

INTRO 主题介绍

Cuisine Chemists | SDG #7 Affordable and Clean Energy

Have you ever wondered “why dough puffs up?” or “why popcorn smells so deliciously sweet?” Join **Moonshot Labs**, transform into a **【Cuisine Chemist】**, and embark on a tasty adventure to explore everyday food and its magical transformations. Starting with **UN Sustainable Development Goal 7: Affordable and Clean Energy**, dive deep into exploration through interdisciplinary experimental activities! Make spectacular **yeast-powered bubbly fountain**, uncover **secret marks revealed by heat-driven caramel reactions**, observe **thermal layering of dairy fat** and more exciting challenges await you!

小小“食验”化学家 | SDG #7 经济适用的清洁能源

你是否好奇过“面团为什么会膨胀？”，“为什么爆米花闻起来香甜诱人？”加入 Moonshot 实验室，化身【小小“食验”化学家】，开启日常食材与奇妙食物变化的探索之旅。从**联合国可持续发展目标 7：经济适用的清洁能源**出发，通过跨学科实验活动深入探秘！打造壮观**酵母气泡喷泉**，发掘由热诱导**焦糖反应**显现的隐秘印记，探究**乳脂受热分层现象**，还有更多精彩挑战等你来解锁！



COURSE SCHEDULE 课程计划 (1/3)

Lesson	Topic	Description
1	Yeast Rise 酵起膨发	Students make yeast-foam-fountain and make fermented dough to explore dough expansion. 学生们将开展酵母泡沫喷泉实验，动手制作发酵面团，探究面团膨胀背后的科学秘密。
2	Secret Heat Writing 焦香秘痕	Students explore sugar caramelization reaction and discover heat-revealed invisible writing. 学生们将探究糖类焦糖化反应，发现受热才显现的隐形文字。
3	Sugar Crystal Grow 糖晶析出	Students prepare supersaturated solution and explore how sugar crystals grow. 学生们将动手配制过饱和糖水，探究糖晶体生长的条件。
4	Pop Burst 爆粒之声	Students simulate pressure explosion and explore the popping principle of popcorn. 学生们将模拟压力爆破现象，结合演示探究玉米粒受热爆开背后的科学原理。
5	Buoyant Harvest 果蔬浮想	Students carry out experiments with fruits and vegetables to explore buoyancy and density. 学生们将利用各类果蔬开展浮沉对照实验，探究浮力与密度相关知识。



COURSE SCHEDULE 课程计划 (2/3)

Lesson	Topic	Description
6	Fruit Browning 果面褐变	Students explore fruit oxidation browning and observe chemical changes caused by oxidation. 学生们将动手探究水果氧化褐变，观摩变色演示，认识氧化带来的物质改变。
7	Eggshell Mystery 蛋壳探秘	Students do reaction experiments with eggshell and acid to observe shell softening changes. 学生们将设置对照实验，观察蛋壳遇酸发生奇妙变化。
8	Gel Transform 胶网凝固	Students explore reversible gel and learn solid-liquid transformation of colloid. 学生们将动手探究胶体网络，观察冷却凝固、受热融化的可逆变化。
9	Milk Ferment 乳香酵凝	Students explore lactic-acid bacteria fermentation and discover how milk transforms. 学生们将动手探究乳酸菌发酵，揭开牛奶转化的科学秘密。
10	Leaf Stomata 叶间秘道	Students carry out leaf-observation experiments and discover invisible gas channels in plant tissues. 学生们将开展蔬菜叶片观察实验，寻找植物看不见的气体通道。

COURSE SCHEDULE 课程计划 (3/3)

Lesson	Topic	Description
11	Bubble Source 汽泡秘源	Students explore acid-base reaction and learn where gas bubbles come from. 学生们将利用常见材料动手实验，探究化学反应产生气体的现象。
12	Protein Set 蛋白凝固	Students explore thermal denaturation of protein and study protein solidification. 学生们将动手探究蛋白质高温变化规律，了解蛋白质遇热凝固的科学原理。
13	Fungi World 菌物万象	Students make mushroom spore prints and explore reproduction of fungi. 学生们将动手制作蘑菇孢子印，结合密封样品观察，探究真菌繁殖方式。
14	Oil Phase Shift 油彩分层	Students observe oil state change and explore how temperature affects substance state. 学生们将动手探究温度对油脂的影响，观察油脂物态变化规律。
15	Algae Rope 藻丝成缆	Students make algae braided rope and create unique algae ornaments, explore biodegradable polymer. 学生们将制作海藻编织绳，创作专属海藻手饰，探究天然可降解高分子的成型奥秘。

Note: The schedule may be adjusted a little based on students' actual situations to provide them with more suitable and fulfilling exploration experiences. 课程可能根据学生的实际情况做出适应性调整，以带给学生们更合适、充实的探索体验。