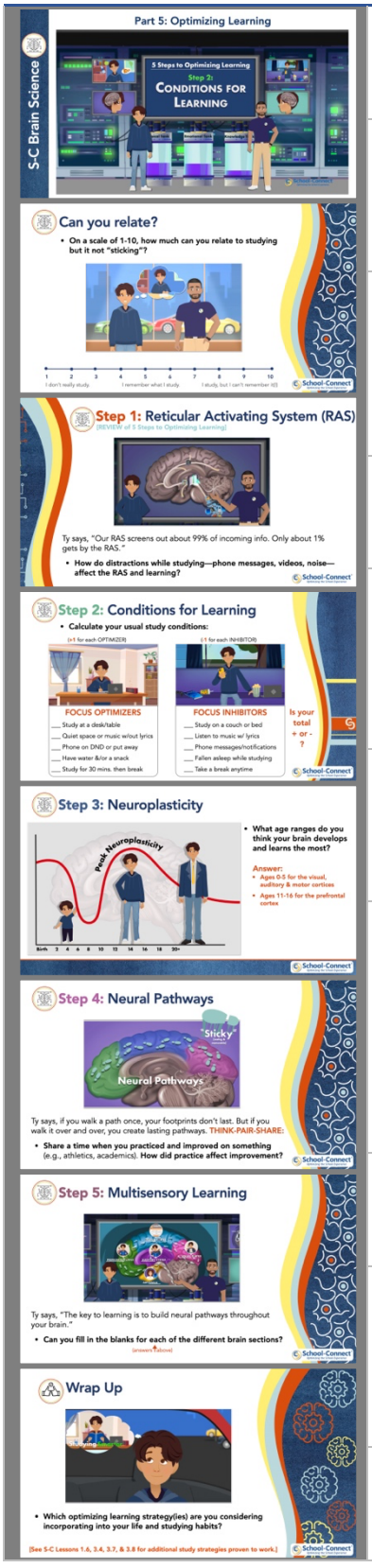
S-C Brain Science–5: Optimizing Learning

OUTLINE

Objectives: Students will be able to:

1) Describe the Reticular Activating System (RAS).
2) Calculate the pros and cons of their study conditions.
3) Explain neuroplasticity and neural pathways.
4) Apply multisensory learning to study strategies.

MATERIALS NEEDED: Handout for S-C Brain Science—5



Video – S-C Brain Science, Pt 5: Optimizing Learning — 12 min

[**PLAY** video. Ty guides Ze through Five Steps for Optimizing Learning that tap into strategies for maximizing focus, retention, and multisensory studying.]

Can you relate? — 2 min

[After watching the video, **CLICK** to next slide and ask students:]

- **On a scale of 1-10, how much can you relate to studying but it not "sticking"?** [Scale includes descriptions.]

Step 1: Reticular Activating System (RAS) — 2 min

[Begin review of the Five Steps for Optimizing Learning and ask students:]

- **How do distractions while studying—phone messages, videos, noise—affect the RAS and learning?** [Brains can only process about 1% of incoming info at a time. Distractions often override schoolwork when trying to focus.]

Step 2: Conditions for Learning — 4 min

[Ask students to calculate their typical study conditions. Add +1 for focus optimizers and -1 for focus inhibitors. Survey the room for students' total scores.]

Step 3: Neuroplasticity — 4 min

- **What age ranges do you think your brain develops and learns the most?** [See slide for **answer**.]
- **What are some of the brain functions of the prefrontal cortex?** [See slide for review of **S-C Brain Science, Episode 2**.]

Step 4: Neural Pathways — 5 min

[Review how neural pathways are similar to footprint paths. **Think-Pair-Share:**]

- **Share a time when you practiced and improved on something** (e.g., athletics, academics). **How did practice affect improvement?**

Step 5: Multisensory Learning — 5 min

[Ask students if they can fill in the blanks to define the different brain sections, and then CLICK for **answers**. Review how the amygdala is involved in learning and ask:]

- **Think-Pair-Share: When you are preparing for a test, which emotion can you relate to most—anger, happiness, panic, or something else? Why?**
- **Can you name at least four multisensory study strategies Ty recommended to make the most of test prep and learning?** [See slides for **answers**.]

Self-Reflection — 4 min

- **On a scale of 1-10, how would you rate yourself on the "Studying Harder" to "Studying Smarter" scale?** [Scale includes descriptions.]

Risk/Benefit Analysis — 4 min

- Ty asked Ze, *"Do you think you'll use any of these strategies?"* **How would you answer that question**
- **As Exe from a previous episode asked, "*What are the risks?*" and "*What are the benefits?*"**

Wrap Up — 3 min

- **Which optimizing learning strategy(ies) are you considering incorporating into your life and studying habits?**