什么纸都能托住水吗

科学课本上有纸片托水的实验，我照做成功了，全班都成功了。可回家路上我琢磨一个问题：书上用卡纸，那餐巾纸行不行？作业纸呢？要是什么纸都行，这个实验也太随便了。到家我把能找到的纸全剪成比杯口大一圈的圆片：餐巾纸两张，作业纸一张，卡纸一张，还有从旧挂历上撕的一块硬纸板。杯子、水、盆，都在餐桌上排好。

第一个试餐巾纸。盖上去按平，倒过来，纸刚变成承重的姿势就软了，塌下来，水连着纸一起砸进盆里。餐巾纸一湿就烂，它不是托不住，是自己先趴下了。第二个试作业纸。作业纸撑住了三秒，纸心湿透以后中间裂开，水从裂缝里下来。第三个卡纸，稳稳的，跟课上一样。第四个硬纸板最夸张，倒过来以后我把它放在一根筷子顶上试了试，它托着水在筷子上站住了，像一个小喷泉底座。我把结果挨个记在作业纸背面：餐巾纸，秒败；作业纸，撑三秒；卡纸，成功；硬纸板，成功还带加时。

看出门道以后我又改了玩法。卡纸换成正方形，杯里的水从满杯改成半杯，倒过来，居然也成功，只是纸中间凹得更深。我有点糊涂：水少了，纸反而凹得厉害？我去问爸爸。爸爸说，托住纸的还是空气，空气从下面往上顶，顶的力气比水那点头脑大；水少了，往下压的少了，可空气也没变，所以纸照样不掉，凹得深是因为杯里空出来的地方气压在调整。我听了个大概，但我记住了一句：空气四面八方都在顶，不只从下面。

为了验证这句，我把杯子倒过来以后又慢慢把杯口斜到侧面，纸贴着杯口，水也没流。杯口朝天斜着，空气从斜下方顶着纸，照样顶得住。我把这个画进实验报告，画了一个杯子加四支箭头，从下、左、右、斜下方指着纸。科学老师在我的报告上画了一个大红勾，批了四个字：会自己问。

现在我家餐桌上还贴着一张单子，是我写的纸片托水选纸指南：要硬，要不怕湿，要比杯口大。我妈用它挑过一次垫桌脚的纸板。课本上的实验做完只要五分钟，可顺着它往下问，我问出了一个星期的晚上。问题这个东西，跟大气压一样，看不见，但真的有力气。

Can Any Paper Hold Up Water?

Our science textbook has the paper-holds-water experiment. I did it and succeeded, and so did the whole class. But on the way home I chewed on a question: the book uses card paper — would napkin paper work? Homework paper? If any paper works, the experiment is too casual. At home I cut every paper I could find into circles a ring wider than the glass mouth: two napkins, one sheet of homework paper, one card, and a piece torn off an old wall calendar. Glass, water, basin — all lined up on the dining table.

Napkin first. I laid it on, pressed it flat, turned the glass over, and the paper collapsed the moment it took the load — water and paper crashed into the basin together. Napkin paper disintegrates when wet; it was not that it could not hold, it simply gave out first. Homework paper next. It held for three seconds, then its

soaked center split open and the water came through the crack. The card was third — steady, exactly like in class. The calendar board was the wildest: after turning it over, I propped it on the tip of a chopstick, and it stood there holding the water on the chopstick like the base of a little fountain. I recorded each result on the back of a homework sheet: napkin, instant defeat; homework paper, three seconds; card, success; calendar board, success with overtime.

Once I saw the pattern I changed the game. I swapped in a square card, cut the water from a full glass to half, turned it over — it still worked, only the paper dimpled deeper. I got confused: less water, and the paper sags more? I asked my father. He said the thing holding the paper is still the air, pushing up from below with more strength than the water's little head of weight; with less water pressing down, the air has not changed, so the paper still does not fall — it dimples deeper because the air pressure inside the empty space is adjusting. I caught the drift of it, but I kept one line: air pushes from every direction, not only from below.

To test that line, after turning the glass upside down I slowly tilted its mouth sideways. The paper clung to the rim, and the water still did not run. With the mouth slanted, air pressed the paper from the lower side and held. I drew this into my lab report: one glass with four arrows pointing at the paper from below, left, right, and diagonally under. My science teacher drew one big red check on my report and wrote four words: asks its own questions.

Our dining table still has a list taped to it — my paper-for-holding-water buying guide: must be stiff, must resist wet, must be wider than the glass mouth. My mother once used it to pick a board for propping up the table. The textbook experiment takes five minutes, but following its thread I questioned my way through a whole week of evenings. Questions are like air pressure: invisible, but they really push.

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