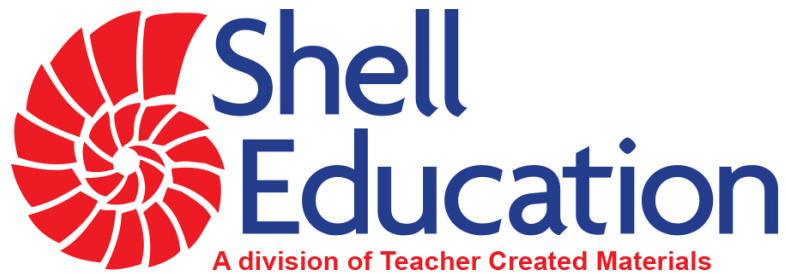


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**5** STRATEGIES for  
Learning  
*without*  
Screens

Tom Rademacher

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## Welcome

I love screens. If I used every computer, phone, TV, and tablet in my home, I could set up a wall of screens playing fifteen different Marvel movies at once. And if I set them up in release order, I would only get to *Guardians of the Galaxy Volume 2*. Maybe I need more screens.

In other words: I'm not an antiscreen evangelist. This book is not an argument to remove all computers or destroy all smartphones (although there are days when I wish the internet had an off button). I know that for many students and teachers, technology gives access to ideas, opportunities, and connections that would otherwise be inaccessible—and would have been unimaginable thirty years ago.

Rather, I'm sharing strategies for teaching and learning without screens so you can help the kids in front of you live, work, and thrive in a tech-rich world. To do this, students need skills that are best taught without screens. They need to learn what they can do, what they can notice, and what they can wonder about so they can use screens in creative, productive, and participatory ways, rather than simply as consumers of media.

Screens make it easy to *watch* instead of *make*; to outsource questions instead of wondering about them. In the use of any educational technology, the most important element is the brain of the person using it. Who's in charge—the brain or the tech? Is the brain curious, creative, critical, collaborative, and compassionate? If yes, then the tech is a tool for doing something better and more beautifully than the tech could do on its own. Is the brain passive, simply being told or entertained? If so, then the tech is keeping the student quiet, but not helping them learn.

When I reflect on the days, lessons, and moments in my sixteen years of teaching that were most impactful, most memorable, or most important, I notice that screens were hardly ever involved. I've collected my own favorite screen-free teaching strategies here, as well as some from trusted colleagues from across the country. I hope these fifty strategies will engage your students, inspire critical and creative thinking, and help your students tackle complex ideas in ways that are meaningful, joyful, enjoyable, engaging, and challenging. You can adapt these strategies across subjects, abilities, and grade levels.

I can't imagine what our world will look like when today's students are grown, watching *Guardians of the Galaxy Volume 12: Naptime after a Big Dinner* projected from a microchip in their wallet to a receiver tucked into their ocular nerves. Okay, I guess I *can* imagine it, though I'm no doubt getting it all wrong. I'm confident, though, that the world *will* get increasingly digital. A student's ability to navigate that digital world will be the key predictor of their success. This is exactly why educators need to get the screens off students' desks and out of their hands as often as possible.



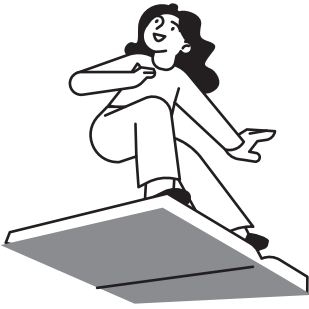
## Going Old School to Be Future Ready

Wherever students end up, and whatever they end up doing, their abilities to think critically and creatively, to work with a wide range of people, and to adapt to changing circumstances will be crucial. Experts in the fields of education and economics agree that this group of skills—whether we call them “twenty-first-century skills,” “soft skills,” “applied digital skills,” or “what good teaching has sought to do since forever”—is essential (Appleby 2017; World Economic Forum 2023; OECD 2019; Partnership for 21st Century Learning 2015). Young people will need more human than digital skills to navigate their future.

If you’re looking for more details about these skills and why they’re important, I recommend reading three foundational documents, described in the following list and in the tables on the next page.

