Hello Coaches! Congratulations on making the 2024 National Tournament!

We are the crew that will be judging Air Trajectory B/C for the National Tournament. Here is some advice that we hope you will find to be helpful.

-Make sure before you come to impound that YOUR KIDS:

- know their team number. This is very important!
- know the block they compete in.
- have their Design Logs and any other charts, papers, or tables that they will use for the competition. They will not be able to bring paper in with them to compete with after impound, all of this information must be impounded with the device. We will **NOT** be providing copies of the students' Design logs that they submit electronically for scoring.
- have their mass detached and ready to weigh, we will be weighing them when they impound.

You **must** impound your team's device (including stabilizing weights and mass), design log/notes for the shoot, triggering device, and projectiles. It is **recommended** that students also impound any sighting tools, tools, and goggles. We will not wait for someone to run and get these items if the students forget them!

Being prepared in advance helps us keep the impound moving smoothly. Thank you in advance for your help! While adults are welcome to come and help their students impound, the judges will be interacting primarily with the students.

-A free hint on the Design Log

The 3 biggest issues we have seen all year where the kids have lost points on logs:

-The calculations -Simply putting an equation down is not a calculation. You have to actually calculate something with it! We are looking for two calculations of some sort **that the kids did** with data that they got through testing. I am not looking for a Middle Schooler to do Calculus, but an average of some of their trials and what that means for their aiming would be appropriate.

-**Labeling** -Be sure to label graphs, label diagrams, etc. Labels are important in Science as it turns out!

-The Front Cover -Be sure to have a current front cover with your school name and number.

Be sure you have looked at the FAQs from the National Website.
https://www.soinc.org/faq/air-trajectory-div-c
https://www.soinc.org/faq/air-trajectory-div-b

While it is good to look at all of these. The two clarifications we see the most are:

If the mass falls, but no ball comes out does it still count as a shot: the answer is yes

May a contestant, standing 75 cm outside the launch area, holding on to the string that is supporting the falling mass, just release the string to initiate launch or must there be a means of locking the mass into position until launched?

The answer here is no you may not, it is a safety issue. The device must have a locking trigger mechanism that holds the mass in place

If your students have questions at any point, encourage them to ask. We are happy to answer them.