Da Vinci Bridge with Jumbo Paddle Pop Sticks

Sections

Joey Scouts | Cub Scouts | Scouts | Venturer Scouts | Rover Scouts

Scouts VICTORIA

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Challenge Areas

COMMUNITY | CREATIVE | OUTDOOR | PERSONAL GROWTH

Scout Method Elements

COMMUNITY INVOLVEMENT | LEARNING BY DOING | NATURE AND THE OUTDOORS | PROMISE AND LAW | PERSONAL PROGRESSION | PATROL SYSTEM

SYMBOLIC FRAMEWORK | YOUTH LEADING, ADULTS SUPPORTING

SPICES Growth Areas

CHARACTER | EMOTIONAL | INTELLECTUAL | PHYSICAL | SOCIAL | SPIRITUAL

The Adventure

Build a small version of a self-supporting bridge without ropes.

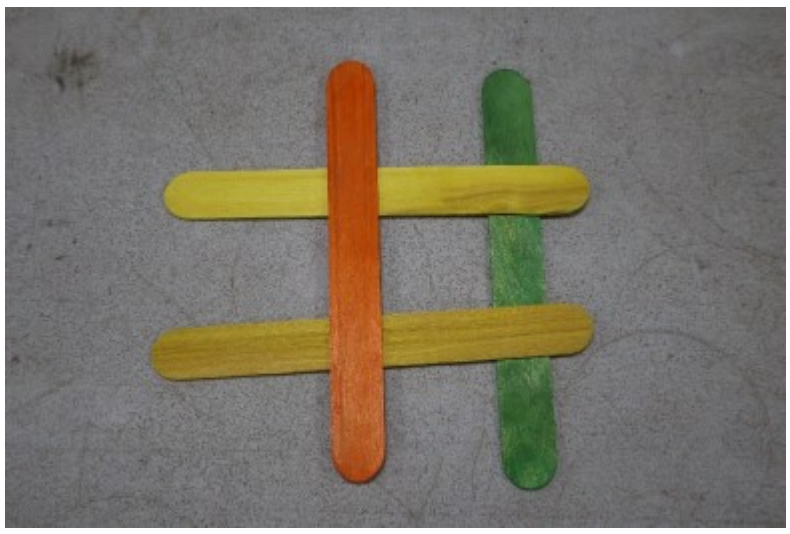
Plan

1. Investigate Da Vinci bridges and how they work. What forces are in play?
2. Investigate friction and what role this plays in the successful creation and use of a Da Vinci bridge?
3. Read the safety information and discuss with your leaders or another appropriate adult what safety equipment, precautions, and supervision may be required. Ensure that you have these safety measures in place before starting the 'Do' section.
4. Gather all the equipment that you need to make Da Vinci bridge. You will need the following equipment: 12 paddle pop sticks, whilst they do not need to be in the following colours, it may assist for following along if you have 4 yellow paddle pop sticks, 2 purple paddle pop sticks, 2 orange paddle pop sticks, 2 green paddle pop sticks, and 2 blue paddle pop sticks. You may also find these printable instructions useful.

