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How to Make the First Tetrahedron Kite The following are instructions for building of the simplest materials Dr. Bell's first winged-cell tetrahedron kite, built in 1901 and flown in 1902. It was made of 16 cells. All the struts are 25 centimeters (10 inches) long. You will need 64 struts. Bell used Black Spruce, but an adequate second choice would be dried Pine. His struts were squared, about 1/4 inch on a side; but dowels if they could be found should work as well. Look at Drawing One. Take one strut and with a sharp knife make Cut One and Cut Two. You will want three struts to fit together as in Drawing Two. Now drill a very fine hole right through the strut, about 3/8 inch from the end. You must cut and drill both ends of all 64 struts. Now take three struts and bring the ends together and run a thread through the holes. Hold the short end of the thread tight against one strut with your thumb, and with the other end weave over strut 1, under strut 2, over strut 3, under strut 1, and so on until you have four turns over each strut. Now tie snugly to the short end of the thread you've been holding under your thumb. Dr. Bell used a stout string, possibly waxed • but Richard Davis, who has actually flown Bell-made kites, suggests that fine nylon thread would be just the thing. Three more struts are needed, and three more corners are to be threaded, woven and tied • and you'll have the skeleton of your first cell. You need 15 more. You now want to cover two sides of each cell with a suitable kite material. Silk or rayon would give the best lift. You want lightness with the closest possible weave. Dr. Bell used red silk on some kites, nainsook (a very fine cotton) on others • each weighing about 40 grams to the meter. He discarded cheesecloth as too heavy. Cut a single piece of cloth to cover two sides of one cell. See Drawing Three. Be sure to leave a little extra cloth to wrap around the strut. Use a blanket stitch on the side struts and a simple whip stitch to firm up the cloth along the keel. The cloth should be sewn right to the tips, over the strings. Do all 16 cells. ? PRAu){/OG- Ofv/e PR'uic/olW' ""T' BLANK(?T STITX.H CAK OR.JUt- HoLes to BLA??5K • T VLsTe 6CIDC?? tX'iVoO/K'G- Fiv/Cr" Cape Breton's Magazine/7