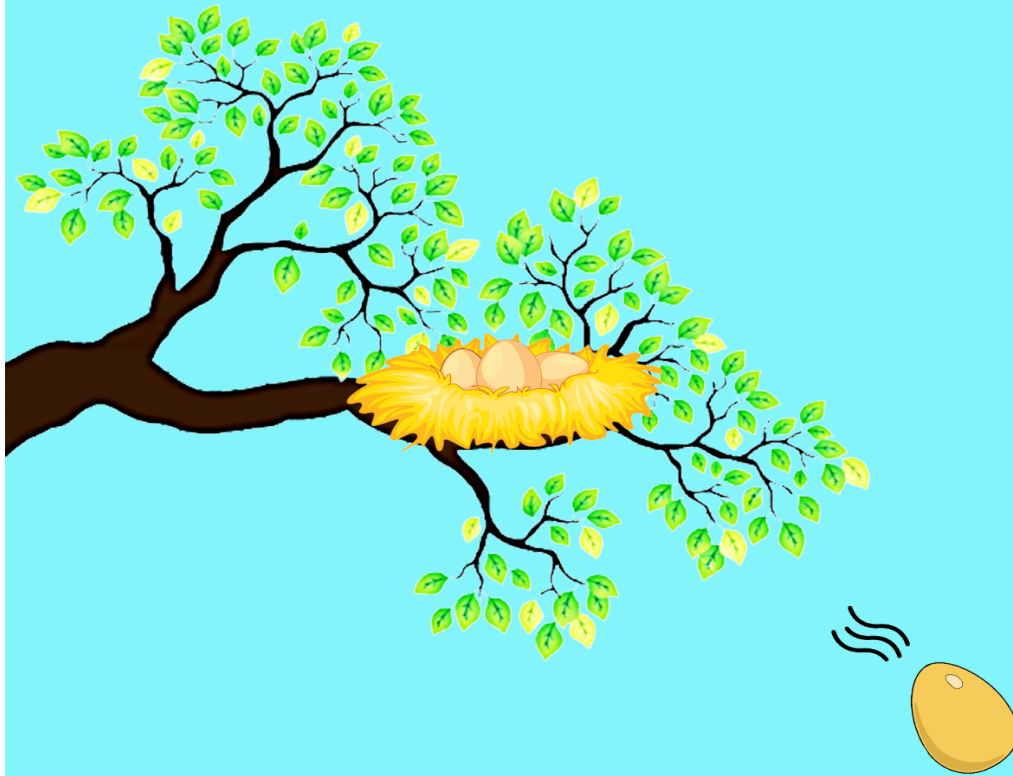# funbotics

A platform to empower youth in STEM.

Governor's Challenge Egg Drop

2021 Funbotics Egg Drop Challenge

CHALLENGE OBJECTIVE

Your objective is to design and build a contraption to protect an egg when it is dropped. This may be a challenge that you have encountered before, but there is a twist. Your contraption must be made of natural materials that can be found outdoors (sticks, dirt, leaves, etc.). You will be judged in 4 different categories outlined in the rubric below. Good luck!

RULES

- The egg should be dropped from a height of at least 5 ft.
- The contraption should be able to fit inside a 1.5ft x 1.5ft x 1.5ft box without touching the edges.
- The egg must be dropped onto a hard surface, such as asphalt or brick.
- There can be nothing on the ground to cushion the egg.
- The egg must be touching the contraption.
- Other than the contraption, nothing can be used to slow the fall of the egg.

DELIVERABLES

Video: In one continuous video, record the egg being dropped from a height of 5ft for five trials. However, if the egg breaks during one of the drops, you may stop dropping the egg. Between each drop showcase the condition of the egg by holding the egg to the camera.

Document: Submit a document detailing the design process. The design process should detail the brainstorming, selecting the idea, construction, testing, and conclusions. Include any pictures that you take in the document. Please keep the word count to less than 250 words. We are looking for a design process that is both detailed and concise.

RUBRIC

	2 Points	4 Points	6 Points	8 Points
Survivability 8 Points	The egg was damaged after 1 drop.	The egg was damaged after 3 drops.	The egg was damaged after 5 drops.	The egg was not damaged after 5 drops.
	1 Point	**2 Points**	**3 Points**	**4 Points**
Sustainability 4 Points	No natural resources were used.	Non-natural resources were mostly used with some natural resources	Natural resources were mostly used with some non-natural resources.	Natural resources were the only materials used.
	1 Point	**2 Points**	**3 Points**	**4 Points**
Reusability 4 Points	Contraption was damaged after 1 drop.	Contraption was damaged after 3 drops.	Contraption was damaged after 5 drops.	Contraption had no visible damage after 5 drops.
	1 Point	**2 Points**	**3 Points**	**4 Points**
Design Process 4 Points	No design process documentation	The design process is documented with little detail.	The design process is documented with moderate detail.	The design process is documented in large detail.

Total   /20

TIPS

- Think about a contraption and try to replace as many parts as possible with natural ones.
- Think about examples of cushioning from falls in the real world.
- Test your contraption before taking the official video.