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Dear Parents / Guardians:

Your child has expressed an interest in Advanced STEM Research (ASR) and I thought this introductory letter might shed some light on our ASR Laboratory and the program. I firmly believe that science educators are scientists first and retain this privilege as we continue our scientific careers. As a researcher myself, I decided to incorporate research skills into student-driven, research-based STEM activities: The 2nd Quarter Research project was born. All of the laboratories in my regular courses are student-driven and research-based; however I wanted them to create their own independent STEM research from scratch. A few years later, I found many students wanting to continue their research further: The Advanced STEM Research Laboratory was born!

ASR is a yearlong independent study within any scientific/engineering discipline. Being research-based, ASR is more than the usual teacher-driven inquiry; ASR has students creating real questions regarding their worldly observations, formulating a hypothesis or engineering goal, developing a method of experimentation, analyzing the data set, and discussing the details of their results in a concise, scientific manner. All students use technological means for gathering and statistically/mathematically analyzing their data. From their research journal, students create a presentation and convey their findings to the scientific community. The ASR students have earned top regional, state, national, and international STEM awards and have been invited to present their research across the U.S. as well as Canada and Europe. They utilize their community as resources to help assist them during their experimentation process. Due to our rural nature, the students often utilize online crowdsourcing for support contacting professionals in the fields they are researching...many being invited to professional research facilities such as WSU / UW, the Pacific Northwest National Laboratory, and CalTech to collaborate and execute their research. Finally, the students demonstrate scientific literacy through the accurate use of science vocabulary and the effective use of science reading, writing, and presentational skills. Once the journal article has been completed, peer reviewed, and approved, each student creates a presentation both physically (poster board) as well as digitally (PowerPoint), and presents their scientific research to the scientific community.

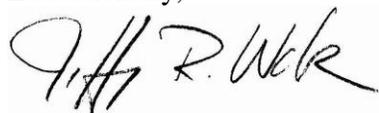
Advanced STEM Research is not required, and is an Honor's Science Course and graded as such. Please find the accompanying PDF files explaining each numbered section in detail, and the entire ASR package that informs both student and parents (1-9, this PDF being #1). The benefits to working in the ASR Laboratory go well beyond being a scientist or engineer, but improve reading, back ground researching, writing, reviewing, computer,

technological, and presentational skills to name a few. Although rewarding, ASR is also challenging; the number one concern stated by previous ASR Laboratory researchers: am I independently driven enough to manage my time effectively? Each student should be prepared to accomplish set daily goals regarding the research from the time the class starts until school releases...there is always something to do or improve. If each student efficiently manages his or her time effectively, there is little time needed outside of class. However, it is not uncommon to work in the Lab before school, during school when other courses permit it, and certainly after school as well; Mr. Wehr is very flexible for students who take their research seriously.

Thank you for your time reading this letter and for your cooperation regarding your child and his or her potential at the Advanced STEM Research Laboratory. It is highly recommended your child start this quest before school resumes in the Fall, and I encourage each student to download and read the ALL 9 PDF files, but particularly the file entitled: ASR-7-Research Project Categories.pdf. From this extensive list, students should scratch topics or disciplines of STEM from the list, and circle topics that interest them. If they get this completed, next have them email me their TOP 5 topics so we might start a discussion regarding the direction of their research...who knows how far their thoughts and ideas may take them?

If you have any questions or concerns, please feel free to email (best method) or call anytime (my cell number is 509-988-3138). With your positive support I feel we can once again create superb scientific projects this year.

Educationally,



Jeffery R. Wehr

Odessa High School Science Department; Advanced STEM Research Laboratory Principal Mentor
Presidential Award for Mathematics and Science Teaching
National Siemens Founders Award for STEM Research
US Department Of Education American Star of Teaching Award
WA State Teacher of the Year Finalist