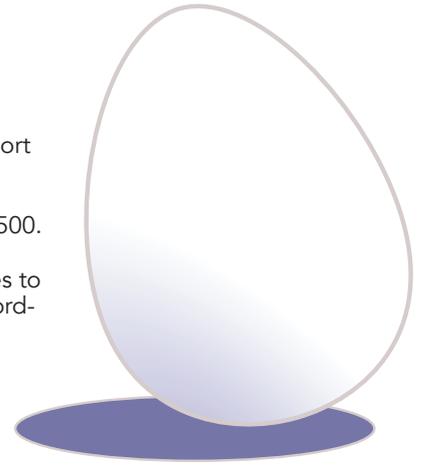


Eighth grade "Egg Landers"



I don't know how much NASA spends to send probes to Mars, but the eighth graders at Fort Couch Middle School in Upper Saint Clair do it on a strict budget.

"We just bought three more pieces of masking tape," a girl says.

Masking tape is outrageously expensive, I discover. Each 20 centimeter piece costs \$500.

"We only have \$20,000 to use," another student informs me.

Science teacher Caren Falascino explains. "Right now we are building egg lander probes to land on Mars. Today they are supposed to make the lander ready to test on Monday." According to the instructions she has passed out to the class, the students must "land the payload (egg) on the landing area without damaging the payload."

At the moment, each team has to test their prototype using a substitute payload, which looks like an orange ping pong ball.

"Group!" Mrs. "Fal" calls out, holding up the fake egg. "This is just for size. You will have a real egg that is uncooked."

She chuckles when she emphasizes the word "uncooked," which prompts me to envision what real eggs look like when they crack and splat on a floor.

The class is divided into teams and as soon as Mrs. Fal gives the word, the kids huddle at their tables to draw, calculate and construct their landers. As I walk around the room, I examine the plans the kids have designed on their iPads or drawn on a piece of paper using a good, old-fashioned pencil.

I listen in as three boys discuss putting their egg in a toilet paper roll inside a red Solo cup that they stuff with more toilet paper.

"We don't want the egg to move at all," one of the boys explains, which sounds reasonable to me.

In the front of the class, Mrs. Fal dispenses to the enterprising students necessary supplies, like paper clips (\$25 each), construction paper (\$600 per sheet), rubber bands (\$500 each) or string (\$1,000 per 30 cm). I understand how these costs can quickly add up, especially if someone decides to bring an egg carton from home which will cost a whopping \$10,000.

The only free item is one egg, but there's a catch.

"No cost, but no replacement," reads the Space Constructions Company sheet.

"We need 50 straws," a boy tells Mrs. Fal.

"And how many cups?" she asks.

This particular team seems to know exactly how many straws they need to construct their lander because they are already taping red straws tougher in a star shape that one of the boys describes as "a straw canister."

All the teams are paying close attention to the material costs.

"Let's budget for \$15,000," one student suggests to her team.

"Can we ask her for 'buy one get one free?'" teases a blond-haired boy, who grins, knowing there's no chance Mrs. Fal will go for that.

A team of three girls show me the triangular lander they constructed. One of them, a brown-haired bespectacled girl, explains the physics behind the hollow straws and describes how her team designed their lander to absorb energy.

"Even if the straws break, it's still energy absorption," she says authoritatively.

I absolutely believe her.

Mrs. Fal points down the hallway. "Some of the kids are going to the Loft to test their prototypes," she waves, encouraging me to follow them.

The Loft is a small balcony area with a few tables and chairs set up above the school's front entryway. I watch as students line up against the second floor railing to drop their landers to the floor below, which on Monday, will represent the surface of Mars and have strategic targets in place.

One boy holds the star-shaped canister over the railing and lets it go.

"It landed perfectly!" his jubilant teammate yells up from below.

"That looks like it's going to be successful," another kid compliments.

For a few minutes, the kids dash up and down the stairs, dropping and retrieving their landers. Some kids are using their iPads to video their practice launches.

One boy shakes his head after recording his lander's fall. "Not good, not good," he sighs.

That's okay, though. I'm sure he's aware of the important place where all scientists go, whether they work at NASA or attend Fort Couch Middle School.

And that is back to the drawing board. ■

Writer Ann K. Howley enjoys meeting smart kids and teachers who prove the value of a good education and remind her how much fun school can be.