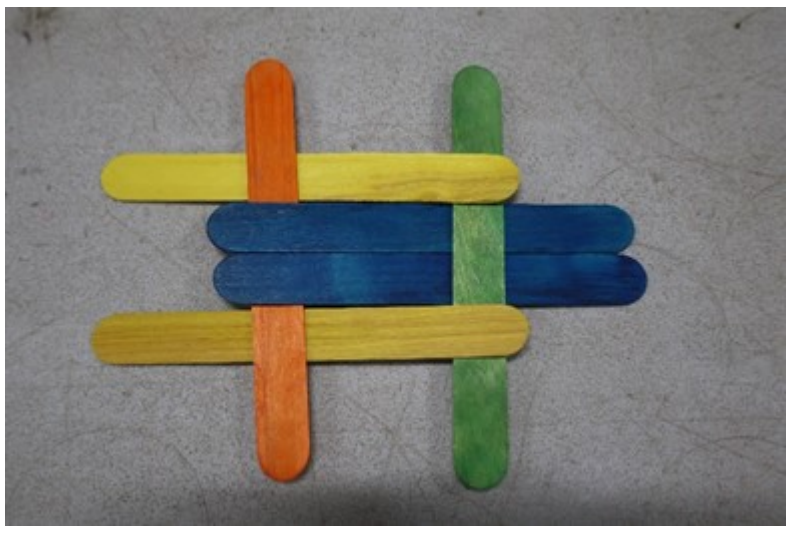
Do

In these instructions, colours are mentioned. These coordinate to the images and assist in instruction clarity. You do not need to use a set with colours and you can use standard paddle pop sticks rather than jumbo ones, however, jumbo paddle pop sticks make the Da Vinci bridge easier to build.

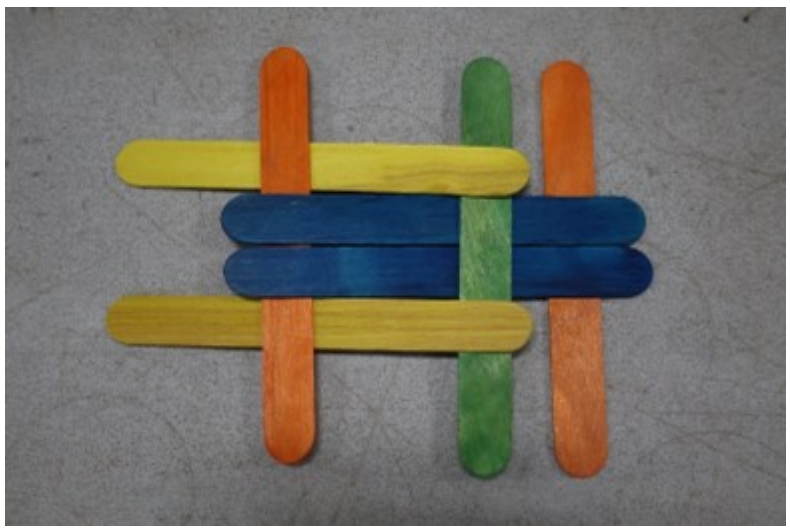
1. Take two of the yellow paddle pop sticks, one of the orange paddle pop sticks, and one of the green paddle pop sticks and form a square with the two yellow stick parallel and on top of the green stick and under the orange stick.



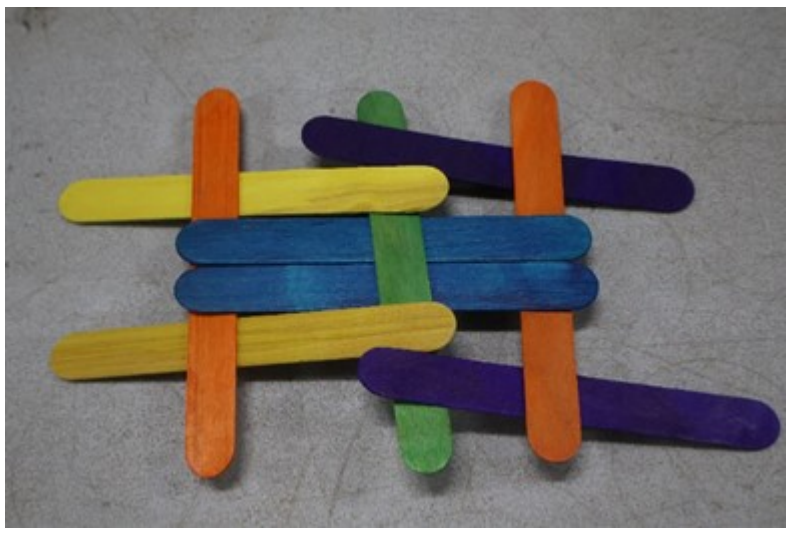
2. Weave the two blue paddle pop sticks under the green paddle pop stick and over the orange paddle pop stick so that they are in between the two yellow paddle pop sticks.



