9-12 Activity

Thomas Edison once said, "To have a great idea is to have a lot of them."

Brainstorming is a key part of this stage in the creative process. In fact, brainstorming remains one of the most effective creative thinking techniques in use today. The primary cornerstone to brainstorming is the absence of judgment or criticism. All ideas, no matter how non-traditional, have the right to exist at this stage. This is particularly valuable for those students who lack the confidence to publicly share their ideas.

A comfortable, collaborative environment can help to inspire students during the imagine phase. Invite students to sit on beanbag chairs instead of at desks, in groups instead of by themselves, outdoors rather than inside the school, or listening to music instead of working in silence.

This year's *Doodle 4 Google* competition theme is: If I could invent one thing to make the world a better place. We can think of no greater purpose for students to show their creativity than to make the world better for others. It all starts with a little imagination!

Imagination in Reverse

In this activity, students are introduced to optical illusions as a way to look at something differently. They then use their imaginations and a reverse brainstorming technique to generate creative ideas for making the world a better place.

Strategy: This activity uses the reverse brainstorming strategy. Reverse brainstorming helps solve problems by combining brainstorming and reversal techniques. Combining these can help students change their perspective and draw out more creative ideas, particularly when participants are having difficulty meeting a challenge. With reverse brainstorming, students reverse the problem or challenge by asking how they could achieve the opposite effect. They then brainstorm the reverse challenge to generate reverse solution ideas. Once they have finished brainstorming, they reverse the ideas back into solutions. Creative solutions will often emerge.

You Will Need:
- Computers or tablets
- Access to the Internet

1. Select one or two of the optical illusions at
   http://kids.niehs.nih.gov/games/illusions/lots_of_illusions.htm for students to view and discuss.

2. Ask students what they see and why they think that some people may see one thing while others see something completely different. Then, ask why they may see something the first time they look and something completely different the second. Tell them they are looking at optical

illusions.

3. Explain that optical illusions harness the shift between what our eyes see and what our brain perceives. Scientists say that the brain tells us that we are seeing something that we actually aren't. Share with students that creativity often comes when we look at things from different perspectives. This activity invites students to come up with creative ideas by reversing the way they think about a challenge. This is called reverse brainstorming.

4. Ask students what they know about how brainstorming can help us come up with ideas. If students do not know what brainstorming is, explain that it is an exercise where participants try to come up with as many answers as they can to a question or prompt in a specific period of time. The goal is to come up with lots of answers. Brainstorming is like stretching our brains! There are no bad answers! All answers are accepted during brainstorming, even ones that don't seem likely or possible.

5. Share with students that this year's *Doodle 4 Google* competition invites them to come up with ideas for changing the world. On a board or electronic whiteboard, write the following prompt: What would we have to do to make the world worse than it is right now? This will probably seem like a strange question to students, but reassure them that changing perspective often leads to creative thinking. Invite students to share as many answers as they can think of to this question, no matter how silly they seem. List or have student volunteers list all answers. Encourage students to think about making the world worse for animals, the environment, world peace, human rights, children, the elderly, people's health, education, or in locations like school, home, community, or the planet.

6. Once students have brainstormed as many answers as they can, write the question for this year's *Doodle 4 Google* competition on a chalkboard, electronic whiteboard or flip chart: If I could invent one thing to make the world a better place, what would it be? You may want to explain the competition to students at this time. Information and previous entries can be viewed at www.google.com/doodle4google.

7. Challenge students to use the answers from their reverse brainstorming to help them come up with a new list of ideas for making the world a better place. Note: You can also do this activity by splitting students into two groups and having one group do a traditional brainstorming session with the question while the other does a reverse brainstorming.

8. Ask students how changing their perspective about the question impacted their ideas.

9. Once you have as many ideas as the class can generate, ask students to consider all of their options and choose the one that they would most like to make the subject of a doodle for the *Doodle 4 Google* competition.

10. Finally, ask each student to complete the competition prompt: If I could invent one thing to make the world a better place, I would _____.

Take It Digital!
Students can brainstorm electronically with these creative apps!

- **Bubl:** Bubbl.us is a simple and free web application that lets students brainstorm online by creating mind maps. To view examples, learn how to use bubbl.us or simply start brainstorming, go to https://bubbl.us/.

- **Popplet:** Used as a mind-map, Popplet helps students think and learn visually. Students can capture facts, thoughts, and images and learn to create relationships between them. For a tutorial on Popplet, go to http://www.youtube.com/watch?v=v8N6lbC_VCk.

- **SyncSpace:** SyncSpace is a collaborative whiteboard app available for tablets. Students can use SyncSpace to create drawings and documents on tablets. They can create using free-hand drawing tools, using typing tools, or a combination of the two tool sets. Drawings and documents can be sent to and synced with other users so that they can comment and edit.

Extension:

We often hear it said that imitation is the sincerest form of flattery. In addition to brainstorming, our ideas are often inspired by the creations of others. Encourage students to bring in several objects or images that spark their imagination. Have students present their objects or images and explain what inspires them. Students can then use these as springboards for the Create activity, Animation Exploration, as well as other writing or drawing projects.