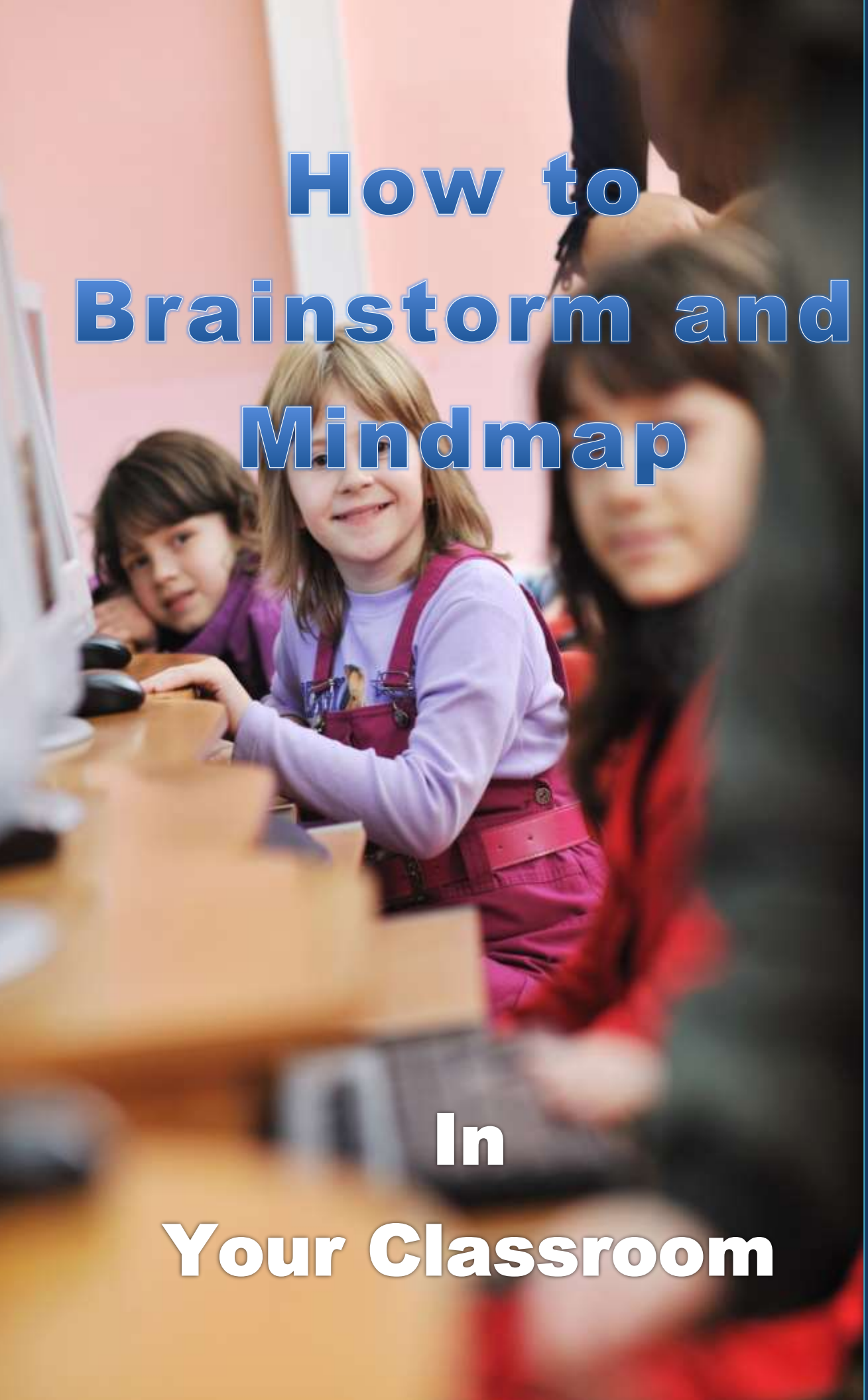

How to Brainstorm and Mindmap In Your Classroom

Ask a Tech Teacher™

How to Brainstorm and Mindmap

In Your Classroom

Ask a Tech Teacher™

How to Brainstorm and Mindmap in Class

Vocabulary	Problem solving	Common Core
• *Arm* • *Brainstorm* • *Branch* • *Central idea* • *Draft* • *Evidence* • *Image* • *Mindmap* • *Modeling* • *Node* • *Plagiarism*	• *My group doesn't have many ideas (ask questions)* • *My group can't agree on organization (discuss more)* • *I don't know how to use tool (think back to similar software; look at tools/toolbars, help files)* • *Can't find image (online—safely)* • *Some of my research doesn't fit anywhere on the mindmap (look deeper)*	*CCSS.Math.Practice.MP4**,7,8*** *CCSS.ELA-Literacy.CCRA.W.6-8* *CCSS.ELA-Literacy.W.1.5-8,9* *CCSS.ELA-Literacy.W.2.5-8,9* *CCSS.ELA-Literacy.W.3.2a,b,3a,6-9* *CCSS.ELA-Literacy.W.4.2a,4a,6-9* *CCSS.ELA-Literacy.W.5.3a,6-9*
Time *45 min.*	**NETS-S Standards** *2a, 3c, 4c*	**Grade** *1-5*

Essential Question

How can I organize my ideas to support analysis, reflection, and research?

Overview

Summary

Students work in groups to research a topic, then create a colorful mind map to organize ideas and evidence collected on a topic. Wherever possible, relate this to mathematical modeling and the use of symbols that students are familiar with.

Big Ideas

Brainstorming results in an organization of information, an analysis of facts, and often reflection if ideas as students present a visual picture of their research.

Materials

Brainstorming tool, log-ins (if required), iPads (if using apps)

Teacher Preparation

- Test all online tools to be sure links are still active from the last time you used them.
- Have sample brainstormed mindmaps from prior students to share with students as examples of what they will do during this lesson.
