STRATEGIES to support
Academic Vocabulary Development

Stop 3
Investigate &
Reflect
STEMSSS Lessons
Learning outcomes
Participants will be able to:

• Identify the components of a STEMSS lesson including content integration, EL strategies, vocabulary development, graphic organizers, and technology
• Create and share a graphic organizer to reflect what was learned from exploring a STEMSS lesson
• Using social media, reflect and discuss ideas about strategies learned in Stops 2 and 3
What do STEMSS lessons look like?

Let’s review some lessons from the Arizona Geographic Alliance
Review each lesson and review teacher instructions and student materials.

**What to look for:**

What content areas are integrated? Does the integration flow naturally?

Is a central theme supported?

What EL strategies are used?

Is digital technology used in the lesson? Teacher or learner?

Is there peer-to-peer collaboration?

Are the lessons assessing both content and language?

**Monarch Mystic Migration** *(Grade 3)*

Description: In this lesson students will investigate the mystery of how the monarch finds its way to Mexico each year. Students will explore a hypothesis that scientists use to theorize, explore, and ponder this mystery. Students will learn how the earth’s magnetic pull plays a part in monarch navigation, by exploring and creating compasses with magnets. This lesson includes strategies for diverse learners (ELLs).

**A Drop in the Bucket – Ancient Egyptian Irrigation** *(Grade 6)*

Description: In this lesson, students will learn that human ingenuity enabled the ancient Egyptian culture to survive and to achieve wealth and power. The use of irrigation and the use of the lever in the invention of the shadoof (shaduf) were integral to managing the annual flooding of the Nile River. Students will connect this knowledge with the principles of engineering. This lesson is modified for English learners.

**Shhh! ... Mum’s the Word: Secret Cities of the Manhattan Project** *(Grades 9-12)*

Description: In this lesson students will analyze both primary and secondary sources as part of an in-depth investigation of the three “secret city” Manhattan Project sites of Oak Ridge, Hanford, and Los Alamos. This will lead to a deeper understanding of the role geography plays in shaping historical events, as well as each site’s contributions to the overall mission of creating the world’s first atomic weapon.
Time to Reflect and Share!

Reflect on what you have learned about STEMSS integration and EL strategies in Stops 2 and 3. Focusing on ISTE Standard Collaborator 4d, think about:

1. Ways you can collaborate with colleagues in teaching about a content area. What strategies would you use to teach the content?
2. Ways you can provide opportunities for ELs to collaborate as they explore, reflect, and apply new STEMSS content.

Go to the STEMSS Facebook page and post your Reflection. Engage in conversations with other teachers posting their Reflections.