Science Links

Below is a list of resources that I utilize in my classroom because I truly believe they enhance student learning and understanding. They are organized into categories including: Informational Text, Interactive Learning & Collaboration, Video Resources, and Assessment.

Informational Text

CK-12 (https://www.ck12.org) is a free online resource similar to a textbook, but also provides additional supports and information with links, videos, self-checks and other resources for students. Teachers are able to select grade level and topic and import selected resources right into Google Classroom. There are links to more information for key words, a summary at the end, a video resource related to the reading, and review questions for comprehension.

Actively Learn (www.activelylearn.com) is a great resource to find current events and information related to your content. While searching for content, you can filter by grade level, lexile level, or content standard to find the most relevant resources. Teachers can assign specific articles to their classes that have images and embedded questions that students can answer providing feedback to the teacher regarding comprehension. There are also features to collect data (pictured below) such as grades from embedded questions, reading pace, mastery level of standards, words per response, and personalized recommendations for students based on their activity on the site such as "use dictionary more."

Text Compactor (www.textcompactor.com) is a simple resource that would work for all subject areas to make accommodations to text used in class. I have used this tool to shorten the length of assessment questions or reading passages for students. You copy and paste the original text into the website and select the percentage amount to reduce the passage.

Interactive Learning & Collaboration

PhET (https://phet.colorado.edu) is a resource with free online simulations for math and science both with Java and HTML5 versions. By manipulating settings, students are to view the results of those changes and start making connections. This resource is especially useful in situations where there are limitations to what the teacher can demonstrate due to the school setting.

Padlet (https://padlet.com) is a great tool for student collaboration and interaction that can also be utilized for formative assessment. There are various formats you can choose from when creating a Padlet such as wall, canvas, stream, grid, shelf, backchannel, map, or timeline. The Padlet link is shared with students so they can access the page and contribute their ideas. You could also create a Padlet to collect resources for students and then share so they are all located in one convenient place.

Video Resources

BrainPOP (www.brainpop.com) is a resource with short videos for various age groups and all subject areas to summarize a topic in a quick 3-5 minute video. This resource does require a membership, but I have been lucky enough to be in two districts that provide a BrainPOP membership for its staff. While I categorized this resource under video, there are also resources for interactive games and quiz features within the BrainPOP website.

Phenomena for NGSS (www.ngssphenomena.com) serves as a resource to find video clips related to scientific phenomena. These videos feature some of the more strange or interesting phenomena that occur in nature and other fields of science to serve as a hook or anchoring experience for students to get them thinking and start the inquiry process.

YouTube (www.youtube.com) While many students today utilize YouTube for entertainment purposes in their free time, there is a wide variety of resources that can show students things beyond the classroom or break them down in a new way. There are endless resources such as mindfulness resources, news stories, and other videos that can be used to provide more information for students or help them understand a topic with just a search.

Other YouTube channels use in my middle school science classroom:
- CrashCourse
- Ted-Ed
- KidsHealth

Assessment

MasteryConnect (www.masteryconnect.com) is a program that allows teachers to put together "trackers" for each class and have a visual of student mastery of content. Teachers can create assessments or import pre-made assessments and link each question to a specific content standard. The teacher has discretion to determine which scores would mean a student has reached mastery, near mastery, or remediation levels. Once the assessment has been graded, the tracker will show student achievement and provide the teacher a breakdown of the assessment, such as commonly missed questions.

Quizizz (https://quizizz.com) is an online review tool which I personally use as a review and study tool prior to an assessment. My favorite feature of this resource is that not only can you choose from a variety of times to allow students to answer and disable scoring extra points for speed (which tends to be the focus for many students), but the questions pop up on their own individual screen allowing students to answer at their own pace compared to other interactive polling tools. Quizzes can be created by the teacher entering each question and answers or pulling from other questions from pre-made quizzes. Once students complete the Quizizz teachers are able to view the accuracy score for the group, but also a breakdown by student and question to see which were commonly missed or which students may need additional support. Teachers have the ability to post the game to Google Classroom for students to find and play, but also utilize as a study tool from home or assign it as homework. This resource could also be used for an assessment if you utilize the "test" mode.