- One of my favorite reports on digital media and learning was led by Henry Jenkins when he was working as the director of the Comparative Media Studies Program at Massachusetts Institute of Technology (MIT). This report discusses the tools young people need to shift from cultural bystanders to cultural participants. He calls those tools “**new media literacies**” (Jenkins 2009). Jenkins says that in spaces asking users to simply consume, it’s important and powerful to do more: to create and participate. He also notes ethical concerns about who is taught to participate. For example, if some students use their school devices to learn coding or film production and editing while other students use their devices mainly as digital worksheet machines, there’s an equity problem to solve that goes beyond access to technology. Some students are being denied opportunities to create.
- The most widely referenced document on **twenty-first-century learning** skills was first released in 2006 by the Partnership for 21st Century Learning, which brought together education and business leaders to discuss the essential skills of a future workforce (Partnership for 21st Century Learning 2015). Honestly, the term *twenty-first-century skills* has always seemed a little silly to me because most of these skills have always been and will always be important. But while I don’t love the name, I do endorse the skills this document lists.
- A third framework is more concise and has a name I really like. The Deeper Learning framework offers a set of competencies that “students must master in order to develop a keen understanding of academic content and apply their knowledge to problems in the classroom and on the job” (William and Flora Hewlett Foundation 2013). I like the **deeper learning competencies** because they apply across grade levels and disciplines, and I think they put into context a lot of the work that teachers know to be important.





**New Media Literacies**

Play	Distributed cognition	Negotiation
Performance	Collective intelligence	Appropriation
Simulation	Transmedia navigation	Judgment
Multitasking	Networking	

**Framework for 21st Century Learning**

Learning and innovation skills:

- creativity and innovation
- critical thinking and problem-solving
- communication and collaboration
- information

Information and technology skills:

- information literacy
- media literacy
- information and communications technology literacy

Life and career skills:

- flexibility and adaptability
- initiative and self-direction
- social and cross-cultural skills
- productivity and accountability
- leadership and responsibility



**Deeper Learning Competencies**

Master core academic content	Work collaboratively
Think critically and solve complex problems	Learn how to learn
Communicate effectively	Develop academic mindsets



There's probably little here to surprise you. These foundational documents are all more than ten years old, and most of the skills they list have been important for much longer than that. These skills were nearly all crucial to celebrated geniuses like Leonardo da Vinci (artist and polymath), Marie Curie (physicist and chemist), and Gallagher (smasher of watermelons).

## What You'll Find in This Book

I've taken bits from all three frameworks to organize the strategies in this book into these sections:



Thinking Curiously



Thinking Creatively



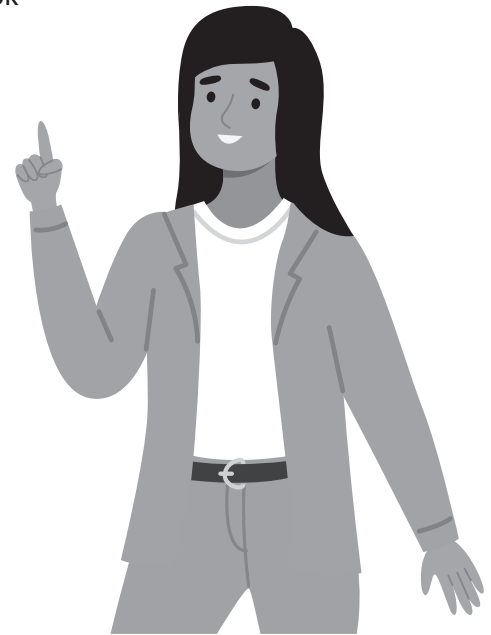
Thinking Critically



Thinking Compassionately



Thinking Collaboratively



### Thinking Curiously: Learning to Learn

*Anticipating rewarding information*

The strategies in this section do not teach curiosity so much as they seek to inspire it and give it room and reason in your classroom, to hook students on the feeling of anticipating rewarding information. The link between curiosity and learning is an important one. One analysis of research on brain science and curiosity concluded that “curiosity states elicit activity in the brain’s dopaminergic circuit and thereby enhance hippocampus-dependent learning for information associated with high curiosity but also for incidental information encountered during high-curiosity states” (Gruber, Valji, and Ranganath 2017). In other words, curiosity helps you see things you don’t understand yet. It helps you learn unexpected things as you chase your questions like rabbits through the forest. Curiosity is “the anticipation of rewarding information” (Loewenstein 1994).

### Thinking Critically: Learning to Read the Unwritten

*Resolving states of doubt and doubting states of belief*

The strategies in this section help students apply reason and question assumptions to solve problems, analyze information, and discern biases. Critical thinking scholar James Southworth says critical thinking is both moving “from a confirmed belief to a position of doubt” and “resolving states of doubt” (Southworth 2022, para. 1–2).

Critical thinking is . . . well, thinking hard. However, teaching critical thinking is not as easy as standing in front of the class and telling students, “Think harder!” (I’ve tried that, and it didn’t work.) To engage in critical thinking, students must first build basic skills; an understanding of fact, opinion, and personal perspective; and a habit of questioning new information (Dwyer 2023).

