

Mini Jet Pre Lab Report 小型喷气机实验预报告

In groups of 2–3 students you will conduct an experiment to see how well your ‘mini jet’ flies. In this experiment you will need to record data such as the ‘time’ and ‘distance’ that your plane flew. Afterwards you will then need to perform several calculations to determine values such as ‘speed’, and ‘velocity’ before analyzing your results.

2 到 3 人为一组进行实验来检测“迷你飞机”飞行得如何。实验过程中，需要记录飞机飞行的“时间”和“距离”等数据。然后，进行一些计算以确定如“速率”和“速度”之类的值来分析结果。

You will want to assemble a research team that can benefit from each person’s strengths so think carefully before choosing your group members. Your team should have someone that is good at building projects and has assembled a high-quality plane that you can use for your experiment. Someone who is good at math and can record data, perform calculations, and then analyze the results. Your group will also need somebody that is good in English and can write well-structured scientific arguments. And finally, every group should have someone who is good on the computer and can properly format a lab report. Keep in mind that everyone can be good at more than one task, and that while each person may take on different roles and responsibilities within the group, everyone should always be contributing to the experiment.

请仔细考虑择小组成员来组成一个人人相得益彰的研究团队。团队中尽量包含一名擅长构建项目的成员，并且已经组装了一架高质量的飞机，可以直接用于实验，一名擅长数学能够记录数据、进行计算和分析结果的成员，一名英语很好，能够写出结构良好的科学论点的成员，最后，还有一名擅长计算机的成员，能够正确地格式化实验室报告。记住，有的成员可能擅长好几个项目，在团队中可能承担多种角色和责任，但每个人都必须做出贡献。

List your group member here:

在此列出小组成员：

Group Member A: _____ 小组成员 A

Group Member B: _____ 小组成员 B

Group Member C: _____ 小组成员 C

Please note that once you have selected your group member you must work together to complete the entire assignment. You cannot change group members part way through the experiment.

请注意，一旦选择了小组成员，就必须一起完成任务。实验过程中途不可更改组成员。

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- 1) Start by analyzing each of the 'mini jets' that everyone in your group has built. Identify the 'pros' (i.e., what is good), and the 'cons' (i.e., what is bad) about each plane.

首先分析每个小组成员制作的“小型喷气机”的“优点”（即，做的好的地方）和“缺点”（即做的不好的地方）。

	Group Member A 集团成员 A	Group Member B 集团成员 B	Group Member C 集团成员 C
Pros 优点	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>
Cons 缺点	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>

- 2) Which 'mini jet' will your group use for this experiment?
你的团队将使用谁的“迷你喷气机”进行实验？

- 3) How did you decide to use this model plane instead of one of the others?

