

## THE GREAT EGG DROP

The egg timer is ticking! You've got a small budget, some rather unusual resources and a challenge that just may seem impossible; building a device that safely protects your team's eggs when dropped from an extraordinary height.

### A. Rules

Your mission is to transport a raw or uncooked egg, courtesy of Mrs. Martin, from the roof of the gym (south side) to the ground in one piece. There are a few rules (described on the next few pages) but your creativity is the key! A St. Mary staff member will release the eggs.

### B. Design of Container:

- Container dimensions must not exceed 1 foot x 1 foot x 1 foot.
- Containers can be made out of the following materials:
  - Straws
  - Toothpicks
  - Shish-kebab skewers
  - Tape – masking, clear packaging, scotch
  - String – not rope
- Parachutes can be made from the following materials:
  - Tissue paper
  - Kleenex
  - Toilet paper
  - String – not rope

Parachutes can be no larger than 2' x 2'

- Container must be constructed with a hatch or a door so that the egg can be inserted or withdrawn quickly.
- Failure to follow the design guidelines above will result in disqualification and a zero on the assignment.

### C. Drop Procedure:

- The drop procedure will take place on Monday, September 22, 2003. All groups need to be ready to go at the beginning of class. There will be a final 5-minute prep time to place the eggs in the container and seal it up. Any group not ready will receive a zero.
- Mrs. Martin will provide all eggs. Eggs may be inspected for cracks by participant prior to drop. All eggs will be of similar size, age and grade.
- Just prior to the drop, the contestants will insert the eggs.
- All eggs will be dropped by a member of the St. Mary staff from the roof of the school's gym. The drop zone will be the south side of the gym onto the grassy area/side walk.
- A cracked egg is defined as one that is visibly leaking its contents. Hairline fractures are not considered cracks.
- The contestant will be required to remove the egg from the container to show judges that it did not break.

#### D. Grading

- Designs will be graded on a scale of 1-10. A better design earns a better grade. You will need to provide Mrs. Martin with a DETAILED readable colored drawing of your design along with a list of materials and construction details.
- Egg quality post drop. Graded on a scale of 1-10. Eggs that have no cracks will earn a 10, those with cracks or hairline will receiver lower grades based on the severity of the cracks.
- 10 point will be given for partner participation. You will grade your partner(s) on how well you all worked together. Your grade will be an average of the 2 scores given by your partners.

■ You will need to figure out the force that your egg withstood (or didn't withstand if the egg perishes in during this lab). You will figure this out by recording the time it takes for your egg to travel from the top of the gym roof to the ground. We will have a distanced calculated for you. Remember: Force = mass times acceleration. You will want to slow down the acceleration to reduce the force felt on your egg.

**Great Egg Drop**

- Engaging small group activity (4 or 5) as part of larger group (e.g., 20 up to 100)
- Can be run as a competition between teams
- Task is to build a single egg package that can sustain a fall of 8ft (top of a supermarket shelf)
- Can be used to highlight any almost aspect of teamwork or leadership
- Lends itself to building a dramatic scenario
- Can include the task of presenting a 30-second advert for the egg package

**Equipment:** For each group of approx. 4., straws, masking tape, egg and/or any other items you want to give for creating the egg package. Sometimes can use only natural materials - save waste.

**Time:** ~30 minutes to build package & ~15-30 minutes for Great Egg Drop

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<b>BALLOON ACTIVITY</b>	<b>DESCRIPTION</b>
<b>Balloon Juggle &amp; Sort</b>	Each person blows up a balloon. All balloons must then be juggled (kept in the air). This gets the group moving around and cooperating. Once they've got the hang of it, ask them to keep juggling, but sort the balloons into color groups or only use specific body parts to keep balloons up. .
<b>Balloons on the Wall</b>	Balloons can get very excited and static electricity can be surprisingly strong. Put a large pile of balloons in the centre of the room and each player or team is allocated an area of wall. Each player/team grabs a balloon and rubs it on his or her clothing, hair or body to create a static charge and attempts to stick it on his or her area of wall. If the balloon sticks then the player can try it with another one. After a certain period of time the game is stopped and the team or player with the most balloons on its patch of wall is the winner.
<b>Fire in The Hole</b>	Hilarious balloon-bursting activity. Also involves overcoming fear and trusting someone. Requires a dramatic, up-front demo. Hold a balloon in front of your tummy. Ask for a volunteer to help burst your balloon. Run at each other and burst the balloon between tummies. This is a bit more risky than other activities, so watch out for out of control behaviour. As they mill around, any two students can line themselves up. As pairs run at each other, get them to yell "Fire in The Hole!" [Traditionally yelled out before explosives go off!]
<b>Balloon Buns</b>	Prepare balloons with action messages inside (e.g., sing a song, bark like a dog, dance) . The players sit in a circle. A balloon is passed around the circle. Each player has to sit on the balloon with all their weight for 3 seconds. If someone breaks the balloon, they must do what it says on the message. Be aware of sensitivities about weight and experiment with getting the right amount of air in the balloons.