

Easter Egg Drop (Grades 3-5)

3-5-ETS1-1 Engineering Design

Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.

3-5-ETS1-2 Engineering Design

Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.

3-5-ETS1-3 Engineering Design

Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.

You will need to provide the following:

- Various recycled materials or classroom supplies that could be used to create an egg drop contraption. Here is a list of ideas:
 - Recycled Materials
 - Cardboard boxes (no egg cartons)
 - Plastic containers (sour cream, cool whip, butter, etc.)
 - Newspapers
 - Grocery Sacks
 - Paper towel/toilet paper tubes
 - Classroom Supplies
 - Balloons
 - Rubber bands
 - Craft sticks
 - Straws
 - Disposable cups
 - Masking Tape
 - Fabric scraps
- Eggs – enough eggs for each person or group to have one plus a couple of extra just in case! (These can be boiled or raw – depends on how brave you are! LOL!)
- Students will need access to their scissors, pencils and paper

Preparation prior to the virtual lesson:

- Gather above supplies
- Make copies of the Engineering Design Process – attached (optional)

- **Ensure you have an area for egg dropping – if using raw eggs, this could be messy! Outside is best. Some ideas include dropping from the tallest playground equipment, or from the top of the stairs that lead to the football press box. A tall ladder will also work, but if students are dropping, I prefer a more sturdy area.**

****Note: You will need additional time after the virtual lesson for dropping eggs!****

Program Connection Information

Please use an external microphone (conference style) rather than the integrated one in the computer for the audio for your class and locate it centrally in the room. It can be difficult for the Greenbush teacher to hear the students using the computer microphone and therefore it reduces the interactive nature of the lesson. It is fine to use the computer webcam for your video source.

All classes will take place using Zoom desktop video. If your building is already set up to use a desktop video application with a computer, simply open a browser and enter <https://greenbush.zoom.us/j/2326746414> in the URL space. You may need to download Zoom launcher software (free download) if you don't already have it. This needs to be done in advance of the lesson.

If using a Polycom video conferencing unit (or any legacy type video conferencing unit) to connect to a ZOOM conference, make sure the unit is in "encrypted mode" then dial the following IP on the internet: 162.255.37.11 or 162.255.36.11 and once connected, they will ask for a MEETING ID: enter 232 674 6414 (for Lisa at Science Center).

It's always a good idea to touch base with your district technology facilitator prior to your program to make sure all systems/equipment are in place and operational and that there aren't any firewalls in place that might prevent you from connecting to Zoom.

Once you connect, you will enter a Zoom waiting room. Your Greenbush teacher will admit you into the final meeting room.

If you have questions, please email me at lisa.little@greenbush.org

The Engineering Design Process

Define the problem. **ASK**

Brainstorm possible solutions. **IMAGINE**

PLAN
Think!
Sketch!
Label!

CREATE
Make a prototype.

Do a trial run. **TEST**

IMPROVE
How can you modify your design to make it better?

SHARE