- If you've taught this lesson before and have resources collected, do a quick Google search to see if anything new has arrived you want to know about and should share with students.
- Work with subject and grade-level teachers to create a list of topics that students can research, brainstorm on, organize and then reflect on through the use of the mindmaps.
- Know enough about the topic students are researching and brainstorming to be able to assist in mindmap organization.; Consider co-teaching with subject-specific teacher.
- Something happen you weren't prepared for? No worries. Common Core is about critical thinking and problem solving. Show students how you fix the emergency without a meltdown.

Steps

_____**Required skill level: Basics of critical thinking, online tools, working in a group**

_____Before beginning, put backchannel device onto Smartscreen (Today's Meet, Socrative, Padlet, class Twitter account, GAFE form) to track (older) student comments throughout class. Show students how to access it if necessary.

_____The writing process consists of prewriting, drafting, revising, and editing. 'Prewriting 'is when the student determines a plan that will make it easier to write clearly and succinctly about the topic.

_____Introduce concept of 'brainstorming, also called 'mindmapping—a collaborative visual approach to thinking through and presenting ideas. Brainstorming is a great way for students to tackle prewriting. It enables them to come up with many ideas about a topic without worrying about whether an idea is realistic.

_____For a teacher, brainstorming provides information on what students may or may not know.

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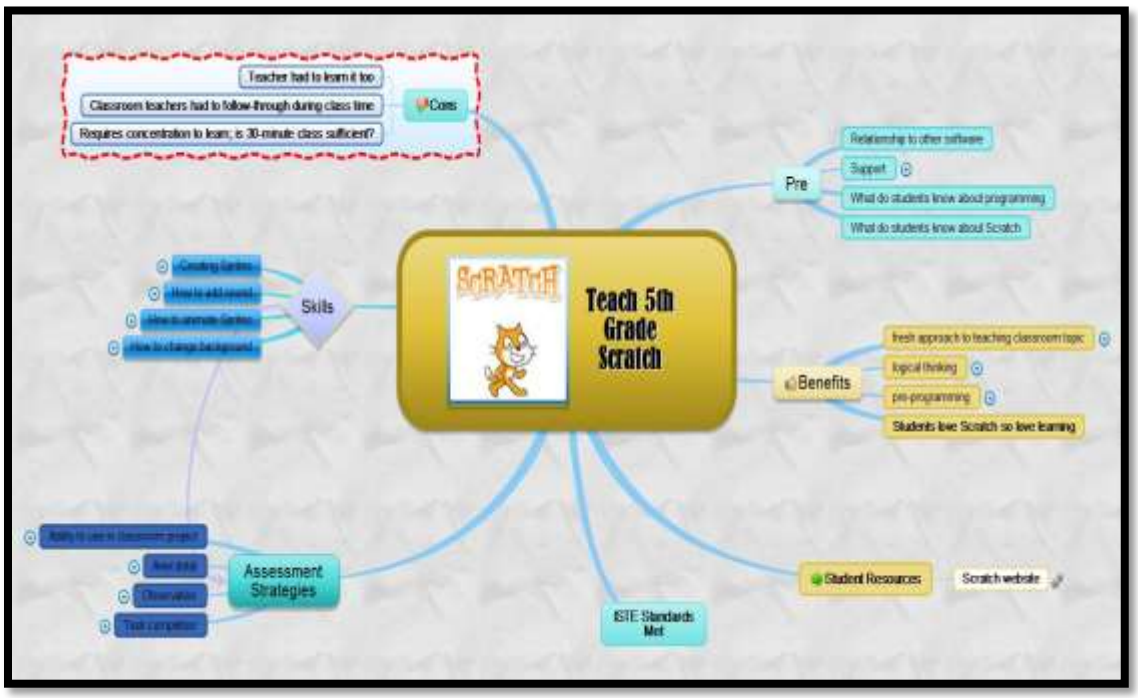
Figure 1—Mindmap created with MindMaple



