

Pringles Potato Chip Mailing Challenge

Modified from <http://www.sciencespot.net/Media/chiprulesB.pdf>

Description:

Students will design and test a container for shipping a single “Pringles” potato chip, via USPS. Upon arrival, the packages will be evaluated and scored using the format in the scoring section. The goal is to mail a Pringles chip in a #10 legal sized envelope that has the smallest volume/mass ratio and protects the chip that it arrives at its destination undamaged.

Rules and Regulations:

1. Students will use 1 (regular) Pringles potato chip and materials of their choosing to create a device that will protect the chip on its journey through the post system. The outer package will be a #10 legal sized envelope.
2. Students may choose a variety of items for packing materials; however, the materials cannot be wood, metal, glass, or hard plastic and must not leave a wet or greasy spot on a paper towel.
3. The chip must be a plain Pringles chip and may not be modified in any way.
4. The package must have a mass less than 300 grams in the “ready to mail” form, which means it is loaded with a chip and sealed with tape. Students should take into account the mass of the chip and tape as they prepare their chip containers to make sure they don’t go over the limit.
5. The envelope will be opened by using a letter opener to cut the top of the envelope.
6. Once the package is completed and a single chip has been “loaded”, the package must be mailed. In the envelope, include the names of the group member.

Mailing Procedure:

The envelopes must be mailed through the USPS.

Scoring Procedures:

Once all envelopes have been received, the teacher or other designated persons will open the envelope.

Final scores will be divided into two categories: Perfect Pringles and Pringles Pieces. All envelopes will be massed for calculating the final score. The lowest overall score will be the one used to determine the winner. In the case of a tie, the package with the smallest mass

will be declared the winner.

Final Score = [Mass (g) x Volume (cm³)] ÷ Rating Scoring Examples:

Team 1:

Mass = 145 g

Volume = 240 cu. cm

Rating = 100 (perfect chip)

SCORE = (145 x 240) ÷ 100 = 348 points

Team 2:

Mass = 145 g

Volume = 240 cu. cm

Rating = 50 (cracked chip) Score: (145 x 240) ÷ 50 = 696 points

Final Checklist for Teachers

(1) Are all chips mailed in #10 envelope?

(2) Are the materials acceptable?

No wood, metal, glass, or hard plastic materials have been used. Materials do not leave a wet or greasy mark on a paper towel. The chip has not been modified in any way.

(3) Does each package contain only 1 Pringles potato chip?

(4) Are students identified?

Team members have included the basic information (team name, team number, members, school, & grades)

NOTE: No other information is allowed on the outside of the box, such as Fragile, Handle with Care or Hand Stamp, etc. (5) Students know where to mail the envelopes?