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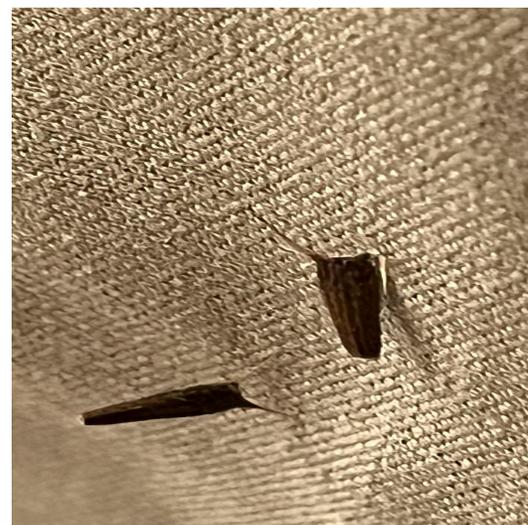
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26 October 2022

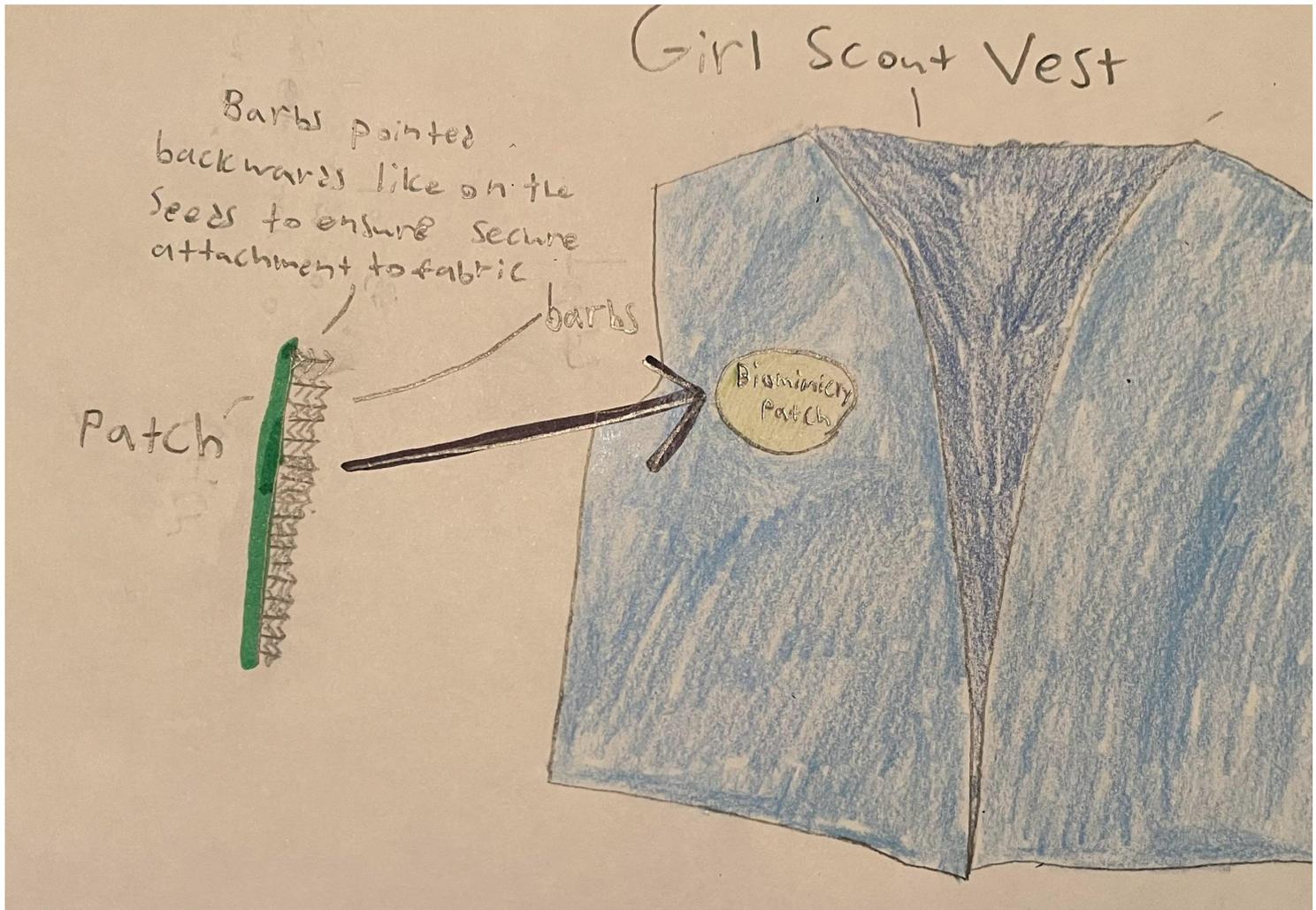
My Biomimicry-Based Innovation

I decided to hike through my favorite local forest for inspiration. I ran 2 miles from my house to get to the forest. To document what I saw, I took photos of and used a notepad to write down details about plants, animals, fungi, and anything else interesting. I saw intriguing organisms such as Dryad's Saddle (a type of mushroom in my region) and the American Tree Sparrow. I wrote about how I saw the mushrooms growing from a decaying log and the American Tree Sparrows eating berries from a tree. I thought I would use one of these organisms for my biomimicry-based innovation until when I arrived home and was surprised to find seeds stuck to my pants.



I detached the seeds and inspected them to see that barbs were holding them on my pants. I considered numerous uses for these barbs and decided the solution that best improves upon current systems is a mechanism resembling these barbs being used to make a fabric adhesive material. Girl scouts could use this system to attach their patches to their vests instead of the current plastic-based iron-on solution. The current iron-on patches contain non-biodegradable plastic, which harms the environment, and the patches fall off very

often (I was a girl scout and my patches constantly fell off my vest). My barb-based patches, inspired by biomimicry, could replace many of the iron-on patches currently in use.



In the image you can see my example "Biomimicry Patch" for girl scouts that uses my barb-based attachment system. As you can see the barbs are pointed backwards towards the patch to help hold it into the fabric the same way the seeds barbs were pointed. The barbs could be made out of wood or bioplastic to make the patch biodegradable.

Social media caption and post on next pages.

Social Media Caption:

Today I practiced innovating using biomimicry by exploring a local forest and examining the features of the organisms present to find a system or structure that could be repurposed for human use. When I returned home from the forest, I noticed that many seeds were stuck to my pants. I detached the seeds and saw that they had barbs to hold themselves on pants. I followed the biomimicry design spiral to develop a fabric adhesive based on these barbs to replace iron-on patches. I had so much fun with this challenge and plan to use biomimicry again in my future projects.

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Social Media Post:

