



CUB SCOUT BOOMERANG (GOLD) TEST 10 – DISCOVERY

Explain how sounds are produced and demonstrate a simple instrument e.g. telephone or musical instrument.

Rubber Band Harp

Resources

- Rubber Band Harp template
- Harp base
- 10 Nails
- 4 Rubber bands
- Hammer

Instructions

1. Lay the paper template on the wooden Harp base;
2. Hammer in nails on the 10 crosses on the template. Take care not to hammer the nails right through the base—two or three firm hits on each nail should be all that is necessary;
3. Following the numbering and guide lines on the template, stretch the first rubber band over the central nail, then evenly around the front of the first two nails in the arc, then around the back of the third nail in the arc, and finally over the fourth nail. Keep this rubber band low down on the nails;
4. Following the numbering and guide lines on the template, stretch the second rubber band over the central nail, then evenly around the front of the third and fourth nails in the arc, and finally over the fifth nail. Keep this rubber band just above the first as it is stretched around the nails;
5. Following the numbering and guide lines on the template, stretch the third rubber band over the central nail, then evenly around the right hand side of the fifth and sixth nails in the arc, and finally over the seventh nail. Keep this rubber band just above the second as it is stretched around the nails;
6. Following the numbering and guide lines on the template, stretch the fourth rubber band evenly around the central and two left-most (eighth and ninth) nails. Keep this rubber band just above the third one;
7. Finally, tune the harp by stretching more tightly, or releasing the tension on the individual bands over the nails in the arc (Do not change the position of the rubber bands on the central nail during or after tuning);
8. Play "Twinkle, Twinkle Little Star" by plucking the strings (rubber bands) in the following order:

C	C	G	G	A	A	G
F	F	E	E	D	D	C
G	G	F	F	E	E	D
C	C	G	G	A	A	G
F	F	E	E	D	D	C

Resource Preparation

Rubber Band Harp Template

File: Rubber Band Harp.pdf

Print the template file and cut in half (2 templates are printed per A4 page).

Harp Base

Softwood Planks (19 mm) 210 mm x 130 mm ~\$0.65 Timber Supplier

Recycled pine planks are ideal, taking care (if practical) to avoid too many knots—it can be difficult to drive nails into knots, and sometimes the knot gives way entirely.

Nails

Bullet head 50 x 2.80 \$4.70/500 g Hardware Store

Note that the nails only need to be driven firmly into the wooden base. Usually a couple of millimetres will suffice, as would be achieved by one or two firm strokes by an adult. The nails should not be driven *through* the base.

Rubber Bands

Thick, red ~150 mm dia. Australia Post

These are just the rubber bands that Australia Post uses (as of May 2003) to bundle letters; collected and 'recycled'.

Hammer

Claw Hammer (preferably) \$? Hardware Store

A hammer appropriate for the children involved and the task at hand. A claw hammer is not essential, but will come in handy if any nails have to be removed. A tack hammer, or small hobby hammer, may not be heavy enough to drive in the nails, depending on the timber used for the Harp base.

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