Make a Guitar

Sections

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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

Explore soundwaves and the magic of music by creating your own guitar using items from around your house.

Plan

1. Investigate how string instruments work, especially how different notes are produced. Depending on your section, you may find these websites useful as a starting point: https://method-behind-the-music.com/mechanics/strings/ and https://www.bbc.co.uk/teach/class-clips-video/music-science-ks2-how-string-instruments-make-sound/zfmd7nb
2. Investigate instrument tuning and methods of tuning.
3. Investigate different approaches to making a guitar at home and how these may differ to commercial guitars. 4.. There are a range of websites that outline how to make a guitar at home provided on websites such as Science Buddies and 3M. These websites also often explain some of the science behind guitars.
4. Determine how many strings you would like your guitar to have and collect the necessary supplies. Most guitars have 6 strings but 4, 7, 8, and 12 string guitars also exist. If you are working with your patrol, you may like to make one of each type to see how they compare.
   For a single guitar, you will need an empty tissue box, a cardboard tube or ruler, scissors or a utility knife, two pencils (or other suitable alternative as listed in Step 2 of Do), rubber bands, and tape or glue. You may require hot glue or some other strong glue.
5. Make sure that you and any patrol members that you are working with have read and understood the safety section and that you have a supervising adult, if required.

Do

1. Make your guitar using a set of instructions that you have found or by following the instructions below in steps 2-5.
2. Take an empty tissue box and remove any plastic from the inside of the hole.
3. To make the handle of your guitar, attach either the cardboard tube inside of a roll of paper towel to one of the short ends of the tissue box or attach a ruler to the back of the tissue box, using tape or glue. If you are using a cardboard tube, you should make about 8 five-centimetre-long cuts about equally apart into one end of the tube. You can then fold these tabs over to help you join the tube to the box.
4. Glue two pencils, pop sticks, pens, or other similar objects parallel to each other on either side of the hole in the top of the box. The two objects should be the same height and close to the edge of the hole. If you are making a 4-string guitar, it would likely be best to place these objects parallel to the short ends of the box whereas for guitars with more strings, it would be best to place these objects parallel to the long ends of the box.
5. Gently pull a series of rubber bands, equal to the number of strings you want your guitar to have, over the box so that they rest on the objects. Ideally, your rubber bands should be of different thicknesses.
6. Decorate your guitar as desired.
7. Hold your guitar by the handle and pluck on of the rubber bands, paying attention to the sound made. Work your way through the strings and listen to which ones make a higher pitched sound, etc.
8. Press one of the rubber band strings down against the object and pluck the string again. Does this make a difference to the sound?
9. Explore what happens if you pluck more than one rubber band at a time.

Review

1. Did your guitar work as you expected it to? Why or why not?
2. What did you enjoy the most from making and playing with your guitar? What did you learn?
3. If you were to do this activity again, what would you do the same? What would you do differently? How could you improve your guitar? Do you think you could tune your guitar?
4. What do you think would happen if you changed the size of the hole in the box or changed the size of the box?

Safety

- Sharps warning: If you are using the cardboard roll for the handle of your guitar, you will be using scissors or a utility knife and therefore there is the risk of cuts. Younger sections should have appropriate adult supervision. Utility knives should not be used by younger sections.
- Be careful with rubber bands as if looped too tight onto limbs, etc, they can impair circulation. Rubber bands can also be used as projectiles that, if not careful, may pose a danger to eyes. Never shoot a rubber band in the direction of someone else.
- Allergy risk: Rubber bands contain latex which some individuals may be allergic to. Latex allergy reactions may vary in severity.

Variations

- Experiment with different types of strings and different plucking techniques and methods, such as a guitar pick.

- Try and play a song with your guitar.
- This challenge card pairs nicely with other challenge cards from the Magic of Music theme such as Make Glasses Sing, Make Glass Bottles Sing, and Make an Idiophone, or other soundwave related challenge cards. In your Patrol, you could make a range of instruments and play them together. Think about what other instruments that you may be able to make.
- Depending on the focus, this Challenge Card can work well with either a STEM & Innovation or Arts & Literature Focus.