



CALIFORNIA STATE SCIENCE FAIR 2004 PROJECT SUMMARY

Name(s) David S. Rose	Project Number J0230
Project Title Pick-a-Pick: A New Tool for Playing the Guitar	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals Guitar players frequently use different thickness picks for different styles of music. During a song or performance, changing different picks or going from finger picking to using a pick takes too long. While playing songs that require faster strumming, picks are frequently dropped. The Pick-a-Pick was invented to allow a guitar player an on-hand choice of three different picks that can be quickly selected while playing, without being dropped.</p> <p>Methods/Materials The design was drawn on graph paper. A cardboard model was made. Each guitar pick was cut from various sheets of plastic, using a standard guitar pick shape with a 3 X .5cm long stem extending from the point of the pick. The edges were then smoothed using medium-grade sand paper. Next, a 3/32 inch drill bit was used to create a hole in each of the picks. A plastic washer, (.5cm X .5cm) was placed between the .4mm and .6mm picks. After that, the picks were assembled to a mirror rosette in order of thickness. A (3 X 2cm) piece of hook Velcro and a (11 X 2cm) piece of plush Velcro was attached to the mirror rosette. Finally, a piece of cloth (5 1/2 X 2 cm) was attached to the adhesive back of the Velcro. Materials: (11 X 2 cm) plush Velcro, (3 X 2 cm) hook Velcro, 3.25 inch mirror rosette with stem, cardboard, cloth (5.5 X 2 cm), 0.4 mm vinyl sheet, 0.6 mm polypropylene sheet, 0.9 mm acrylic sheet, 0.9 mm plastic sheet.</p> <p>Results The tool worked as designed. The acrylic guitar pick cracked easily while being manufactured and used. A softer plastic was easier to manufacture and more durable; however, the mounting hole stripped easily while in use. Field-testing indicated that buyers would purchase this product if priced correctly.</p> <p>Conclusions/Discussion The Pick-a-Pick is successful. It makes quick pick changes and relaxed playing much easier. The prototype was revised to eliminate experimental defects. The original faults were that the strap was uncomfortable, the picks did not stay in place, the 0.9 mm acrylic pick was too brittle, and the stem was too narrow, causing breakage. The revised model includes a wider strap, a plastic washer to keep the picks in place, a softer plastic used for the 0.9 mm pick, and wider pick stems. A future model may include an insert to reinforce the mounting holes on each stem. A nut for the mirror rosette will help to keep the picks in place. Further field testing will determine if additional design changes are necessary.</p>	
Summary Statement The Pick-a-Pick was invented to allow a guitar player an on-hand choice of three different guitar picks.	
Help Received Father supervised safety while manufacturing.	