華泉藝文休閒度假村
HUA QUAN VILLAGE

中外合作交流
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Dear Parents, Teachers, and Grade 7~8 Students

On October 23 to October 28, Hua Quan Village and Sino-Exchange will be hosting a free community outreach program that will focus on STEM education for middle school students living in the general Yingtan area. The entire program will be available completely free of charge for those selected to participate in this 1 week after-school event. This program of study will be specifically geared towards grade 7 & 8 students and will focus on aerospace engineering. The entire program will run for 1 week after school with 2 lessons per day. There will be a short break between each lesson. A schedule of the program is listed below.

Grade 7~8 STEM Outreach Program (Aviation) – STEAM Club

Start	Finish	Monday, Oct. 23	Tuesday, Oct. 24	Wednesday Oct. 25	Thursday Oct. 26	Friday Oct. 27
2:30	3:25	Lesson 1	Lesson 3	Lesson 5	Lesson 7	Lesson 9
3:25	3:30	Break	Break	Break	Break	Break
3:30	4:25	Lesson 2	Lesson 4	Lesson 6	Lesson 8	Lesson 10

Then, on Saturday, October 28th, we will have a full day of activities planned for our students, and these activities will also be open to the public. We will start with some time for students to finish up their projects, set up their exhibition booth, and practice their presentations. This will then be followed by a formal science fair where members of the public will be invited to see the student's projects. Local media, both newspaper and television studios, have also been invited to come as well. The science fair will then be followed by community art, a unique cultural arts and crafts activity that will be held by Mrs. Salpi. During this activity, the students are encouraged to invite a sibling, parent, or grandparent with them to spend the afternoon together at the village. Ms. Ma and Ms. Candeleria have prepared a guided museum tour for all our guests. Both events will be free to the public. Finally, during our awards ceremony, we will offer 24 students (12 in each group) guaranteed and fully paid-for scholarships for our next STEM outreach program.

A summarized final day's schedule is as follows, and an overview of each lesson is available on the following page.

Program Wrap-up and Finale

Start	Finish	Saturday, Oct. 28
9:00	12:00	Free time to complete or perfect projects etc. **(STEAM Club)**
12:00	1:00	Lunch
1:00	1:30	Science Fair
1:30	3:00	Group A Guided Tour of Cultural Museum ***(Chinese Culture Club)*** Group B Family Hand Crafts ***(Western Arts and Crafts Club)***
3:00	4:30	Group B Guided Tour of Cultural Museum ***(Chinese Culture Club)*** Group A Family Hand Crafts ***(Western Arts and Crafts Club)***
4:30	5:00	Awards & Scholarships

Lesson 1: Building a Plane
In this lesson, students will build a “mini jet” that they will be able to use to conduct a series of experiments.

Lesson 2: Balancing and Modifying a Plane
Each student will try to make improvements to their “mini jet” to make it fly better. These changes may include making it smoother (more aerodynamic), stronger and more robust, or improving the overall weighting and balance of the plane.

Lesson 3: Pre-Lab Report - Peer Review & Plane Selection Process
Students will form small groups and will review each other’s planes in a formal peer review/critique process. Upon completion, the group will have selected the best plane built by its members and will be able to justify what factors led to their decision.

Lesson 4: Understanding the Parts of a Lab
Before conducting a formal scientific experiment, all students will need to consider their independent, dependent, and controlled variables. They will also need to understand the difference between quantitative and qualitative measurements and how they will collect and use various data metrics to evaluate their planes' overall performance.

Lesson 5: Lab Report – Hypothesis and Procedures
The first step in a formal lab experiment is to develop a formal hypothesis which can be tested, and all the procedures that will be used to conduct the experiment.

Lesson 6: Data Collection
In this lesson, the students will collect quantitative and qualitative flight data pertaining to their planes' overall performance using the lab procedures that they have developed in the previous lesson.

Lesson 7: Calculations
Using the data that was collected during the experiment, each group will calculate values for “displacement”, “flight deviation”, “distance flown”, and “overall speed.” The “minimum”, “maximum”, and “average” values for each metric will also be identified/calculated by the group. NOTE: Calculations are based on grade 7 grade-level expectations.

Lesson 8: Data Sharing & And Evaluation
Each group will share their plane's average performance with the entire class. Each group will use that data to evaluate their own plane's performance against that of the other groups in the class.

Lesson 9: Conclusion & Abstract
Using the data from the whole class, each group will need to determine if the data supports or disproves their original hypothesis. From there, each group will need to write their conclusion and an abstract that summarizes the entire experiment.

Lesson 10: Finalizing a Lab Report
Each group will prepare a final lab report based on their lab notes in this lesson. This final lab report should be neat and free of grammatical errors and corrective notes.