

Simple Glider Flight Test Data

简易滑翔机试飞数据

Technical Specifications 技术规格

Draw a sketch of your airplane. The scale does not need to be perfectly accurate but your drawing should be completed using a ruler. However, **your drawings must include relevant measurements** (i.e. the location and position of the wing) so that future engineers can reproduce your glider's measurements and proportions so that your experiment can be validated by future scientist.

给你的飞机画一张草图。比例尺不需要非常精确，但是你应该用直尺作图。然而，你的图纸必须包括相关的测量数据(即机翼在机身的上下位置和靠前还是靠后的位置)，这样未来的工程师才能复制你的滑翔机的测量数据和比例，这样你的实验才能被未来的科学家验证。

Front View/正视图

Side View/侧视图

Top View/俯视图

Overview 概述

Only one report needs to be submitted per group; however, it is recommended that you use your individual copies of the report to take rough notes during your practice flights and then neatly consolidate all of your data in a new report booklet and submit that copy to your teacher.

每组只需提交一份报告；但是，建议你在试飞行的时候，用你个人的报告纸进行粗略记录，然后将所有数据整理到一个新的报告册里，并将该新报告提交给你的老师。

Please indicate all of the group members that have been working together to build your simple glider.

请列出所有一直在一起工作来建造你们的简便式滑翔机的小组成员。

Member A 成员 A

Member B 成员 B

Member C 成员 C

Please indicate which group member that has completed the "Flight Test Data Report".

请列出已经完成“飞行测试数据报告”的小组成员。

"Flight Test Data" completed by / 飞行测试数据完成人 : _____

Introduction 介绍

How your throw your glider will greatly affect how it will fly. Therefore, before you start conducting your experiment and recording data you should first determine how you will throw your glider.

你投掷滑翔机的方式将极大地影响它的飞行情况。因此，在你开始进行你的实验和记录数据之前，你应该先确定你将如何投掷你的滑翔机。

Before you conduct your formal experiment you will need to experiment with different ways to throw your plane and observe how the plane flies each time. At this stage of the experiment we are not concerned about recording quantitative data about the gliders flight. Instead we are looking at making qualitative observations (specifically observations about what we can see) during our practice flights.

在你进行正式的实验之前，你需要用不同的方法来投掷你的飞机，并观察每次飞机是如何飞行的。在实验的这个阶段，我们不关心记录滑翔机飞行的定量数据。相反，我们将在飞行练习中进行定性观察(特别是注意观察我们能看到的東西)。

Instructions 说明

A **CAD (Computer Aided Design) rendering** of your final glider is a required part of your project and may be completed by any group member. Please note that your original design schematics were provided at a scale of 1:20; however, it is recommended that you use a scale of 1:100 when creating your **“CAD rendering”**.

最终滑翔机的 CAD（计算机辅助设计）渲染是项目的必需部分，可由小组的任意成员来完成。请注意，原始设计示意图的比例为 1:20；但是，建议在创建“CAD 渲染”时使用 1:100 的比例。

Please make sure that you are referring back to your model glider frequently while you are completing your **“CAD rendering”**. You should be taking measurements from your glider often while you are completing the **“CAD rendering”** of your glider. However, you need to remember the reduced scale of your **“CAD rendering”**. For example, if you are working at a scale of 1:100m then every 5cm on your glider model will be equal to 10mm when working in **TinkerCAD**.

在绘制 CAD 渲染时务必参考你的滑翔机模型，同时，需要记住图形的缩小比例。例如，如果是 1:100 的比例，那么模型上的 5 厘米相当于 **TinkerCAD** 上的 10 毫米。

Please copy the **“class code”** and your **“user name”** for **TinkerCAD** so you can access your student account throughout the entire duration of the project. Remember to name your files and download copies of your work after completing each section of your glider in **TinkerCAD**.

记下 **TinkerCAD** 所需要的班级码和用户名以便后期参考使用，务必在使用 **TinkerCAD** 的时候给每个文件命名并在完成每一项后记得下载。

URL: www.tinkercad.com/joinclass

Class Code: _____

User Name: _____

Examples of all of the requirements for this submission have been provided on the next page.

下一页是本次任务要求的示例。

Submission Details 提交详细信息

Create a folder with the names of each of your group members and place all of your files in this folder. Create each section of the glider as separate CAD files. Then combine each section of the glider to create your final CAD rendering. You can even make a stand for your glider model which is a great addition to any CAD file that gets printed using a 3D printer. You will submit the entire folder to your teacher when you are done.

创建一个文件夹，需以每个小组成员命名，并将所有文件放在此文件夹中。将滑翔机的每个部分创建为单独的 CAD 文件，然后合并成最终 CAD 渲染，你还可以为你的滑翔机模型做一个支架，是 3D 打印机打印的 CAD 文件的一个很好的补充项。完成后，将整个文件夹提交给老师。

	Mandatory 必做 Create a CAD file of the main body (fuselage) of the glider. 创建滑翔机主体（机身）的 CAD 文件。 Name your file 命名文件: “yourname”_body.stl
	Mandatory 必做 Create a CAD file of the nose section of the glider. 创建滑翔机头的 CAD 文件。 Name your file 命名文件: “yourname”_nose.stl
	Mandatory 必做 Create a CAD file of the tail section of the glider. 创建滑翔机尾部的 CAD 文件。 Name your file 命名文件: “yourname”_tail.stl
	Mandatory 必做 Create a CAD file of the glider's wing. 创建滑翔机机翼的 CAD 文件。 Name your file 命名文件: “yourname”_wing.stl
	Mandatory 必做 Assemble all of your glider segments as a single CAD file. 将所有滑翔机段组装为一个 CAD 文件。 Name your file 命名文件: “yourname”_glider.stl
	Bonus 选做 Create a stand for your glider with your name(s) on it. 创建一个以你命名的支架。 Name your file 命名文件: “yourname”_bonus.stl