Use Knowledge of Science and Technology to Brainstorm

1. Focus

Explain Brainstorming Ideas for Science Fiction Stories

Say: Asking “what if” questions based on what we know about science and technology is a good way to brainstorm ideas for writing science fiction. It makes us think of things that could happen someday. What if advances in technology made it possible to travel into the future or back into the past? What if technology made robots and other kinds of fantastic machines a common part of our everyday lives? Let me show you how I brainstorm for writing science fiction stories.

Model Brainstorming Ideas for Science Fiction Stories

Use the sample think-aloud to help you develop your own brainstorming model to share with students. Demonstrate how to record ideas on chart paper as you model the brainstorming.

Sample think-aloud. Say: I saw a TV program about President Abraham Lincoln. He truly was a great man. What if science could make time travel possible? I could go back in time and meet him. Maybe I could save him from being killed. I’ll write that idea on my web. And what about other kinds of travel? What if space travel to other galaxies becomes possible? After all, airplanes have only been around for a hundred years. Who knows what science could make possible in the future? I’ll write that idea, too. And, I’ve been thinking lately about how quickly technology changes our lives. When I was young, smart phones and texting hadn’t even been invented. What if we had the technology to just think of a message that could be sent instantly without any devices at all? That’s another good idea for a science fiction story. I’ll add it to my web. Continue talking about other ideas and adding them to the web.

Sample Brainstorming Web

- time machine to save President Lincoln
- space travel
- sending messages with our thoughts
- Science Fiction Ideas

Objectives

In this mini-lesson, students will:

- Learn one strategy for brainstorming science fiction ideas by using what they know about science and technology.
- Work in small groups to share ideas for stories.
- Develop a class list of story ideas for science fiction.

Preparation

Materials Needed

- Chart paper and markers
- Writer’s notebooks
- Interactive whiteboard resources

Advanced Preparation

If you will not be using the interactive whiteboard resources, you may wish to gather photos from books or magazines that show common examples of technological innovations (computers, smart phones, hybrid cars, space shuttles, etc.) to help ELs brainstorm ideas for science fiction topics.

Preparation Tip

You may wish to display examples of popular science fiction chapter book series from your classroom and school library. Use these to show a range of ideas published writers have used for their own science fiction stories. See the list of recommended trade books provided for this unit.
2. Rehearse

Practice Brainstorming Ideas for Science Fiction Stories

Encourage students to work in small groups to use what they know about science and technology to think of ideas for science fiction stories. Remind them to record the ideas in their writer’s notebooks.

If your class includes English learners or other students who need more support, use “Strategies to Support ELs.”

Share Ideas

Bring the students back together to share their favorite ideas. Record the ideas on a class list of science fiction topics. Read the ideas together and point out the many kinds of technology innovations students used as the basis for their ideas. Remind students that ideas from other writers can often inspire ideas of their own.

3. Independent Writing and Conferring

Say: We’ve learned that we can use what we know about science and technology to brainstorm ideas for writing science fiction stories. As you brainstorm your own ideas, think about things you wish were possible in the world today.

Encourage students to apply this brainstorming strategy during independent writing time, as appropriate. During student conferences, reinforce students’ use of this and other strategies using the prompts on your conferring flip chart.

4. Share

Bring students together. Invite volunteers to share the science fiction story ideas they came up with by using what they know about science and technology to brainstorm.

Strategies to Support ELs

Beginning
Show EL students photos of technological advancements from books in your classroom, or use the interactive whiteboard resources to help students understand the concept of science and technology. Label the pictures with self-stick notes, for example: rocket, robot, planet, cell phone, text message, etc.

Encourage beginning ELs to draw their ideas for science fiction stories and then tell you about the ideas, using whatever words they can. Label key items in their drawings as they share.

Intermediate and Advanced
Provide sentence frames to help ELs talk to their partners about their ideas for science fiction stories. For example:

What if we could ________?  
What if there were ________?  
What if it were possible to ________?

All Levels
If you have ELs whose first language is Spanish, share these English/Spanish cognates: future/el futuro; possible/posible; science fiction/la ciencia-ficción.