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Dear Parents/ Guardians,

The University of Arizona (UA) Sleep to Enhance Participation in STEM (STEPS) team has partnered with the Catalina Foothills School District (CFSD) to develop, implement, and evaluate a new Science, Technology, Engineering, and Math (STEM) education program funded by a grant from the National Science Foundation. This program, called the Z-Factor, involves five sleep science lessons; project-based learning experiences; webinars and interactive presentations with STEM professionals; and opportunities for students to participate in community STEM events and present their own science projects such as at SARSEF.

Students in 5th grade classrooms at Canyon View Elementary School in January 2017 will be the first group to participate in the Z-factor. During this time, students will monitor their sleep habits and daily activities by completing electronic sleep and activity diaries using a tablet that will be provided by the UA for purposes of program participation. In addition, students will be asked to wear an Actiwatch on their wrist, which is a unique watch-like device that records movement and light exposure to track sleep-wake patterns. Students will be able to use their own data to develop a personalized health plan.

A Z-factor focal point is to inspire interest in science, especially about creating science projects that will be scheduled as the lessons unfold. Lessons will incorporate activities designed to engage students' family. You will be able to view your child's sleep data, provide input about your child's sleep, and access information about the lessons via the project's website. Students will conduct investigations by using data collected across students within your child's school, and have the opportunity to ask a new sleep-related research question, possibly collecting new data that revolves around a topic of interest to them. All identifying information about your child is removed when others are viewing the data.

In order to ensure that the Z-Factor is achieving its goals, the UA STEPS team and Science and Math Performance Improvement (SAMPI) will be evaluating different aspects of the Z-Factor. All students will be completing a survey about their STEM interest and skills, sleep habits, and academic and behavioral engagement before and after the lessons. You will also be invited to complete evaluation measures about parental involvement, your child's sleep habits, and their child's academic and behavioral engagement at two timepoints between January and April. Questionnaires will be completed electronically using a secure online survey system. The UA team will follow up with parents who may have difficulty completing surveys online and require support or hard copy. We will also invite you to participate in small group sessions where they will have the opportunity to provide feedback about the lessons and the parental component of the curriculum. These sessions will occur during the week of March 27th, with more information to follow as the date gets closer. After reviewing de-identified data on school performance and



interest in STEM, the evaluators will be able to describe the types of scientific investigations that students conducted, how they designed them, what data they collected, and the role that teachers and parents/guardians played in their children's science learning and sleep habits.

All collected information will be labeled with a study identification number (SID) that does not retain your or your child's name. This SID will enable us to link parent and student data while maintaining confidentiality. No personal information will be retained after the curriculum evaluation process. As is often the case with UA-led field studies, in appreciation for your time, you can receive up to \$15 for completing and responding to all questionnaires at both time points. The de-identified survey responses and school performance and lesson data will allow the evaluators to describe the types of scientific investigations that students conducted, how they designed them, what data they collected, and the role that teachers and parents/guardians played in students' science learning and sleep.

Ultimately, we want students to become invested in adopting healthy sleep practices and have fun doing science! We look forward to working with you and your child during the 2016-2017 school year. In order to meet with some of the UA team members, take a sneak peek at the lessons, and answer any questions you may have, we have set a parent informational meeting for Wednesday, January 11th, 2017 from 5:00-6:00pm in the Canyon View Multipurpose Room.. Should any questions arise about the parent meeting, please contact Joseph Graham at 520-477-2609 or via email at josephgraham@email.arizona.edu. For further information or questions related to the Z-Factor, please contact Estrella Ochoa or eochoa1@email.arizona.edu.

Sincerely,

The NSF Z Factor STEPS Team