

## The Great Scout Science Games

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Even as I write, young people across Canada are competing in the Science Olympics regional play-offs, vying for spots in the national games scheduled later this winter. In this type of Olympic event, the competition involves brain rather than brawn (something like the Great Egg Free fall Contest in the Oct. '88 issue, for example). Given only their ingenuity and simple everyday materials such as paper, card, paper clips, glue, and the like, competitors pit themselves against each other and time to meet fun-filled science and engineering challenges.

In a past issue of Scouting (U.K.) magazine, Michael Colwell points out that many science game activities seem tailor-made for patrol challenges. To change the pace one meeting night, consider staging the Great Scout Science Games. If that doesn't appeal, occasionally spring one of these science challenges on your Scouts in place of a more traditional patrol challenge.

Some of the challenges here come from Mr. Colwell and others from the Youth Science Foundation binder Science Is... by Susan V. Bosak. Check your public library for this tremendous source of information and ideas.

A few of the challenges mention time limits. Where they aren't given, put your leadership team to the test to determine reasonable times before presenting the challenge to patrols. Why should the Scouts have all the fun? And remember, whether you hold a Great Scout Science Games or come up with some science challenges of your own, please write the Leader to tell us about them.

Challenge: Make a beam with a span as wide as possible which, when supported (but not fixed) at each end, will support a weight at its mid-point. Materials: one sheet thin card; one roll sticky tape; scissors; a 250 g weight.

Challenge: Support a drinking glass on a bridge made from a dollar bill. Materials: Three drinking glasses of the same size, a crisp new dollar bill.

Challenge: Use one tabloid newspaper to build a bridge that will span one metre and hold the largest load possible. You have 25 minutes. Materials: newspaper, paper clips, staples, glue, scissors, objects of varying weights.

Challenge: In 20 minutes, build the highest possible tower using all the cards. Materials: a full pack of playing cards.

Challenge: Construct a structure or mechanism that will carry a marble over the greatest horizontal distance before it comes to rest. Materials: two sheets of card, 100 paper clips, 10 drinking straws, 40 pins, one marble.

Challenge: Build a free-standing structure that will support a bouillon cube as far out as possible from the edge of a table without touching the floor. Materials: 50 drinking straws, 40 pins, one bouillon cube.

Challenge: Build a device within an area of 25 cm x 25 cm that will allow your entire patrol to stand at least 60 cm off the floor at the same time. Materials: six spars, rope.

Challenge: Build a raft able to hold the largest mass without sinking. You may use as many sheets of paper as you like, but may not cut them to make them smaller. After 10 minutes construction time, you will put your rafts to the test by floating them. You may not test designs in water before the final float test. Materials: a stack of

sheets of paper all the same size, a supply of marbles or pennies, and a pan of water for the testing.

Challenge: Invent a device to

- weigh a wild bird without causing it any harm
- enlarge a diagram
- measure the growth of a plant over a period of one week.

Challenge: Invent a musical instrument - percussion, stringed, or wind. Play a little tune on it. Put together a band. Materials: bottles, tins, water, elastic bands, dried peas.

Challenge: In 20 minutes, build a free-standing tower that will hold a marble one metre above the floor. Materials: tape, drinking straws, scissors, marble, elastic bands, paper clips.

Challenge: Design and make a simple mirror system that will allow you to trim your own hair without going through great contortions.

Challenge: Design and construct a vertical "adventure playground" for a marble. The aim is to produce a system of interesting devices or events that will delay the marble's descent from one metre without the application of external power. The winning device will be the one that delays the marble's descent the longest and includes the greatest number of devices. Materials: a base 30 cm x 1 m, craft sticks, pieces of cardboard, pins, odds and ends, a marble.

Challenge: Use a warming candle to provide power to a mechanical device that will move an object a distance of one metre.

Challenge: Figure out how to drop a slip of paper and a quarter (25c coin) from the same height at the same time so that they

reach the floor at the same time. Materials: a piece of paper, a quarter, scissors.

Challenge: Make a paper helicopter that will take the longest time to fall to the ground from a height of 3 metres. Materials: sheets of paper, scissors, tape.

Challenge: Put a piece of paper underwater without getting it wet. Materials: a sheet of paper, a drinking glass, a pail of water.

Challenge: Construct a device that will propel itself along the floor. Materials: craft sticks, twigs, tape, glue, pins, an elastic band.

Challenge: From any household items, build a gadget with as many moving parts as possible that will successfully perform as an alarm clock. Materials: a stockpile of candles, elastic bands, tin cans, thread spools, and other odds and ends.

Challenge: With the fewest drinking straws possible, build a framework that will support a cup full of water at least 5 cm off the ground. You have 25 minutes. You may test your frame as you go, but only on a half cup of water. Materials: drinking straws, pins, elastic bands, tape, paper clips, scissors, plastic cup with drinking straw through the top (just below the rim, punch holes on opposite sides of the cup: slip in a drinking straw).

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