# What's Lurking in Your Mask?

Rychener, Chloe (School: Grants High School)

Many questions have arisen about the effectiveness of masks, especially during the pandemic. In this project, the young scientist will attempt to answer some of these questions by observing and identifying the bacteria found on the masks worn by fifth and sixth grade children. It is believed that there will be more bacterial colonies found within the mask rather than on the outside due to the presence of bacteria on the skin and mouth. It is believed the most common bacteria will be Staphylococcus and Streptococcus, because these bacteria are commonly found in and on humans. The masks were distributed to the students and then collected after being worn for approximately three hours. Samples from the inside and outside of the masks were inoculated onto labeled petri dishes to culture the bacteria. After 48 hours of incubation, the bacteria were identified by heat fixing, gram staining, and then a catalase test was performed to determine the type of cocci bacteria. The majority of the bacteria found were identified as Staphylococcus, supporting that portion of the hypothesis. However, multiple chi squares indicate significantly more bacterial colonies on the outside of the mask than the inside.

**Awards Won:**