Build-A-Nest Challenge

Which team can build the nest that will hold the most pennies?

Competition Rules:

Each team will receive one "Bird Buck" equal to $1.00 to buy nest-building materials. Teams are not allowed to borrow money or materials from other teams or add additional money of their own. There will be no refunds for leftover materials or replacements for damaged materials. Bonus points will be added to the final score equal to the amount of money that was not used, but no credit will be given for leftover materials.

Teams will be allowed time to build and test their nests. Competitors are allowed to bring diagrams to help them build their nests. After the time is up, all nests will be impounded and no changes will be allowed!

The Nest Store

5 strips of paper = 1¢
2 toothpicks = 1¢
20 cm of yarn = 1¢
1 regular straw = 5 ¢
1 piece of pipe cleaner = 5 ¢

No refunds or replacements!

Nest Requirements:

All nests must be designed to sit on the testing platform, or branches, without additional support. Nests cannot be tied or anchored to the platform.

Testing Procedure:

After the nest has been positioned on the testing platform, team members will begin adding pennies to the nest one at a time. After the first penny has been added, no adjustments to the nest or its position on the testing platform are allowed! Testing will end when a penny falls through the nest or falls out of the top of the nest. Dumping extra pennies into the nest at the last minute is not allowed and the team will earn a zero score!

After testing is completed, students will use a scale to measure the mass of the pennies held successfully. The nest that earns the most points overall will be declared the winner! In case of a tie, the lightest nest will be the winner!

Think About It!

Group Members: _____

(1) Use the space below to draw a diagram of your nest as viewed from the side, top, or bottom. Label at least THREE specific design elements that you are incorporating to make your nest successful.

(2) What materials will you need to purchase? How will you use each one?

(3) What strategies will you use during the testing of your nest to earn the best score?

1.

2.

(4) Guess-timate: How much will your nest hold? _____ grams

Wrapping It Up!

Group Members: _____

Answer each of the following questions.

(1) How would you rate the success of your nests on a scale from 1 (poor) to 5 (great)? (+2)

Original Nest = _____ Final Nest = _____

Why did you give your nests these ratings? Explain. (+2)

(2) How would you change the design of your nest to make it better? Describe at least TWO changes you would make and provide reasons for each. (+4)

1.

2.

(3) How would you test the nest differently to get it to hold more pennies? List two things you would do and give reasons for each. (+4)

1.

2.

(4) What materials did you have left over?

List each material, give the amounts of each, and estimate the cost. Add up the costs for each material for a final total of unused materials. (+2)

Item	Amount Left	Estimated Cost
Paper Strips		
Toothpicks		
Pipe Cleaners		
Straws		
String/Yarn		
	Total =	

(5) How you would spend your money differently now that you've had a chance to test the nest? Explain. (+3)