We appreciate EdReports' initial review of our recently released *Bring Science Alive!* program. We're excited to work with EdReports to improve the accuracy of the report and use their feedback as we continually improve our curricular materials.

Our response below outlines a few of our broader issues with the report and provides a couple of concrete examples as counterevidence. We are happy to provide districts with a much more detailed list explaining items that were overlooked or not accepted by EdReports. We encourage science teachers and specialists to review the evidence side-by-side and draw their own conclusions.

There are numerous locations where we believe that reviewers overlooked or disregarded evidence from the program, many of which were shared directly with reviewers. Below are two specific examples.

- The report claims that "students do not directly engage with a CCC" in Space, Lesson 4: Eclipses (Indicator 1a.i).

  However, this lesson clearly incorporates CCC- PAT-M3 *(Patterns can be used to identify cause-and-effect relationships)* and CCC-SF-M1 *(Complex and microscopic structures and systems can be visualized, modeled, and used to describe how their function depends on the shapes, composition, and relationships among its parts, therefore complex natural structures/systems can be analyzed to determine how they function)* with the SEP-MOD-M5 and DCI-ESS1.B-M2.

  As stated in the report, students develop complex models with their bodies and other materials to represent different components of the solar system in order to understand eclipses, thus incorporating CCC-SF-M1 into their learning. During the lesson, students are only able to answer the questions about eclipses because they have developed a workable model that demonstrates the cause-and-effect relationship between the orientation of the celestial objects and the observation of eclipses, thus addressing CCC-PAT-M3. This learning is directly called out and discussed by students on Slide 15.

  Furthermore, in Investigation 3, students have to develop their own model to describe the pattern of celestial movements that results in an eclipse, again addressing both CCC-SF-M1 and CCC- PAT-M3. Furthermore, Slide 32 explicitly asks students to look for patterns in their models in order to make predictions about events in the solar system.

- The report claims that Cells and Genetics, Unit 1 Performance Assessment: Planning a Trait Trek to Madagascar, "does not assess the remaining four targeted performance expectations for the unit (PE-MS-ETS1-1, PE-MS-ETS1-3, PE-MS-ETS1-4,

PE-MS-LS1-5)" (Indicator 1a.i).

We shared with EdReports that this Performance Assessment is only meant to assess one performance expectation, MS-LS1-4. It was never intended to assess PE-MS-LS1-5 because that standard is assessed in a later unit or the engineering (ETS) performance expectations because those are assessed in multiple Engineering Challenges. However, this inaccurate example, and many others like it, were still included in the report.

Unfortunately, there are also places where reviewers fundamentally misunderstood our program structure.

- In regards to Indicator 1b, TCI materials include many types of formative assessments that can be used to gather evidence of students' progress toward mastering three-dimensional learning objectives. In our "Formative Assessments" info bar, we provide very clear guidance on how teachers should use these formative assessment tasks to support instruction. In particular, we explain how to use Lesson Guides and Wrap Ups, Interactive Student Notebook investigation and reading prompts, Interactive Tutorials online, Vocabulary Cards, Lesson Games, and Lesson Assessments to track progress. For both Lesson Games and Lesson Assessments, quantitative results are provided on both an individual student level and a whole-class level. Obviously, teachers are able to use the data to adjust instruction and review questions that were missed. We believe that teachers are professionals so these strategies are not meant to be lock-step as teachers should be able to adjust instruction based on the needs of their particular classes and students.

  For example, for Cells and Genetics, Lesson 3: Interacting Body Systems, the report claims that materials "do not provide additional teacher guidance to support instruction for students." However, the Lesson Guide provides specific suggestions about how to support the instructional process in the following locations:
  - Slide 21 - Gives a three-dimensional formative assessment task where teachers learn which aspects of modeling structure and function, and which body parts, students are struggling with. The Lesson Support button helps guide instruction by having teachers return to certain videos in the slideshow to reteach as needed.
  - Slide 22 - The Wrap Up slide and Connections to Your Life button both provide three-dimensional questions that teachers can use as exit tickets. The questions and answers support the instructional process as teachers will see evidence of student sensemaking and can adjust future instruction.
  - Slide 23 - The Misconceptions button supports analysis of the previous investigation and helps teachers know typical responses to be on the lookout for as students complete formative assessment tasks during the lesson.

  - Slide 29 - As students complete the three-dimensional formative assessment task on this slide, and the corresponding notebook assignment, teachers ask questions of each group's presentations so they know what to reteach before giving the assignment on Slide 31.
  - Slide 31 - Suggested and sample answers are given so teachers know how to gauge student progress and provide feedback. The table in the assignment has headers clearly linked to sections of Student Text so teachers know which sections to assign as follow-up reading for students who struggle on the task.

- In regards to Indicator 1i, the *Bring Science Alive!* program consistently embeds phenomena to drive three-dimensional learning across multiple lessons. To build our units, we used well-established, "backwards-design" principles. Our developers identified the anchoring phenomenon—that is to be explained by the end of the unit—and the unit PEs—that are to be assessed in the unit's Performance Assessment. Both the anchoring phenomenon and the Performance Assessment are introduced to students *at the beginning* of the unit as the reason for learning. Teachers hand out the Performance Assessment so students get excited about the task and the unit phenomenon, thus motivating the learning throughout the unit.

  During the lessons, students continually add to their three-dimensional knowledge about the anchoring phenomenon so that ultimately they can explain it and meet the PEs in the Performance Assessment. Repeatedly visiting a phenomenon after gaining new information is precisely what allows for a deeper understanding. Learning is about making connections between what you know and new information, and the web of knowledge that is formed with every new connection is what allows for depth of understanding. Our Connecting to Phenomena buttons explicitly prompt students *throughout the lessons* to think about how they would change what they "know" based on what they have learned and by having them revisit their phenomenon model and adjust it based on their new three-dimensional experiences and information.

Again, we are very thankful for this opportunity to share our materials. We look forward to working with EdReports, and we are excited about continually improving our NGSS program that is already successfully in use around the nation.