Birdwood High School: 10 AIL: Are You Ready? Egg Drop

Group members (max 4)

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You can choose 20 individual items/materials from the following list:

🞎 Cardboard (max 1) 🞎 Elastic band (max 5)

🞎 Popsicle sticks (max 8) 🞎 1 metre of tape (max 1)

🞎 Construction paper (max 1) 🞎 Plastic bag (max 1)

🞎 Straw (max 6) 🞎 Styrofoam cup (max 1)

🞎 Poster board (max 1) 🞎 6 cotton pads (max 6)

🞎 Cotton buds (max 6) 🞎 sock (max 1)

🞎 4 sheets toilet paper (max 1) 🞎 30cm string (max 1)

🞎 10cm wire (max 1) 🞎 5 pieces of Spaghetti (max 2)

🞎 Balloon (max 2) 🞎 Paper plate (max 1)

🞎 Tissue paper (max 5) 🞎 2 sheets of plastic wrap (max 1)

🞎 2 sheets of aluminum foil (max 1)

Total 🞎

**Egg Drop Rules**

* No parachutes are allowed.
* An area approximately the size of a quarter of the egg must be visible at all times.
* Only the allowed materials may be used (listed above). Items can be negotiated and traded with other designers.
* Only raw, store bought chicken eggs may be used. Your design must not include changing the egg in any way (no tape on the egg, no soaking the egg in vinegar).
* The egg container and all materials must remain intact. For example, no parts – inside or out - can fall or break off during flight or impact.
* Your egg project must fit on an A4 sheet of paper. (Note that the height of the container is not a factor – it can be “tall” and still fit on the paper).
* The container must be able to be opened once we return to the classroom so that we may check on the condition of the egg. The inside materials must be designed to allow raw egg to be easily inserted and removed.

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Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Advisory: \_\_\_\_\_\_\_\_\_\_

Learning Intentions: Students will “apply relationships between, force, mass and acceleration to predict changes in the motion of objects.”

1. In your own words describe Newton’s first law of motion. Use the space provided to add the details of one reference that helped with this question.

**Reference**

Author: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Year: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Website: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date accessed: \_\_\_\_\_\_\_\_\_\_\_\_\_\_

Is this reference reliable? Give reasons for your answer.

2. Is Newton’s first law of motion relevant to the egg drop? Discuss your response in detail.

3. In your own words describe Newton’s second law of motion. Use the space provided to add the details of one reference that helped with this question.

**Reference**

Author: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Year: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Website: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date accessed: \_\_\_\_\_\_\_\_\_\_\_\_\_\_

Is this reference reliable? Give reasons for your answer.

4. Is Newton’s second law of motion relevant to the egg drop? Discuss your response in detail.

5. Putting a protective case around an egg can sometimes stop breakage. Using the terms: force, mass and acceleration try to explain how this is possible.

6. In your own words describe Newton’s third law of motion. Use the space provided to add the details of one reference that helped with this question.

**Reference**

Author: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Year: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Website: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date accessed: \_\_\_\_\_\_\_\_\_\_\_\_\_\_

Is this reference reliable? Give reasons for your answer.

7. Is Newton’s third law of motion relevant to the egg drop? Discuss your response in detail.