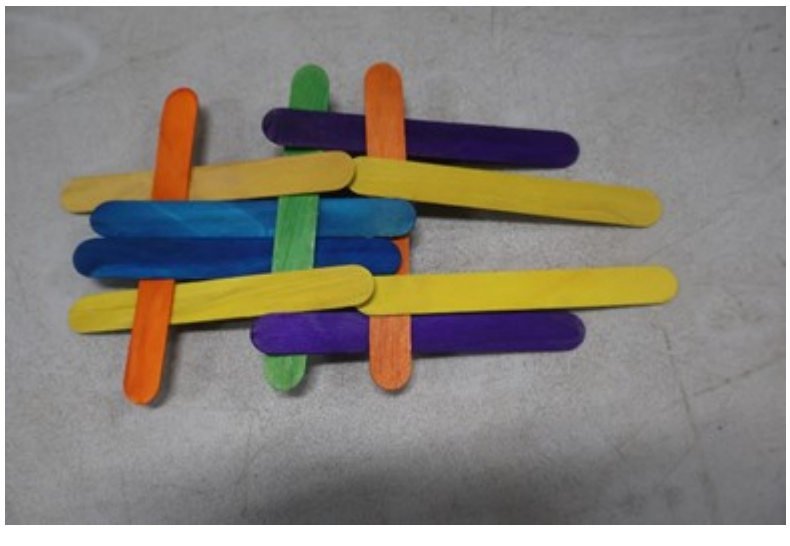
3. Place the second orange paddle pop stick under the end of the blue paddle pop sticks.



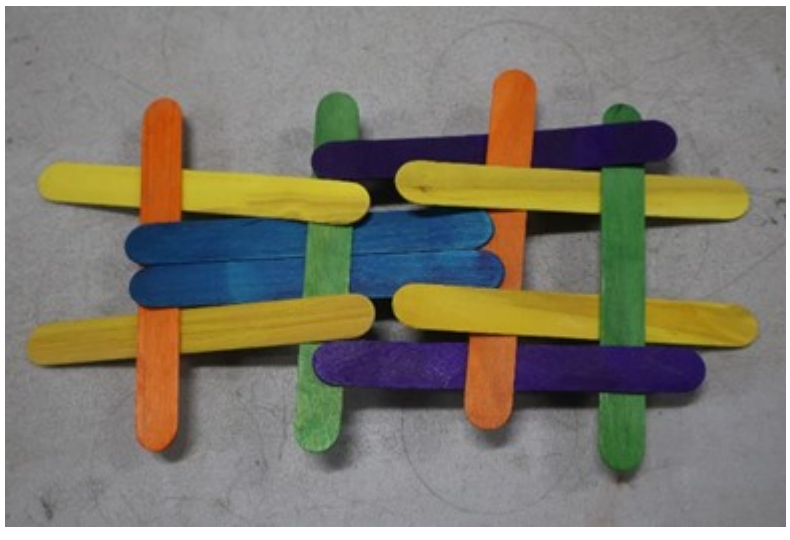
4. Weave the two purple paddle pop sticks under the newest orange paddle pop stick and over the green paddle pop stick so that they sit outside the two yellow paddle pop sticks.



5. Place the final two yellow paddle pop sticks on top of the newest orange paddle pop stick. They should be in line with the other two yellow paddle pop sticks and in between the two purple paddle pop sticks.



6. Weave the final green paddle pop stick under the purple paddle pop sticks and over the newest two yellow paddle pop sticks.



Review

1. Did you successfully build a Da Vinci bridge? If not, what went wrong?
2. What could you do differently to improve your Da Vinci bridge?
3. What did you enjoy most about making your Da Vinci bridge? What did you learn?

4. Could you make your Da Vinci bridge span a greater distance? How?

Safety

• Splinter risk: Take care when handling paddle pop sticks and inspect for splintering prior to use. Do not use any damaged paddle pop sticks.

Variations

• Da Vinci bridges can be built in a range of sizes using different sized materials. For an extra challenge or older sections, you may wish to make a human size Da Vinci bridge.
• You may wish to create a program around this by building a story around it such as needing to cross a river.
• Building of a Da Vinci bridge fulfils the OAS Stage 5 Bushcraft – Pioneering I Statement ‘I have built a structure that doesn’t need ropes to construct.'