time to test out what they made. Have the students tape their bridges to the chairs with 2 pieces of tape on each side of the bridge. Hand the students who built the bridge books to place on the bridge. I like to have the students pile up their textbooks to use for this. Once the bridge caves in or breaks the student’s turn is up.
* Have the students complete a reflection on their learning for homework that second night.

Materials:

* Newspaper (lots and lots of newspaper)
* Tape (just a little bit. I give 4, 1 inch pieces to each group
* 2 desk chairs that are about 3 feet apart for the kids to attach their bridges to during the challenge
* Books to stack on the bridges to see how much weight each one can hold

Discussion Question Answer Key: [Article Link](http://www.smithsonianmag.com/smithsonian-institution/inca-rope-bridge-built-span-national-mall-washington-dc-180955609/?no-ist)

1. What was a major purpose “major achievement” of these grass bridges for the Incan Empire?
	1. Connect the society.
2. How was this skill learned? What does this show?
	1. Passed down from father to son. It shows the cultural importance of this skill.
3. About how many bridges were made during the Inca reign? How long and wide would these bridges get?
	1. Over 200, 150 ft long, 3 men
4. How did these bridges help to bring peace?
	1. Other tribes were in awe, thought it was a gift from heaven.
5. How did these bridges aid in the Spanish conquest?
	1. They connected the villages and tribes together, especially when the Spanish figured out cannons and horses could travel over these bridges.
6. How were these bridges made?
	1. Ichu (spiky grass) was harvested before wet season. It was then pounded with stone and braided into ropes (some as thick as a man’s body)
7. What ritual did the Inca’s complete before first crossing a newly made bridge? Why is this done?
	1. They offer a llama fetus to demonstrate their reverence and so they will not suffer an accident.