APPENDIX A –ENTRY FORM

**This entry form must be completed in English; the use of other languages is unacceptable.**

|  |  |  |
| --- | --- | --- |
| **PARTICIPANT INFORMATION** | | |
| **A** | **Adult advisor name** |  |
| **B** | **Adult advisor e-mail address** |  |
| **C** | **School/organization/group** |  |
| **D** | **City (or township, etc.)** |  |
| **E** | **State (or territory, etc.)** |  |
| **F** | **Student grade level(s) [9 10 11 12]** |  |
| **G** | **Number of students on the team** |  |
| **H** | **Team name (if any)** |  |

**Notes**

A All teams are required to have an adult advisor, such as a teacher, group leader, parent, or guardian.

D-E The city and state (etc.) should be that of the school/organization/group rather than that of the advisor or student participants.

F The **Paddle Wheel in Microgravity** challenge is open to teams in grades 9-12, where selection preference will go to teams over individuals. Multi-grade teams, e.g., as might be found in a science club, are acceptable.

|  |  |  |
| --- | --- | --- |
| **EXPERIMENT INFORMATION** | | |
| **1** | **Experiment name** |  |
| **2** | **Research question** |  |
| **3** | **Hypothesis (optional)** |  |
| **4** | **Number of test objects (max 4)** |  |
| **5** | **Materials from which the object(s) will be fabricated, including any coatings** |  |
| **6** | **Test object dimensions** |  |
| **7** | **How do the objects differ?** |  |
| **8** | **How are the objects the same?** |  |
| **9** | **Analysis plan (optional)** |  |

**Notes**

1. The research question should be specific to the object(s). Generic research questions, such as “which object will rise the furthest?” are inappropriately vague.
2. The experiment should include more than one object to allow comparison of results.
3. To the best of your ability, list the materials from which the objects are planned to be made including any coatings.
4. A brief description of an analysis plan is requested, but it is optional and will not be used in the selection process.

**DRAWINGS**

Drawing(s) of the test object(s) are required. They must be pasted into this entry form (e.g., below). The drawings must show the planned dimensions of each test object and should also show the orientation in which they should sit in the water vessel prior to free fall.

The drawings can be (1) drawn by hand and scanned or photographed, or (2) they can be created on the computer. But again, it must be emphasized that the drawing(s) must be embedded in the entry form file.

Note that there is no limit to the number of drawings and pages that may be included in the entry, but the resulting file must be less than 10 MB.

**SUBMISSION**

**This entry form must …**

1. be completed in English,
2. include drawing(s) of the test object(s) with dimensions labeled as described above,
3. be submitted in either a .doc or .pdf format,
4. be named Paddle\_<StateAbbrev>\_<OrgAbbrev>\_<AdvisorLastName>\_<EntryAbbreviation>, where an example is Paddle\_OH\_JGHS\_Smith\_Team1.pdf

*The abbreviations for eligible states, territories, etc. is provided below for reference. The entry abbreviation can be the team name (if short) or initials or some other short designator which will distinguish between multiple entries from the same advisor.*

1. be less than 10 MB in size (where, in contrast, there is no limit to the number of pages),
2. be e-mailed to [Ed-DropTower@lists.nasa.gov](mailto:Ed-DropTower@lists.nasa.gov) no later than the deadline listed in the Calendar.

The adult advisor should either be cc’d with the submission e-mail or they should personally submit it on behalf of the team. As a reminder, an organization (e.g., school) may submit no more than 4 entries. Each entry should be e-mailed separately.

**QUESTIONS**

If you still have questions after checking …

1. this instructions guide,
2. the entry form, and
3. the website: https://www1.grc.nasa.gov/space/education-outreach/drop-tower-competition/

then e-mail the **Paddle Wheel in Microgravity** challenge staff at [Ed-DropTower@lists.nasa.gov](mailto:Ed-DropTower@lists.nasa.gov).

**STATE ABBREVIATIONS**