_____Whichever age group, help them understand the relationship between mathematical modeling (something they discuss in math class) and modeling with the mindmap. How does mapping out topic pieces help students better understand how ideas are organized to create the whole? How does this structure (bubbles, branches) provide a framework for decoding ideas?

_____Research on topic can be during class time or students can draw on existing knowledge. It can focus on specific topics (see *Figure 90* on Scratch and *Figure 92* on Fairy Tales). As students gather relevant information from multiple sources, expect them to assess the credibility and accuracy before integrating into the mindmap.

_____Mindmap can be used as a **summative assessment** for a unit ended or **pre-assessment** to determine how much students know before beginning.

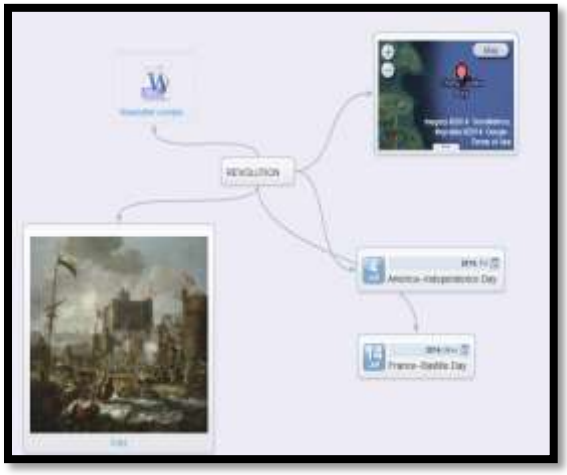
_____If students add images (see *Figure 91a*), review appropriate and legal use of online pictures.

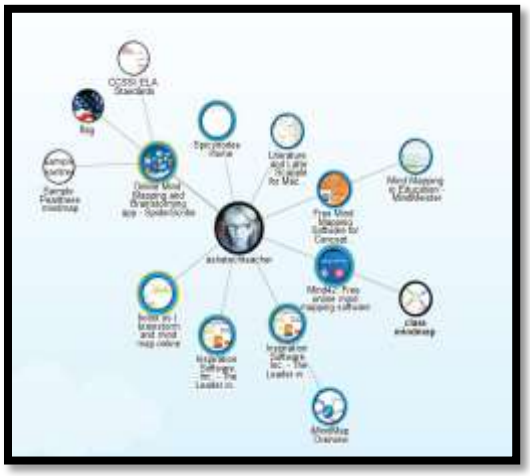
_____Older students should figure out how to use tools with minimal assistance. You may demonstrate, but expect students to make connections to similar programs and use familiar strategies for problem solving and critical thinking

_____General steps for brainstorming:

- *Sit in a comfortable group*
- *Add central idea to middle of page. Include image if possible for visual learners.*
- *Add big ideas that support theme. Don't worry if contributions don't seem 'big'—they'll find a home later as a sub-idea, connected to another.*
- *Add ideas as they come to students.*
- *All ideas down? Now drag ideas around to connect topics that relate.*
- *Evaluate placement of ideas to determine if like ideas are grouped appropriately.*
- *If possible, edit connectors to be fatter for main ideas and thinner for sub ideas. This enables the mind to subconsciously categorize ideas visually.*
- *Add emphasis where needed with color, images, fonts, size (if available)*

