A blob of paint here and a burst of color there, abstract art may be difficult for some people to appreciate. Last year, a 12-year-old visitor to the Detroit Institute of Arts (DIA) left his mark by sticking a wad of gum on one of the museum’s most important abstract paintings.

The Bay, by Helen Frankenthaler, is estimated to be worth $1.5 million dollars. Seconds after the act of vandalism, the museum’s security officers sprang into action. They roped off the gallery where the painting hung, and gathered the touring school group—of which the offender was a part—for questioning.

Could the sticky gum be removed without further damaging the artwork?

NO GUM RULE: Food, drink, and gum are officially banned from the DIA’s galleries.

When moisture meets a painting, a disaster can happen: The wet substances can act as a solvent that could affect the paint (see Nuts & Bolts, p. 14).

Addition to the gum, “the chewer’s saliva and all of the components within the gum—such as sweeteners and flavorings—were pressing in a concentrated area on the painting’s surface,” he says. Whenever moisture meets a painting, a disaster can happen. The wet substances can act as a solvent that could affect the paint.

Ackerman placed a magnifying loop over his eyes and took out a pair of superfine tweezers. “It’s the type [of tweezers] that jewelers use to set gemstones,” he says. With a steady hand, he gently plucked the gum from the painting. But his work wasn’t complete. A dark, wet stamp-size residue remained on the painting’s surface. “The sugars and other components [of the gum] had saturated the surface and made that area look darker,” says Ackerman.

To remove some of this residue, Ackerman used a swab to dab up as much of the sugary moisture as possible. Despite the careful mopping, the gummy spot still remained dark and damp. Ackerman could not tell if the painting would be permanently stained; he had to wait until the splotch dried.

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DETECTIVE WORK

On the following day, *The Bay* was moved to the paintings conservation lab. “It pretty much looked the way it did by the end of the first day,” he says. To learn how much gum residue remained on the painting—and how to remove it—Ackerman had to do some detective work.

When the security officers caught the offender, they asked questions to learn what brand of gum the student had been chewing. Ackerman purchased a few packs of the gum and began chomping. “I needed to get a sense of how long it had been chewed before it landed on the painting,” he says. By studying the gum wads’ texture and coloring, Ackerman determined that the student had attacked the painting with a freshly chewed piece. The fresher a piece of gum is, the more sugars and flavorings it contains. Now Ackerman knew he still had a lot of gummy leftover to remove. But to do so would be challenging due to the nature of the painting.

*The Bay*, created in 1965, is unlike most paintings before its time: It lacks a protective topcoat of varnish and a traditional ground layer, or primer. This undercoating of paint covers bumps and holes on a canvas, creating a smoother and less porous surface on which an artwork rests. Frankenthaler’s work rests directly on the raw canvas. The artist also used a water-based acrylic paint, a relatively new product at the time. Unlike traditional oil paint, which is commonly thinned with a solvent called turpentine, acrylic paint thins with water. Paint is a colloid. This mixture contains fine particles of undissolved color pigments held together by a binding material—in this case an acrylic resin. As an artist thins the paint, the pigments spread out. Frankenthaler used very watered-down paint. The thin paint soaked through the canvas fibers, staining it like a piece of dyed cloth. “If I were to rub [the gum stain] hard with a cotton swab and water, I could easily remove some of the pigments,” says Ackerman. That would destroy the painting.

DELICATE CASE

Ackerman wondered: What’s the safest way to clean art that is similar in material to delicately dyed fabric? He decided to use a method similar to dry cleaning. Dry cleaners do not use water as a solvent to dissolve dirt on clothes because the liquid takes too long to evaporate, or turn into water vapor. If water interacts with a piece of delicate fabric for too long, it can cause not only dirt, but sensitive dyes to leach out as well. Dry cleaners use fast-evaporating chemicals instead. When used correctly, these solvents rid the material of dirt without affecting the dye.

Ackerman chose a very fast-evaporating solvent called Hexane. Peering through a microscope, he was able to observe the gum stain at a magnification of 10 times. Such a close look helped him work with precision: Using cotton swabs with tips no larger than a pinhead, he dabbed the stain cautiously with the solvent, hoping the sugary substances would dissolve into it quickly. “I would work on a little spot and let it dry,” he says. “I wanted to make sure that I wasn’t going too far. I would check the swab to make sure that I didn’t pick up pigment particles.” After six days of painstaking dabbing, the stain was finally gone.

Thanks to Ackerman’s rapid response and determined detective work, *The Bay* has now returned—spot-free—to its place in the gallery. And the DIA has been experimenting with different types of vandal-proof barriers to ensure that visitors can enjoy the painting with some distance and respect.

—Mona Chiang