

Taking Time for Teamwork

Building Towers

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Marshmallow Book Rack

Challenge

Build a contraption that will support a large textbook at a height of at least 3 in. for the longest amount of time.

Supplies

- 50 mini marshmallows
- 50 toothpicks
- paper on which to build the structure
- a textbook
- ruler for measurement

Requirements

1. The contraption must be completed within the time limit.
2. Your contraption must be made on the piece of paper.
3. The contraption must be free standing. It cannot rest against any other items.

Testing and Scoring

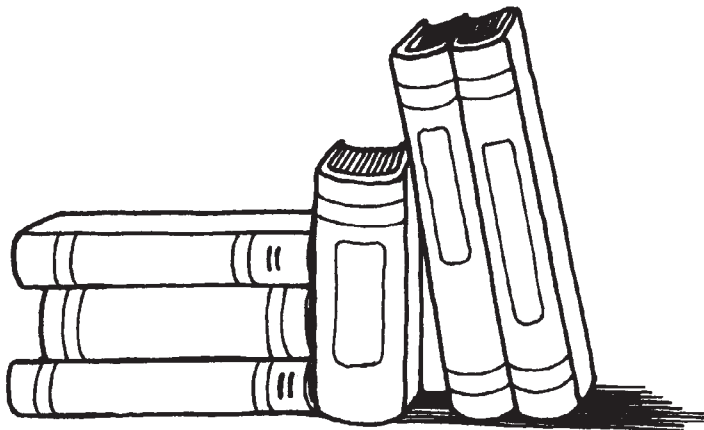
Group goal – Each group should try to build the strongest contraption to support the textbook.

- All groups will add their book at the same time.
- Before testing, all structures will be measured to make sure they are at least 3 in. tall.

Scoring – The last structure still holding the book will be considered the winner.

Teacher Notes

- All groups should receive the same textbook to use as the weight.
- Stale marshmallows work the best in this activity.
- The flat toothpicks come more to a box, so feel free to use them instead of round toothpicks.
- At the end of the activity, have students salvage as many of the unused or unbroken supplies as possible for use in other classes or for other activities.



Straw Tower

Challenge

Create a tower of straws that is at least 0.5 meters tall and will hold at least 500 grams of weight.

Supplies

- 50 straws
- straight pins
- paper clips
- coffee can and 500 grams of weight to measure
- scissors (for cutting only)
- meter stick for measurement

Requirements

1. The tower must be completed within the time limit.
2. Straws may be used whole or cut into smaller pieces.
3. When connecting two straws, only one paper clip or pin may be used.
4. The top of the tower must be able to hold a coffee can.

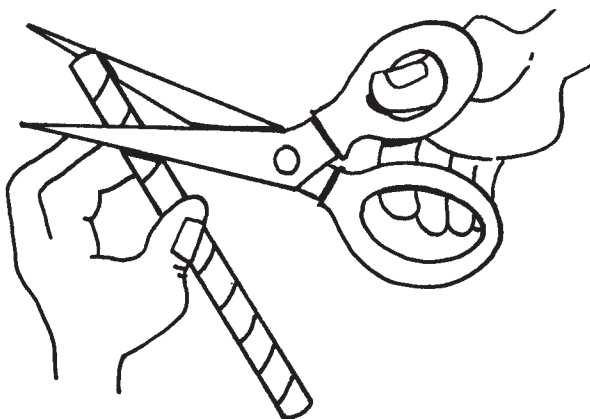
Testing and Scoring

Group goal – Each tower should hold the coffee can at its highest point.

Scoring – The tower which can hold the can the longest will be considered a winner.

Teacher Notes

- At the end of the activity, have students salvage as many of the unused or unbroken supplies as possible for use in other classes or for other activities.



I've Never Heard of a 50-gram Tower!

Challenge

Build a tower with a mass of no more than 50 grams that can hold a cup full of pennies.

Supplies

- 2 pages of newspaper
- 6 rubber bands
- 30 cm of masking tape
- 7 straws
- 5 paper clips
- 10 toothpicks
- cup full of pennies
- meter stick for measurement
- electronic balance for measurement

Requirements

1. The tower must be completed within the time limit.
2. Each tower must include at least four different items.
3. The mass of the tower will be taken before the testing is done. All towers less than 50 grams will then be tested.
4. The tower must be freestanding, meaning you cannot hold it and it cannot lean on anything.

Testing and Scoring

Group goal – Each tower should hold the cup of pennies at its highest point.

- The tower will be measured from the table to the highest point on the tower.
- The tower will be measured before the pennies are added.

Scoring – The tallest tower that holds the pennies will be considered the winner. If there is a tie, the tower that stands the longest will be considered the winner.

Teacher Notes

- At the end of the activity, have students salvage as many of the unused or unbroken supplies as possible for use in other classes or for other activities.

