动手做，才有发现：从一杯冒泡的醋说起

亲爱的老师们、同学们：大家好！我今天演讲的题目是《动手做，才有发现》。先问大家一个问题：科学是什么？是课本上那些要背的定义吗？一年以前，我也这么认为。直到那个星期六的下午，我在自家厨房里，亲眼看见一杯白醋变成了一座喷发的小火山。

那天我在课本上读到小苏打和醋混合会产生气泡，心里想，不就是气泡吗，汽水里全是气泡。可是妈妈鼓励我自己做一遍。我找来一个杯子，倒进半杯白醋，滴了两滴红色的食用色素，然后用勺子舀了一勺小苏打，屏住呼吸，倒进杯子。就在小苏打碰到醋的那一瞬间，红色的泡沫呼啦一下涌上来，越涌越高，漫过杯口，顺着杯壁往下流，像真的岩浆从火山口淌下来。我吓得往后跳了一步，然后又忍不住凑近去看。那一刻，书上那句会产生二氧化碳气体，忽然不再是要求背诵的句子，它变成了我亲眼看见、亲手制造的东西。

那次实验给了我一个至今受用的启发：眼睛看过的，会忘记；手做过的，才真正属于自己。后来学植物的向光性，我把花盆转了个方向，三天后嫩芽真的扭了回来；学溶解，我把糖和沙子分别放进水里搅，看着一个消失一个沉底。每做一次，我就多一个自己发现的秘密，而这些秘密，是别人抢不走、考试也压不垮的。

同学们，我们常常觉得自己离科学很远，以为那是科学家在实验室里穿白大褂干的事。其实不是。科学就在我们的手里：一杯水、一块糖、一支蜡烛、一张纸巾，都能提出问题，都能动手验证。所以我在这里向大家倡议：从今天起，每周至少动手做一次小实验，哪怕只有五分钟；做的时候多问一句为什么，别急着要答案；失败了也别扔，塌了、浑了、没反应，都是实验在跟你说话。我们还可以在班级里办一个小小实验角，把自己的发现讲给大家听。

同学们，别只做作业的观众，去做发现的当事人。当你亲手让泡沫涌出杯口的那一刻，你就会明白：科学从来不躲在书里，它躲在我们的双手后面，等着我们动手，把它请出来。我的演讲完毕，谢谢大家！

Do It with Your Own Hands, and You Will Discover: It Started with a Cup of Bubbling Vinegar

Dear teachers and fellow students: good morning! The title of my speech is Do It with Your Own Hands, and You Will Discover. Let me begin with a question: what is science? Is it the definitions we memorize in textbooks? A year ago, I thought so too — until one Saturday afternoon, in my own kitchen, I watched a cup of vinegar turn into an erupting little volcano.

That day I read in the textbook that baking soda mixed with vinegar produces bubbles, and I thought, so what? Soda water is full of bubbles. But my mother encouraged me to try it myself. I found a cup, poured in half a cup of white vinegar, added two drops of red food coloring, then scooped a spoonful of baking soda, held my breath, and dropped it in. The instant the powder touched the vinegar, red foam

surged up, higher and higher, over the rim, running down the cup wall like real lava flowing from a crater. I jumped back in surprise, then could not resist leaning closer. In that moment, the sentence carbon dioxide gas is produced stopped being something I had to recite. It became something I had seen with my own eyes and made with my own hands.

That experiment gave me a lesson I still carry: what the eyes see, we forget; what the hands do, we truly own. Later, when we studied how plants grow toward light, I turned my flowerpot around, and three days later the sprout really twisted back. When we studied dissolving, I stirred sugar and sand into separate glasses of water and watched one vanish while the other sank. Every experiment added one more secret I discovered myself — and these secrets cannot be taken away by anyone, or crushed by any exam.

Fellow students, we often feel science is far from us, as if it belongs to scientists in white coats inside laboratories. It does not. Science is right in our hands: a cup of water, a cube of sugar, a candle, a tissue — any of them can raise a question, any of them can be tested. So here is my proposal to everyone: starting today, do at least one small experiment with your own hands every week, even if it takes only five minutes; when you do it, ask one more why, and do not rush for the answer; and if it fails, do not throw it away — a collapse, a cloudiness, no reaction at all, is the experiment speaking to you. We can also set up a little experiment corner in our classroom and share our discoveries with each other.

Students, stop being an audience of homework and become the main character of discovery. The moment you make foam overflow a cup with your own hands, you will understand: science never hides inside books. It hides behind our hands, waiting for us to act and invite it out. Thank you all!