

Dear Guardian,

Your child's 6th grade science class is starting a unit called, *Why do we sometimes see different things when looking at the same object?* as part of the OpenSciEd middle school science curriculum. This unit develops science ideas about how our eyes see objects by light reflecting off of or transmitting through them. As the unit progresses, your child will ask questions and draw models to help explain a puzzling phenomenon: a one-way mirror.



OpenSciEd is unique in how it is designed to help students make sense of their own learning. For example, in the one-way mirror unit, the class will start with a shared experience of a music student and a teacher. Students will watch a video of a music lesson where a student practices in front of a one-way mirror, while a teacher watches on the other side. Interestingly, the teacher can see the student, but the student can only see their reflection. To explain this puzzling phenomenon, students will use a small scale model to test their ideas. Then they will draw models to explain their thinking. Finally, as a class, students brainstorm similar experiences to a one-way mirror and pose questions about the phenomenon.

Over the course of the unit students will participate in working towards answering their own and their classmates' questions about how a one-way mirror works. These questions inspire investigations to gather evidence for answering their questions. Along the way, students will think about the structure of a mirror, a glass window, and a one-way mirror. For example, how a mirror can reflect or not reflect light and how we see through a window at some times, but see our reflection at other times. Students will

continue to develop their model drawings to help explain how light interacts with objects (i.e. mirrors & glass) and how our brains process these reflections to produce sight.



Helping your child make sense of their learning:

- There is no pre-teaching vocabulary because words often have multiple meanings, and are often easier to remember once students have some experience with it; therefore, ask your child to recall evidence or experiences to help elaborate on what their ideas and explanations are.
- Encourage your child to connect how their models or drawings help explain their ideas about the one-way mirror phenomenon.
- Ask your child how different structures or parts interact with other structures within their models.
- Ask your child what question(s) they are working on currently, and how the class has made progress so far.
- If your child sees the phenomenon or a similar phenomenon outside of school, encourage your child to record it and share with the class, or explain to you what they think is happening.

Having conversations about science:

- Encourage your child's curiosity through talking about their own noticings and wonderings.
- Hold off on providing answers right away for your child; we want students to make progress on their own (& others) questions and to think of ways to make sense of what's around them.