



The 21st century lab report: An animated video.

High school students show what's really happening during a lab experiment.

Bill Church, a high school science teacher at a rural public high school in Littleton, New Hampshire, knows how to ask questions that get his students to ask their own questions.

After carefully recording their observations during a lab on heating water to the point of phase change, Mr. Church got out dried beans, computers, and webcams, tasking his students with a more interesting assignment: animate molecular movement as water is heated from a liquid to a gas.

"What's so cool was that the volume increase was an unanticipated prediction from their animated models. Furthermore, it was fantastic that a student picked up on it and asked if we could explore it further."

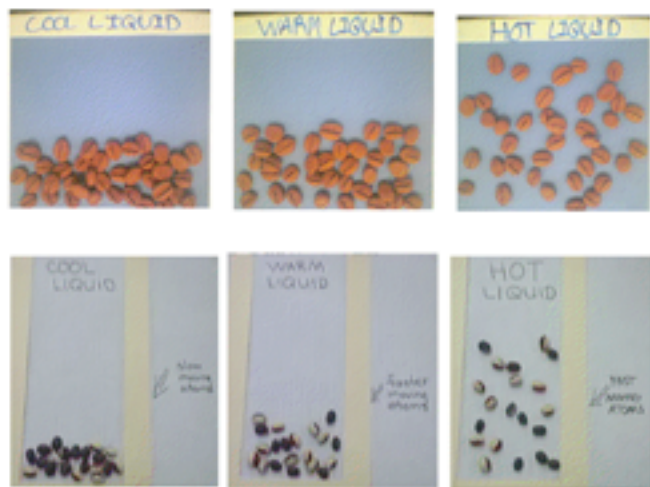
- High school science teacher

The discussions that ensued from the simple animation assignment were inquisitive.

"What was neat was that a student upon watching her own and her classmates' movies wondered aloud -- 'Hey, does the volume really increase?'" Mr. Church recalled. While students set out to focus on illustrating molecular movement through phase change, they began their own discussions around what else happens and generated their own predictions, which lead to another lab. "The volume increase was an unanticipated prediction from their animated models. Furthermore, it was fantastic that a student picked up on it and asked if we could explore it further."

To test out the predictions, Mr. Church used the timelapse feature of SAM to record a graduated cylinder of water heating and expanding. Timelapse is particularly useful for capturing things that change slowly over a long period of time, so this was a fantastic application.

"It was very cool that SAM could do double duty -- serving as our tool for testing a prediction with a real liquid after we had used it for modeling!"



Screenshots from a student-made stop motion animation. Using SAM Animation, students showed how water molecules (represented simply with dried beans) move with the addition of heat to a beaker of water.



SAM Animation is now called HUE Animation

Want to learn more? Contact us to see how HUE Animation can help you reach your class' objectives.