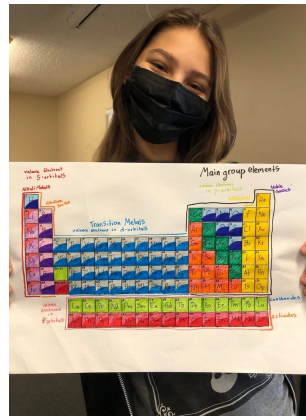


## Seventh and Eighth Science



Yara displays a collection of organic molecular models she's built.



Petra displays a periodic table she made. Her table includes which types of atoms are filled in which sections.

The theme of our second cycle (a cycle is approximately an academic quarter) is “Structure.” In the science portion of our cycle, we’ve been learning about a more sophisticated model of the atom, based on quantum mechanics. When we’re NOT in a pandemic, we have some fun experiments and demonstrations that are part of this cycle’s science. However, since we didn’t do those activities, we were able to study ionic bonding, molecular bonding, and periodic table patterns, such as ionization energies and atomic radii, in more depth this year.

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## Social Studies Simulations in 7th and 8th Grade

Simulations are an important piece of learning in Montessori middle schools; they are an effective way to make a strong emotional impression, which is a particularly important way for young adolescents to connect to subjects like history. We just completed our “Forms of Government” simulation, as part of our study of governments, and it was fascinating to observe.

Our students first had a lesson on different forms of government (democracies, constitutional and absolute monarchies, autocracies such as totalitarian governments, and oligarchies). Anarchy was also included. Each of our 4-person 7th/8th grade workgroups was then randomly assigned a form of government and three tasks to complete. The catch was that they had to use the structure of their form of government to complete the tasks. The four groups became a democracy, a totalitarian government, an absolute monarchy, and an anarchy. Their tasks were to 1.) design a flag for their group, 2.) create a game and play it for 10 minutes, and 3.) choose a type of treat from a selection of six options; each group could choose *only one type* of treat.

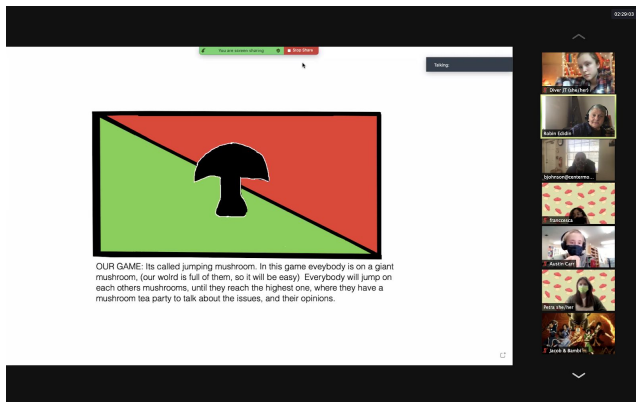
So what happened in each of the four groups? The anarchists, who began with the idea that all decisions are reached by consensus, were the most harmonious group.

As for the monarchy, it turned out that it was ruled by a thoughtful and good-natured monarch who took everyone’s ideas and suggestions into account, even though he ruled

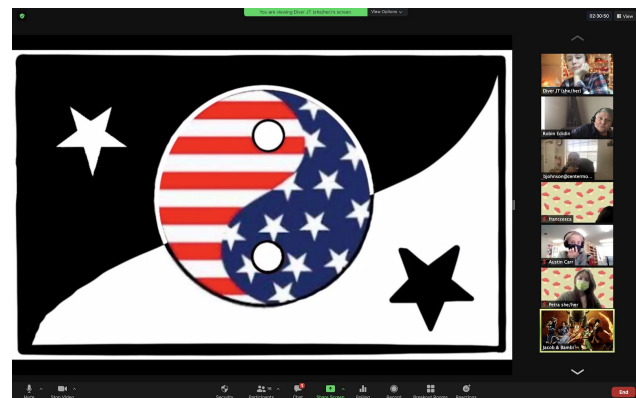
with absolute authority. Democracy, on the other hand, was the most contentious group. They quickly reached an impasse when their election couldn't be resolved because of the 2-2 vote split. We ultimately tried to help them by having an "ex-patriot" living in the totalitarian society come for a short visit to vote. (After the expat left, the losing candidate claimed the election was invalid.)

The dictator of the totalitarian state, who initially embraced his role with great enthusiasm, quickly lost most of his drive. However, his nefarious advisor sensed this, and staged a coup. Our despondent dictator, now overthrown, wanted to leave his country and live in another one. But just as in real life, the other countries were reluctant to accept an ousted tyrant. (He eventually went back to his homeland).

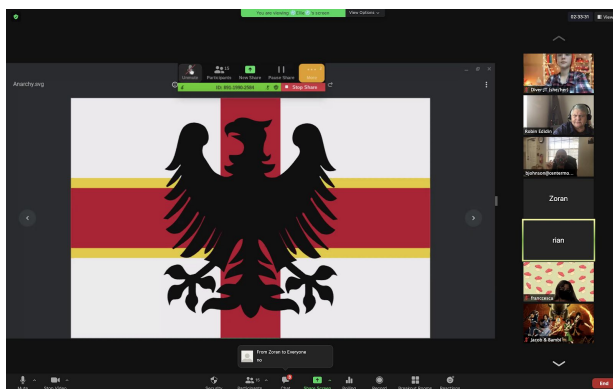
After we finished our simulation, the groups presented their flags and described the games they had invented. Below are the flags designed by the four groups.



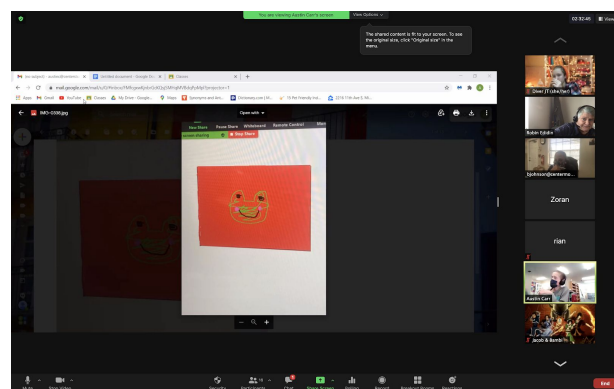
Anarchy Group



Absolute Monarchy Group



Totalitarian Group



Democracy

And the monarchy even created a special flag for their candy:

