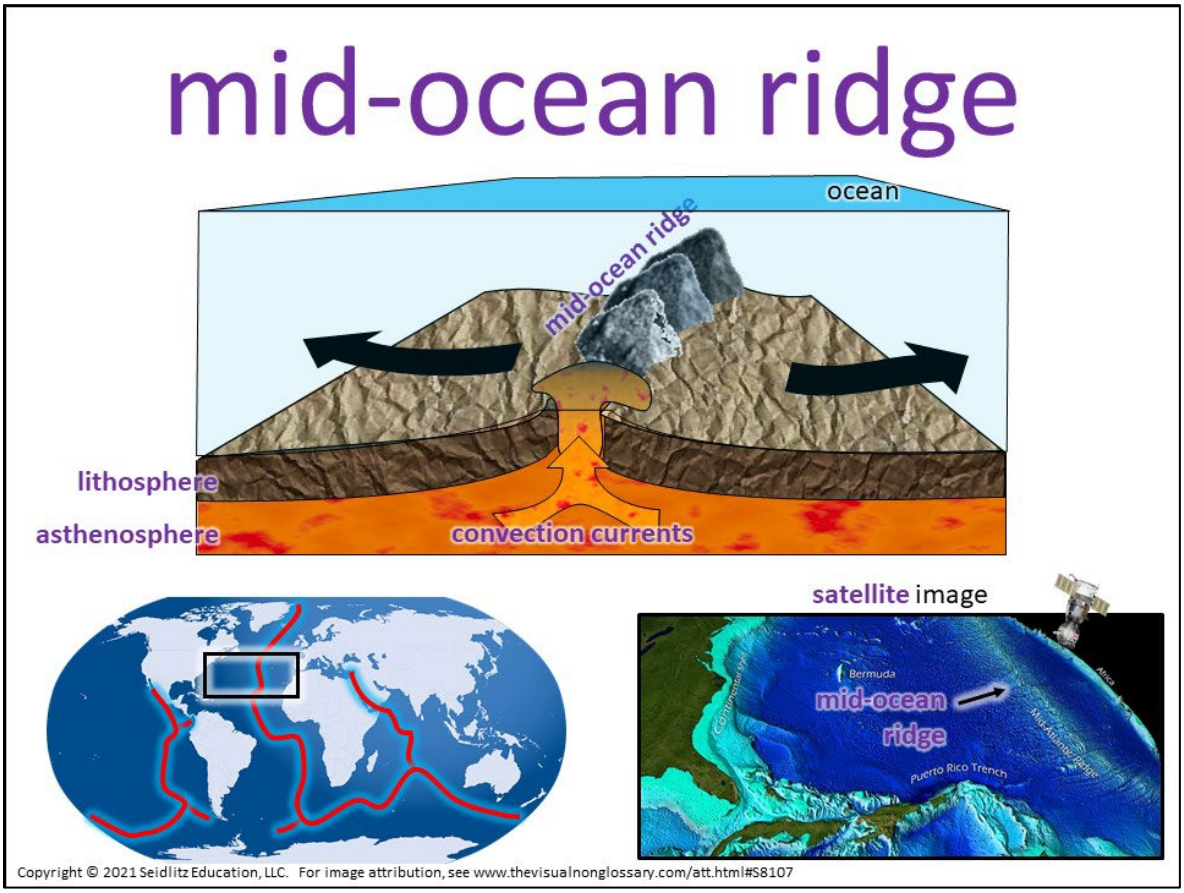
Part 1: The Purpose of The Visual Non-Glossary [View on YouTube]

Imagine four students looking at the below visual that represents a vocabulary word without having been pre-taught that vocabulary word. Some students will have had background familiarity with the word, part of the word, or part of the concept encompassed by the word, while others will have had very little background familiarity.



If you asked students to, one at a time, share in their groups how they think mid-ocean ridges form, using the sentence stem "*Mid-ocean ridges form by…"*, what would be the responses of each member of a typical four-person group? Submit your responses on Padlet.

• **Student 1:**
• **Student 2:**
• **Student 3:**
• **Student 4:**

Imagine that, **after you had students share their responses in small groups**, you called on two students to randomly share either (a) their response or (b) a response they heard in their group, as long as they use the sentence stem "*Mid-ocean ridges form by…*" How do you think the student who is most struggling in the class would feel if you called on him/her? How do you think the student is who is most confident and highest-performing would feel if you called on him/her? Submit your responses on Padlet.

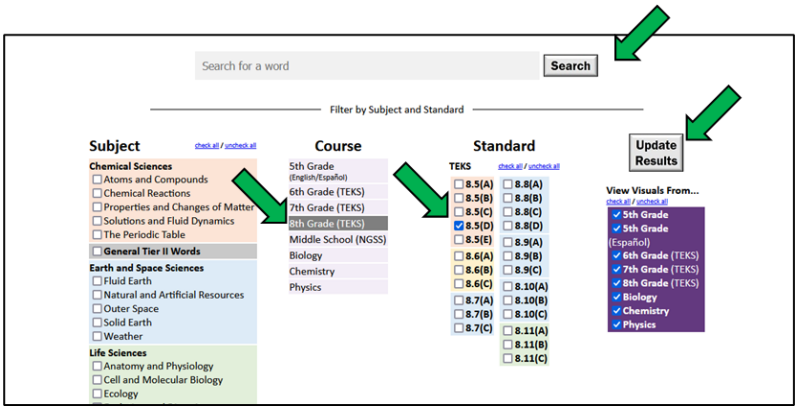
• **Most- Struggling Student:**
• **Highest-Performing Student:**

Now imagine you responding to each student's response by validating the correct things that they said and adding anything that the students didn't say, or addressing any misconceptions that might have arisen. How would this process affect all students' learning? Submit your responses on Padlet.

This process would affect all students learning by…

Part 2: Selecting Words and Using Visuals [View on YouTube]

My advice in planning a lesson using The Visual Non-Glossary is to think of the one word that you most want your students to learn in a single class period/lesson. For example, if you know a standard will be covered over four days, pick the four most important words associated with that standard and plan on each day focusing on one of those words. This is easy to do with The Visual Non-Glossary using the following steps:



1. Go to https://www.thevisualnonglossary.com/ and click the **Science Visuals** link at the top of the page.

2. Search for a word directly or click “Filter” to search by grade level or content area.

3. Find your grade level/subject area from the **Course** list and select one standard (TEKS or NGSS) that your lesson will be covering.

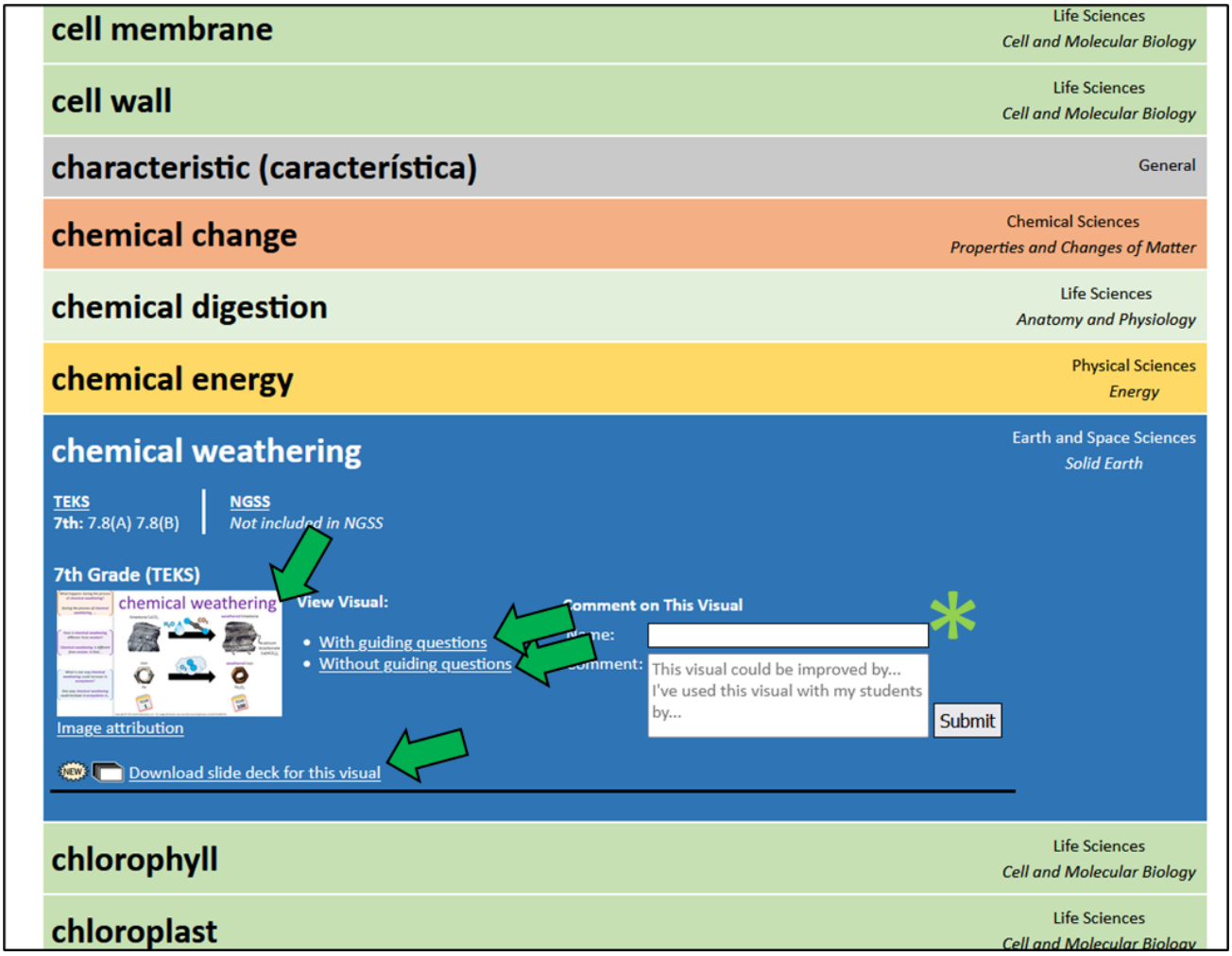
4. Click **Update Results**.

5. A list of words will load. Click on one of the words.

6. Find the visual that is aligned to your grade level or subject area. At this point, either:

    a. Click on the thumbnail or the “With guiding questions” link to see the visual with questions, OR
    b. Click on the “Without guiding questions” link to see the visual by itself, OR
    c. Click on the “Download slide deck for this visual” link to see a lesson plan designed around this visual and vocabulary word (we will explore this in Part III).

    Clicking on any of these three links will prompt you to log in with your username and password.



Note that once you have a visual, you can decide how you want to show it to your students. You can print it out and give a copy to each group; you can display it on a PowerPoint or other slide deck; or you can upload it to the students' learning management system (LMS) for them to view on their devices. For **Part 3**, we're going to plan out a lesson using the pre-made slide deck provided through the "Download slide deck for this visual" link.

***Note: You can post any changes, comments, or questions you have about a visual or the guiding questions in the "Comment on This Visual" box. These comments go directly to Stephen's email and he incorporates changes as soon as he can! The visuals on this website are living based on your feedback!**

Part 3: Planning a Lesson Using The Visual Non-Glossary [View on YouTube]

Slide 1: Warm-Up about main word (*chemical weathering*)

Slide 2: **Observational question** about main word

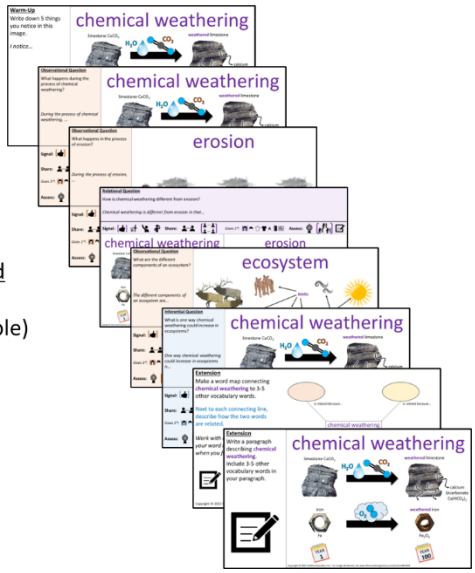
Slide 3: **Observational question** about supporting word (*erosion*)

Slide 4/5: **Relational question** pairing main word and supporting word

Slide 6: **Observational question** about supporting word #2 (if applicable)

