APEGBC 2013 Science Games

Division 1 Take Home Activity: Unbreakable Egg

Saturday, March 2, 2013 | 9:00am - 1:00pm | H.R. MacMillan Space Centre & Museum of Vancouver

Instructions:

Students will make a container which will prevent an uncooked chicken egg from breaking when dropped. These containers should be made using common house hold materials.

On the day of the Science Games, teams will test their containers starting from an initial height of 2 meters. Teams whose egg completes the first round without breaking will move on to the next round and drop from an increased height.

Judges will be administering points based on how high the egg was dropped without breaking, accuracy in the drop, container design and teamwork.

Please note: This activity will be tested outside. Please make sure your team members dress for the weather and that your container will not be impacted if it rains.

Contact Information

Please direct any questions about this activity to:

Chelsea Smith, Communications Coordinator
APEGBC
Direct: 604-412-4892 | Toll Free: 1-888-430-8085 ext. 4892
Email: csmith@apeg.bc.ca

Rules

1. No kits or pre made designs.
2. The structure must be completely released, no strings or attachments.
3. No propulsion systems allowed (no parachutes or gases other than air).
4. The structure must fit in a 15cm x 15cm x 15cm sized box and it must land in a designated 2m x 2m area.
5. Teams must be able to place the egg in their container in 30 seconds and remove it without damage to drop from the next height.
6. Teams must bring their container to the Science Games to compete!

Coach Tip

Encourage students to experiment with different designs. Place eggs in a sealed plastic bag when testing to reduce mess.

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Division 1 Mystery Activity: Seismic Solution

Saturday, March 2 2013 | 9:00am - 1:00pm | H.R. MacMillan Space Centre & Museum of Vancouver

Instructions:

The object of this competition is to build a stucture which remains stable during an earthquake. Judges will shake the platforms up and down and side to side to simulate an earthquake. Buildings will be measured prior to and after the shaking to determine the stability of each structure.

Rules

1. Use only the materials provided to build your structure.
2. Teams will have 10 minutes for a construction meeting and 30 minutes to build their structure before testing.
3. Each structure will be measured after construction is complete and then again after shaking.

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Division 1 Mystery Activity: Floating Paperclips

Saturday, March 2 2013 | 9:00am - 1:00pm | H.R. MacMillan Space Centre & Museum of Vancouver

Instructions:

The object of this competition is to use the materials provided to float the most amount of paperclips at any given time. Teams will be provided with a tissue paper, various paper clips, pencils with erasers and given 3 opportunities to record the number of floating paperclips with the judges.

Rules

1. Use only the materials provided to float the paperclips.
2. Teams need to call over a judge to record the number of floating paperclips a maximum of 3 times.
3. Multiple attempts can be recorded for each team but only the highest amount of floating paperclips will be counted towards your final score.

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Division 2 Take Home Activity: Create your own Catapult

Saturday, March 2, 2013 | 9:00am - 1:00pm | H.R. MacMillan Space Centre & Museum of Vancouver

Instructions:

Students will create their own catapult. Teams will be provided with a materials kit at the end of January.

Using these materials students will work together to build a catapult which is able to launch ping pong balls. On the day of the Science Games, students will test their catapults to see which catapult launches a ping pong ball the furthest.

Judges will be administering points based on how far the ball travels through the air (bouncing/rolling will not be included), teamwork, creativity and design. Accuracy will not be judged directly but it will help to maximize points given for distance.

Please note: Only one catapult will be tested per team at the Science Games. Teams have been given enough materials to create multiple models of catapults for testing purposes.

Materials Provided:

150 Popsicle sticks, 9 Elastic bands, 6 Strings, 4 Wooden dowels, 1 bottle of glue, 2 ping pong balls/mini wiffle balls for testing

Contact Information

Please direct any questions about this activity to:

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Direct: 604-412-4892 | Toll Free: 1-888-430-8085 ext. 4892
Email: csmith@apeg.bc.ca

Rules

1. Use only the materials provided to create a catapult.
2. Teams must use the energy stored in the elastic band to launch the ball.
3. The base of the catapult can be no larger than an 8.5 x 11in piece of paper.
4. Only 50 Popsicle sticks can be used per catapult.
5. Teams do not have to use all of the items in the kit.
6. Catapults should be able to handle multiple shots without needing repairs.
7. Teams must bring their catapult to the Science Games to compete!

Coach Tip

Encourage students to test out different models of catapults using the materials provided to launch the ball.

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Division 2 Mystery Activity: Mega Model Challenge

Saturday, March 2 2013 | 9:00am - 1:00pm | H.R. MacMillan Space Centre & Museum of Vancouver

Instructions:

Teams will work together in this challenge to duplicate a completed mega bloks model. Team runners will go through the obstacle course one at a time, look at the completed model then return to the other side of the room where they will communicate to the builder which piece should go where. The goal is to rebuild the model as quickly as possible.

Rules

1. Runners must stay behind the line and cannot touch the building pieces. Only a builder should be touching the pieces at a time.
2. After the first round (20 minutes), runners will switch to builders and vice versa.
3. Runners and builders should tag off/ rotate so all runners and all builders get a chance to try these roles.

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Division 2 Mystery Activity: Balloon Propelled Car

Saturday, March 2 2013 | 9:00am - 1:00pm | H.R. MacMillan Space Centre & Museum of Vancouver

Instructions:

The object of this competition is to build a car which is propelled by a balloon. Teams will have to see how they can adjust the nozzel to create maximum thrust and extend the air discharge

Rules

1. Use only the materials provided to build your Balloon Propelled car.
2. Only one balloon can be used per Balloon propelled car.
3. Teams will be allowed to record their distance score 3 times. With the best out of two going towards their overall total.

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