

Taking Time for Teamwork

Moving and Protecting Objects

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The Claw

Challenge

Build a contraption that can be used to move items onto a target without entering the playing area.

Supplies

- 3 pieces of construction paper
- 15 straws
- 12 paper clips
- 4 rubber bands
- 5 index cards
- target
- mini marshmallows

Requirements

1. All supplies must be used.
2. The contraption must be completed within the time limit.
3. The contraption may only be touched by one hand of the person using it during the race.

Testing and Scoring

Group goal – Each group should be able to move ten marshmallows into the scoring area.

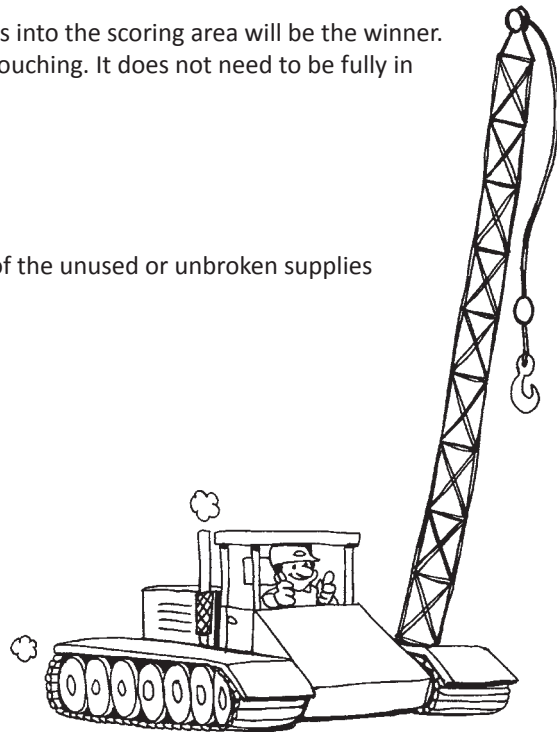
- Only one person can touch the claw.
- Try to move as many mini marshmallows onto the target as possible in 1 minute.

Scoring – The contraption that moves the most marshmallows into the scoring area will be the winner.

- A marshmallow will be counted in each scoring area it is touching. It does not need to be fully in the scoring area.

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.



Moving Blocks

Challenge

Build a sled that will pull ten building blocks the farthest distance.

Supplies

- 3 pieces of construction paper
- 3 mailing labels
- 5 small paper clips
- 3 rubber bands
- 1 spoon
- 10 building blocks

Requirements

1. All supplies must be used.
2. The sled must be completed within the time limit.
3. All parts of the blocks must be on the sled prior to testing.
4. The sled may only be touched by one hand of the person pulling it during the race.
5. The person pulling the sled must do so at a walking pace.
6. The distance traveled will be determined when the sled is stationary for more than 3 seconds.
7. The distance traveled will be measured from the starting point to the closest part of the sled once it has stopped.

Testing and Scoring

Group goal – The sled should be able to pull the blocks at least 1 meter.

- The sled may only be touched by one hand of the person pulling it during the race.
- The person pulling the sled must do so at a walking pace.

Scoring – The sled that moves the farthest distance will be considered the winner.

- The distance traveled will be determined when the sled is stationary for more than 3 seconds.
- The distance traveled will be measured from the starting point to the closest part of the sled once it has stopped.

Teacher Notes

- If you have more than one team that makes it to the end with ten blocks, you can add additional weights, or make it a race against the clock.
- 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.



Lift the Bucket

Challenge

Build a device that will lift a bucket off of the ground.

Supplies

- 2 pieces of typing paper
- 4 straws
- 10 toothpicks
- 2 paper clips
- 2 rubber bands
- 2 ft. of string
- a bucket with 3 ft. of clothesline tied to the handle
- golf balls

Requirements

1. All supplies must be used.
2. The device must be made in the time given.
3. A line will be taped on the floor, 6 ft. from a table. The person in your group pulling your device must stay behind this line.
4. Another line will be placed on the floor, 4 ft. from the table. The person in your group pulling your device may not reach his or her arm past this line (this way there is no advantage to being taller).
5. There must be a way to attach your device to the end of the clothesline that is not attached to the bucket.

Testing and Scoring

Group goal – The device should lift a bucket holding at least five golf balls.

- The table should be placed so that the bucket is on the ground on one side of the table, and the clothesline is draped over the table to the other side. The clothesline should cross over the shortest width of the table.
- The group's device should then be attached to the end of the clothesline that is draped over the table.
- The person pulling the device should stand behind the 6 ft. line (not reaching past the 4 ft. line) and attempt to lift the bucket at least 1 ft. off of the ground.
- Golf balls are then added one at a time to see if the bucket can still be lifted.

Scoring – The group to hold the most golf balls in their bucket will be declared the winner.

Teacher Notes

- The person doing the pulling should wear goggles for protection in case the device breaks while supporting a lot of weight. All other students should be directed to stand far away from testing.
- 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.

