Asian Try Zero-G 2023　Proposal Form（Attachment-3）

# Category B for exercise

ID (for office use only)

## 1. Applicant Information

| **Experiment Title** | | |
|---|---|---|
| **Personal information/ (Team Leader)** | **Name** | Hanako Tsukuba |
| | **Nationality** | Japan |
| | **Age** | 14 |
| | **Gender (M/F/X)** | F |
| | **School** | Southern Ibaraki Junior High School |
| | **Major (if applicable)** | N/A |
| | **E-mail** | xxxxxxxx@xxxxx |

**Member List (if you apply with a group)**

| **Personal information** | **Name** | Jiro Ibaraki |
|---|---|---|
| | **Nationality** | Japan |
| | **Age** | 14 |
| | **Gender (M/F/X)** | M |
| | **School** | Southern Ibaraki Junior High School |
| | **Major (if applicable)** | N/A |
| | **E-mail** | xxxxxxxx@xxxxx |
| **Personal information** | **Name** | Sakura Ibaraki |
| | **Nationality** | Japan |
| | **Age** | 12 |
| | **Gender (M/F/X)** | F |
| | **School** | Southern Ibaraki Junior High School |
| | **Major (if applicable)** | N/A |
| | **E-mail** | xxxxxxxx@xxxxx |
| **Personal information/** | **Name** | |
| | **Nationality** | |
| | **Age** | |
| | **Gender (M/F/X)** | |
| | **School** | |
| | **Major (if applicable)** | |
| | **E-mail** | |

**If you have more members, please add the list on the next page.**

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**Photo**

| | |
|---|---|
| Please attach your/group photo if you wish to participate in the photo session. The image/picture will be open to the public and broadcast. | |

☒ I agree to the Terms and Conditions indicated in the Asian Try Zero-G 2023 Entry Guideline

☒ I am not from the EU and do not live in the EU.

☐ I reside or am from the EU and agree to GDPR in Entry Guideline (check if applicable)

*Check is needed to send proposal, if applicable.

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## 2. Explanation of proposed exercise

2.1. Aim

※Note: The exercise cannot be measured

Surface tension is the force which makes fluid surface acquired the least area possible. Its direction is parallel with fluid surface and perpendicular with the edge of surface is act by force in any direction. In molecules at the surface is act by force in only under direction. So, that made fluid have surface force act into center. We can see it normally in daily life when we drain water into tube. Then, water surface is concave down because water in tube have surface tension with surface adhesion force and cohesion force. It's call capillary action. And gravity is also one of variable that can affect to capitally action. So, I think that if we drain water into a small tube such as plastic syringe and then observe it in zero gravity condition how difference of surface by compare with a syringe in normal gravity condition.

2.2. Exercise illustration/ video

(Show the procedure for moving the body with a diagram or sketch. A video explanation is the best if available.)

| | |
|---|---|
| Show the URL storing a video for sharing | |

## 3. Exercise Equipment

It is available to use common items on orbit, listed in Attachment 1.　If you are going to use an item from Attachmentment 1, please refer to the item number here. If you are going to use a new item as exercise equipment, please write it here.

e.g. Rope (diameter: 1cm, lenth: 2m, wight: 200g, material: cotton)

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## 4. Step by Step Procedures with each expected time

- Preparation procedures

| No | Procedure | Time |
|---|---|---|
| 1 | Drain air into three syringes to 5 ml scale | 1 |
| 2 | Drain water or other liquids into syringes to 10 ml scale | 3 |
| 3 | Observe them and take photos and videos | 6 |
| 4 | Measure contact angle and compare with syringe in normal condition (activity on ground) | - |
| 5 | | |
| 6 | | |
| 7 | | |
| 8 | | |
| 9 | | |
| 10 | | |
| | Total | 10 |

1. Drain air into three syringes to 5 ml scale (1 min)
2. Drain water or other liquids into syringes to 10 ml scale (3 min)
3. Observe them and take photos and videos (6 min)
4. Measure contact angle and compare with syringe in normal condition (activity on ground)

Estimated crew time: total 10 minutes

If I have to use one syringe, please repeat step 1-3. It will take more time.