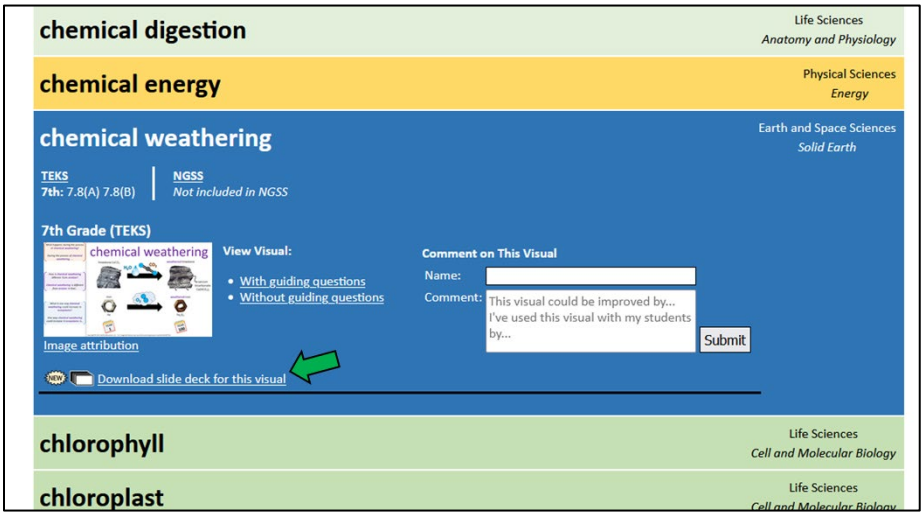
Slide 7: **Inferential question** about main word

Slide 8/9: Extension activities for main word



Each visual is aligned to a specific vocabulary word and comes with guiding questions to facilitate structured conversations at different levels. The **observational question** is the lowest level of questioning, and the answer can be drawn entirely from looking at the visual. The **relational question** is at a higher level than the **observational question** and asks students make a connection between this vocabulary word and another vocabulary word (**also in purple**). The **inferential question** challenges students at the highest level of questioning and asks them to infer, make a prediction, or explain a hypothetical scenario.

1. Underneath the thumbnail of the visual you found in Part 3, click "Download slide deck for the visual."



2. Notice the two slides (usually Slides 4 and 5) that have a **purple** background. These slides ask the same **relational question**. Usually the relational question will include another **purple** vocabulary

word; if so, one of the **purple** slides will have two visuals and it is recommended you use this slide. Sometimes the **relational question** does not include any other **purple** vocabulary words, in which case it will be better to use the slide that has the bigger visual. Of the two **purple** slides, the one which you do not use can be either deleted, hidden, or skipped.

3. There will likely be two or more slides with an **orange** background, all titled "**Observational Question**." The first of these slides, Slide 2, is the **observational question** for the visual you selected in Part 3. The other slides are **observational questions** of visuals for the other **purple** vocabulary words (supporting words) that appear in the **relational question** and **inferential question** slides. Decide whether these other **observational** slides are helpful, relevant, and/or necessary; if not, you can delete, hide, or skip them.

4. Notice the **inferential question** slide and the final two extension activity slides. It is recommended that students engage with the inferential question with a structured conversation, followed by writing out a response in complete sentence(s). You may decide to include the extension activities in the lesson in place of or in addition to writing following the **inferential question**, or you may decide to skip the extension activities all together.

5. Add any other relevant slides to your lesson plan (objectives, videos, reading, activities, etc).

Reflect on your lesson plan so far. If your students were guided through this lesson by having structured conversations around each of the questions and visuals, with each conversation followed by a whole-class discussion, what would their experience be like? Would the lesson need anything else, such as students taking notes, watching a video, or engaging in a laboratory or simulation experience? Feel free to respond to ANY of the sentence stems below. Submit your responses on Padlet.

Students in this lesson…

This lesson needs…

In this lesson, …

Part 4: Structuring Conversations with QSSSA

Watch this video about the QSSSA process to facilitate structured conversations. Which aspect of QSSSA (the Question, Signal, Sentence Stem, Share, or Assess) do you think is most important for structuring students' conversations? Submit your responses on Padlet.

I think _____ is most important for structuring students' conversations because…

Go back to your lesson plan. Notice that the questions and the sentence stems are already provided on each slide. All that remains is selecting the signal you want your students to give to show they are ready, the way they will share (with whom, who will go first, and perhaps how long you want the conversation to last), and how you will assess. Move the brackets to select your signal, share, and assess. Note: for help with facilitation, see the script in the Notes section of each slide.

When you finish, upload your lesson plan here. Give commentary on two other teachers' lesson plans. What do you like or find interesting about their lessons? Submit your responses on Padlet.

Teacher #1	Teacher #2
One thing I like is…	***One thing I like is…***
One thing I find interesting is…	***One thing I find interesting is…***