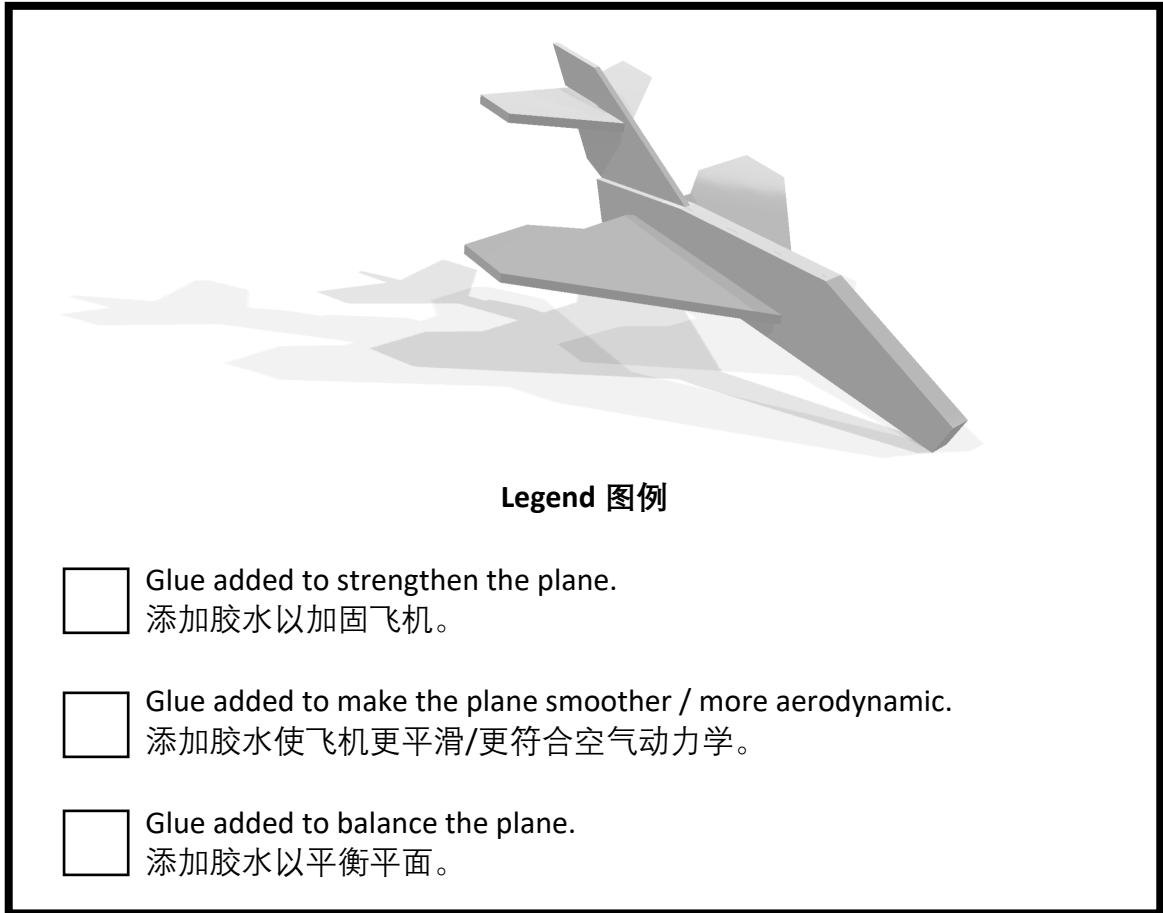
Has it been built better? Is it stronger? Is it more aerodynamic?

Has it been balanced more effectively?

你们为什么决定使用这架模型飞机而不是其他的？因为它建造得更好？更牢固？更符合空气动力学？更有效的平衡？

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- 4) Identify what changes have been made to your 'mini jet' to make it fly better. Use color markers and the diagram below to indicate all the changes that have been made.
可以进行哪些更改使喷气机更好地飞行？使用颜色标记和下图标出更改以及更改的位置。



- 5) Describe how these changes have improved the quality of your plane.
Think about where you added glue. Why you added it, and how will these changes improve the overall performance of your 'mini jet'?
- 描述这些变化将如何提高飞机的质量。想想在哪里添加了胶水，为什么要添加它，它将如何提高飞机的整体性能？

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Claim | 声明 :

Will your 'mini jet' fly better or worse than the class average?
你的飞机比班级平均水平飞得更好还是更差？

Evidence | 证据 :

What evidence do you have to support your claim?
Think about all the modifications that you have made to your plane. What are they?

Example: *The rough edges were smoothed out using glue.*

有什么证据支持你的声明？想想你对飞机所做的更改，是哪些更改？

示例：粗糙的边缘用胶水抹平。

Reasoning | 推理 :

How does the evidence that you have provided support your claim? Use proper scientific arguments such as the "IF ____ THEN ____" statement.

Example: *IF the edges are smooth THEN the plane will be more aerodynamic.*

你提供的证据如何支持你的声明？使用适当的科学论证，如“IF __ THEN __”陈述。

示例：如果边缘光滑，那么飞机将更符合空气动力学。
