Greetings fellow citizens of North Mason:

We have been dealing with the COVID-19 pandemic for more than a year and-a-half now; we are all tired of it and want it to be done. That sentiment I share, but unfortunately real life is not cooperating, and we will be dealing with COVID for some time to come. All throughout the pandemic there have been things done by all of us that were not the best things to do, just as there were things, we have all done that have been the best we can do to deal with the pandemic. Right now, we are so sick and tired of the pandemic that we are facing lots of pushbacks publicly and privately by many of us who want nothing more than to put the pandemic behind us—but much of this effort is simply wasted or even counterproductive.

What I see (and I am only one person, just like each one of you) is that many people have forgotten, or just ignored, the essential truths about the pandemic and how it generates and propagates in our society and lives. I want to remind all of us about these essentials truths so that we can reassess our own behaviors to better protect ourselves and each other. Whether we like it or not, we are in it together.

OK, the first essential truth we need to address is that there IS a pandemic going on. Whether you believe it is COVID-19 or not, something is making people sick and killing people. To think the whole thing is a hoax or conspiracy is counter-productive to our mutual well-being. The essential fact is that people **are** getting sick, and some are dying in numbers that are far larger than what we think of as the "background" rates of illness and death. Further, we **can** identify this cause well enough so that specific vaccinations have been developed that DO protect people from getting the disease and preventing them from being hospitalized at highly significant rates compared to people who do not get the vaccines. **This is an essential fact**. It is backed up by surveys, tests, peer-reviewed research, personal testimony, and all manner of other ways to figure out what is happening. **It is an essential fact**.

Next, given what we have learned about this pandemic disease, we know HOW it is being transmitted to people. It is a virus that uses a human host to replicate itself in the body, then spew out its copies of itself via exhalations primarily from the mouth—breathing, coughing, sneezing, laughing, singing, etc. When an infected person does these normal behaviors, new copies of the virus get sent into the atmosphere where they can infect other people who ingest the virus. **This is an essential fact; Further**, there is considerable knowledge about how this viral transmission takes hold and how its transmission works—enough so that we can figure out some strategies to combat its spread. Medically, a vaccine is the single best defense against getting the worst the disease can throw at us—not 100% perfect, but much better than doing nothing at all about it. Other things can also reduce the potential of a person getting the disease, such as masking and keeping social distance—not as good as a vaccine, but better than doing nothing, and enhancing the chance of a person to not get the disease. Some essential facts are in order here to make this claim stand up better:

To get infected, a person needs to be exposed to an infectious dose of the virus, and studies have shown that only small doses of the virus can lead to infection. But wait, here there is some room for misunderstanding—every person is different in their natural ability to ward off infection by all sorts of things, and some people may have a greater ability to fight off small infectious doses than others. We don't know who is or isn't better at this, but it is worth noting, because sometimes a person must be exposed to a higher level of infection than someone else to get sick, and also there is the variation of exposure when you are in robust health versus exposure when you are in poorer health or are

inordinately tired—meaning that there is variability in one person's level of resistance compared to others, AND variability of each person due to their condition at the time of receiving an infectious dose. All this makes it harder to judge how and when you are at risk. But the **essential fact here** is that a person needs to be exposed to an infectious dose (whatever that level of exposure is for that person at that time) to get sick with the disease. This leads to the obvious realization that ways of reducing exposure to viral loads in the air you breathe is going to help you NOT get the disease. Think of masks in particular for this, air purifiers in closed rooms, good ventilation in general that dilutes the viral load where the ventilation is good. The virus does not stay active and able to infect over time and does not replicate until it gets into a human host.

We also know that the viral load from an infected person's exhalations can spread into the air for long distances—up to six feet or more with singing, coughing, etc. and that it is normally carried along in tiny droplets of water that we all exhale every time we breathe. A mask catches many of the droplets (not all) and the virus gets caught on the mask with the droplets, and thus reduces the viral load in the air near the person. This makes it harder for the virus to infect someone else, especially if that someone else is masked also—because the viral load has been lessened, hopefully to below an infectious dose level for that person nearby. This again is **an essential fact**. We do have calculations of how much viral load (think of it as number of viral particles) is carried on the droplets for when we breathe (not so high a number), when we cough or sneeze (VERY large numbers) and other exhalations. A significant factor in dispersal of the viral particles is due to the method of exhalation (a cough or sneeze has far more viral load due partly to the exhalation coming from deeper in the lungs where the virus likes it, AND a cough or sneeze spews the droplets out in larger numbers an much farther than other exhalations). Put this all together with other things we also know about the virus, transmission, and susceptibility and it is fairly easy to understand why simple things such as masks can be so helpful in combatting the spread of the virus.

OK, I am going too long on all this, so I will stop after this. Here is a formula that is worth remembering: Successful Infection = Exposure to Virus x Time. Successful Infection her means you would have caught the disease. Cut down the exposure and you reduce your chance of catching the disease. Cut down the time of exposure and you will reduce your chance of catching the disease. This is **an essential fact** worth remembering. It does not matter if you believe the pandemic is real or not, or if you think COVID is a hoax or conspiracy. The essential facts I have shared up above are real. Put these facts in context with what we all need to do in our communities to keep the pandemic at bay and let this guide you in how you view we are trying to do to keep the pandemic at bay in our schools. No one is perfect, and I do not believe anyone wants to make things worse—we all want to put this monster behind us for good. Let us do it working from things we cannot contest—essential facts.

P.S. Much of the information here came from articles in various journals, particularly an article titled **"The Risks-Know Them—Avoid Them"** by Erin Bromage Ph.D.

--Art Wightman

Director District 1

North Mason School District.