

Graphic Organizers for the Science and Engineering Practices

Graphic organizers are useful scaffolds for any content area and can be used to help students organize their ideas for a variety of classroom tasks. The graphic organizers linked in this document are specifically aligned to the eight Science and Engineering Practices (SEPs) of the South Carolina College- and Career-Ready Science Standards 2021. These resources were developed for use with early elementary (K-2), upper elementary (3-5), and secondary students. These tools are not the only ways that students can organize their understanding of science concepts but may provide a useful scaffold for student learning.

To achieve the Performance Expectations as described in the South Carolina College- and Career-Ready Science Standards 2021, students need rich experience with a variety of SEPs across their K-12 experience. The SEPs can be valuable tools to help students with developing, understanding, and connecting Disciplinary Core Ideas and Crosscutting Concepts across learning experiences, but students need support in making these connections. Additionally, there is overlap across the graphic organizers. This reinforces student understanding that the SEPs are connected practices that scientists and engineers use in their work, not isolated or independent “steps” of science and engineering.

Each graphic organizer is available as a PDF format for printing. These graphic organizers have been adapted from the work of Andersen (n.d.), the Georgia Department of Education (2013), and Peacock (n.d.).

- Asking Questions
 - [K-2](#)
 - [3-5](#)
 - [Secondary](#)
- Developing and Using Models
 - [K-2](#)
 - [3-5](#)
 - [Secondary](#)
- Planning and Carrying Out Investigations
 - [K-2](#)
 - [3-5](#)
 - [Secondary](#)
- Analyzing and Interpreting Data
 - [K-2](#)
 - [3-5](#)
 - [Secondary](#)
- Using Mathematics and Computational Thinking
 - [K-2](#)
 - [3-5](#)
 - [Secondary](#)
- Constructing Explanations
 - [K-2](#)
 - [3-5](#)
 - [Secondary](#)
- Engaging in Argument from Evidence
 - [K-2](#)
 - [3-5](#)
 - [Secondary](#)
- Obtaining, Evaluating, and Communicating Information
 - [K-2](#)
 - [3-5](#)
 - [Secondary](#)

References

Andersen, P. (n.d.). *Graphics and Tools*. The Wonder of Science.

<https://thewonderofscience.com/graphics>

Georgia Department of Education (2023). *3-5 Science and Engineering Practices Graphic*

Organizers. [https://lor2.gadoe.org/gadoe/file/47a9afe4-f3d3-4249-8327-](https://lor2.gadoe.org/gadoe/file/47a9afe4-f3d3-4249-8327-d23f3b215b6b/1/Science_3-5_Graphic_Organizers_Science_and_Engineering_Practices.pdf)

[d23f3b215b6b/1/Science_3-5_Graphic_Organizers_Science_and_Engineering_Practices.pdf](https://lor2.gadoe.org/gadoe/file/47a9afe4-f3d3-4249-8327-d23f3b215b6b/1/Science_3-5_Graphic_Organizers_Science_and_Engineering_Practices.pdf)

Georgia Department of Education (2023). *K-2 Science and Engineering Practices Graphic*

Organizers. [https://lor2.gadoe.org/gadoe/file/bc626c48-18d4-4611-b3c7-](https://lor2.gadoe.org/gadoe/file/bc626c48-18d4-4611-b3c7-d4aab5ed1023/1/Science_K-2_Graphic_Organizers_Science_and_Engineering_Practices.pdf)

[d4aab5ed1023/1/Science_K-2_Graphic_Organizers_Science_and_Engineering_Practices.pdf](https://lor2.gadoe.org/gadoe/file/bc626c48-18d4-4611-b3c7-d4aab5ed1023/1/Science_K-2_Graphic_Organizers_Science_and_Engineering_Practices.pdf)

Peacock, J. (n.d.). *Graphic Organizer Tools to Support the Crosscutting Concepts*.

bit.ly/CCCGOs