

Dear Lads and Lasses,

We need your help. Me wife and I have a horrible problem in our garden here in Ireland. We have a patch of prize-winning clover that keeps disappearing. It is important that we stop this from happening as we produce all of the four-leaf variety of clover for the world.

The police have not been able to catch the criminals, as they are very tricky. However, we set up a secret camera in our field that took the photo shown to the right.

The police have also made the following observations:

From the picture it appears that the criminals are about 4 inches tall.

Tiny shoes that need mending are in the nearby forest.

There have been a few small gold coins scattered in the clover patch.

Rainbows have been seen on the day before the cover disappears.

Legend says these crooks cannot tell a lie.

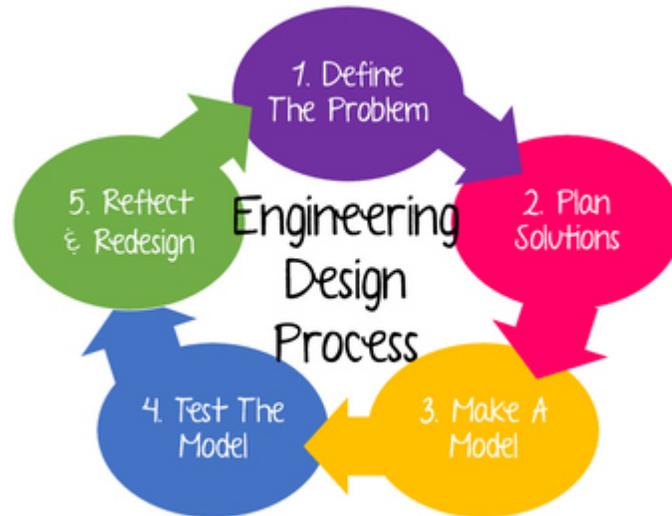


We need your help to design and build a device that will capture the criminals so we can bring them to justice. The apparatus must fit in carry-on luggage to take back to the Emerald Isle. It cannot harm them, as authorities want to make sure they are taken to jail. We will also need you to write a paragraph (5 to 8 sentences) that describes how your device works. Our team will use the following rubric to determine which device best meets our needs.

Products, Planning documents, and Paragraph due April 3rd, 2020

CATEGORY	4	3	2	1
Construction – Materials	Appropriate materials were selected and creatively modified in ways that made them even better.	Appropriate materials were selected and there was an attempt at creative modification to make them even better.	Appropriate materials were selected.	Inappropriate materials were selected and contributed to a product that performed poorly.
Construction	Great care taken in construction process so that the trap is neat, attractive and functional.	Construction was careful and accurate for the most part, but 1-2 details could have been refined for a more attractive product.	Construction accurately followed the plans, but 3-4 details could have been refined for a more attractive product.	Construction appears careless with little thought of the finished product.
Journal / Log – Content	Paragraph was well-written and includes a topic sentence, many details, and a conclusion sentence. There are no spelling or grammar mistakes.	The paragraph was well-written and includes all parts of a paragraph. There are a few spelling or grammar mistakes.	The paragraph was well written and includes all parts of a paragraph. There are many spelling or grammar mistakes.	The paragraph is missing one or more parts. There are many spelling or grammar mistakes.

Engineering Design Process Planner



Define The Problem

- What is the problem that needs to be solved?

- What information, product specifications, restrictions, etc. are there?

- What additional information do I need?

Plan Solutions

- Brainstorm 5 things that you think should be a part of your product.

- Draw 3 different ideas for how your product will look. (Use separate paper for each)
- Based on your 3 possible ideas, make your final design plan. Include measurements, materials, colors, etc. (Draw on a new sheet of paper)

Make A Model

- Build a prototype of your product.

Test The Model

- Check to make sure your prototype meets all the requirements (product specifications, restrictions, other information you researched).
- Test multiple times to make sure your product works like your plan indicates.

Reflect and Redesign

- Based on your testing, what changes need to be made?

- Make necessary changes

Present Your Product

- Write your 5 to 8 sentence paragraph to describe how your product works.