Figure 2a and 91b—Mindmap created with SpiderScribe and Pearltrees





_____For a specific topic, say 'Fairy Tales' (see *Figure 92* and *Figure 93*), here's how lesson might go:

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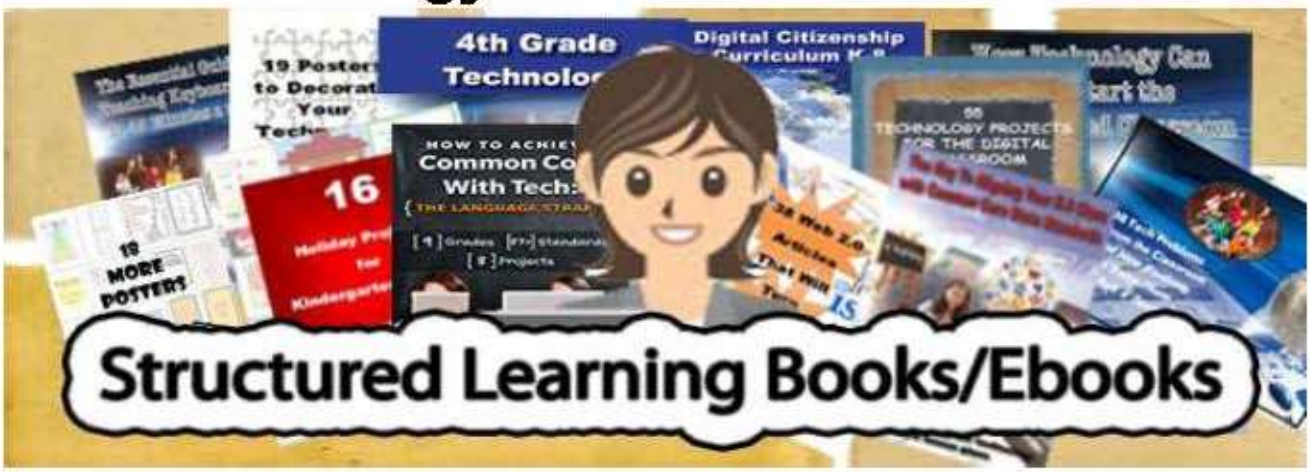
Other Singles from Structured Learning

- 15 Web Tools in 15 Days
- Blogging
- Brainstorming and Mindmapping
- Bridge Building
- Debate
- Digital Book Report
- Digital Note-taking
- Digital Quick Stories
- Digital Quick Writes
- Digital Timelines
- Gamification
- Genius Hour
- Google Apps
- Internet Search and Research
- Khan Academy
- Service Learning
- Write an Ebook
- Write with Twitter

SL Technology Books for Your Classroom



Which book	Price (print/digital/ Combo)	How Many
K-8th Tech Textbook (each)	*$29.99-32.99/23.99-26.99/48.58-53.99+p&h*	
K-6 Combo (all 7 textbooks)	*$190.74/$153.84/$344.57 + p&h*	
K-8 Combo (all 7 textbooks)	*$246.52/$200.62/$447.14+ p&h*	
35 More Projects for K-6	*$31.99/25.99/52.18 + p&h*	
55 Tech Projects—Vol I, II, Combo	*$32.99 /$59.38–digital only (free shipping)*	
K-8 Keyboard Curriculum	*$29.95/25.95/50.31 + p&h*	
K-8 Digital Citizenship Curriculum	*$29.95/25.99/50.38 + p&h*	
Common Core—Math, Lang., Read	*$26.99 ea/72.87 for 3–digi only (free ship'g)*	
K-5 Common Core Projects	*$29.95/23.99/48.55 + p&h*	
16 Holiday Projects	*$14.99 (digital only) + p&h*	
19 Posters for the Tech Lab	*$6.99 (digital only)*	
18 More Posters for the Tech Lab	*$12.99 (digital only)*	
98 Tech Tips From Classroom	*$9.99 (digital only) + p&h*	
760+ Tech Ed Websites	*$14.99 (digital only) + p&h*	
Tech Ed Scope and Sequences	*$14.99 (digital only) + p&h*	
New Teacher Survival Kit (K-5)	*$338.21/$287.85/$567.08+ p&h*	
New Teacher Survival Kit (K-6)	*$370.20/$314.84/$620.16 + p&h*	
New Teacher Survival Kit (6-8)	*$280.89/$261.83/$415.74 + p&h*	
Bundles of lesson plans	*$7.99 and up—digital only (free shipping)*	
Mentoring (1 hr. at a time)	*$50/hr*	
Year-long tech curriculum help	*$100 per year (online)*	
Consulting/seminars/webinars	*Call or email for prices*	
	Total	

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