## Thinking Collaboratively: Learning from Each Other

*Moving together like dancers*

In the field of collective neuroscience, researchers study how shared experiences cause “neurons in corresponding locations of the different brains [to] fire at the same time, creating matching patterns, like dancers moving together” (Denworth 2023, para. 2). When brains dance together, people learn better. A recent study attached a teacher and four students to electroencephalograms (EEGs) and recorded not just how each person’s brain reacted to learning, but how their brain waves began to mirror and respond to one another. It found that when “brain synchrony” happens because of shared learning, students not only learn better in the moment, but also remember more much later (Davidesco et al. 2023).

If anyone is dreaming of the day when schools involve isolated spaces for each student to learn independently on an artificial intelligence (AI)–driven digital platform, well, I am happy to burst that particularly dystopian bubble. It turns out that not only do humans need to learn to work together, but they also learn better together. Relationships aid learning and make learning more meaningful. The strategies in this section provide opportunities for students to learn with and from each other, to practice communicating and solving problems in groups, and to share memorable experiences in your classroom.

## Thinking Creatively: Learning to Make

*Imagining a novel and specific future*

One study on divergent thinking (a type of creative thinking) describes it as “the ability to imagine novel and specific future autobiographical events” (Thakral et al. 2021, para. 1). The strategies in this section are all about creating space, support, and inspiration for students to make new things—to imagine a future and the steps needed to build it.

Of all the things that computers can’t do, creativity is the one thing computers can’t do the most. Sure, they can piece together bits from all over into something that appears to be new, but humans have cornered the market on making entirely new things, having entirely new ideas, and writing entirely new stories. Creative thinking builds every bit of what’s next.

## Thinking Compassionately: Learning with Care

*Collective noticing to promote healing*

A 2023 meta-analysis of 424 studies supported programs of social-emotional learning in which all adults and students are taught to recognize, communicate, and coregulate emotions; accept

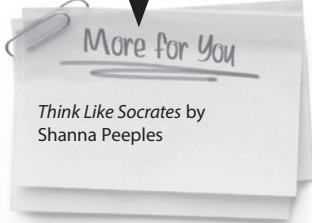




# How to Use This Resource

Choose a strategy and give it a try! You can use the strategies exactly as they are or modify them to suit your students' unique needs. All the strategies in this book can be expanded or adapted to fit many grade levels and topics.

All strategies share additional tips or resources to support continued learning on the topic.



This introductory text provides a brief description of the strategy.

## One-Pagers

This idea is perfect for teachers who usually need a team of oxen to pull writing from their students. It may seem that the best essays are often the longest. But if you've ever happened across the internet, you'll know that few people are writing (and even fewer are reading) long-form pieces these days. Communicating complex information with nuance and brevity is an essential skill. This strategy asks students to present information in a variety of forms—charts, stories, lists, quotes, images, and diagrams—all working together to convey information clearly.

Ideas for applying the strategy are provided for three grade ranges. Be sure to check out all the options!

## Make It Real

Grades PK–2	Grades 3–5	Grades 6–12
<ul style="list-style-type: none"> <li>One-pagers can help students prepare for conferences. Give each student a sheet of paper and have them draw and/or write what they've learned in your class, important moments they remember, and so forth. Each student can "tour" their adult through the page during a conference.</li> <li>Using the Critical Thinking with Scissors strategy on page 26, students can pull information from different sources on a topic (types of weather or favorite animal, for example) and put the most interesting and important things together on one sheet.</li> </ul>	<ul style="list-style-type: none"> <li>Use the freedom of a one-pager to give students a chance to build effective arguments. Each student chooses a topic and figures out what elements and information would be most effective to prove their point. (Which animal would win in a fight? Why are carbon credits an ineffective strategy for curtailing pollution?)</li> <li>Ask students to brainstorm a list of what-if statements they find interesting. For example: "What if people had wings? What if the internet went down for a month? What if you could do whatever you wanted for a day?" Have each student choose one statement and do a one-pager on it.</li> </ul>	<ul style="list-style-type: none"> <li>Create a choice board offering a variety of one-pager elements, including different styles of writing. In the choices, give students room to ask and answer big questions in new ways.</li> <li>Assign one-pagers to help students practice asking and answering big questions, to direct inquiry or research projects, or in response to world events.</li> </ul>

These notes offer key things to think about when using the strategy.

## Keep in Mind

Provide examples to show students how one-pagers differ from a simple page of writing or pictures. Outlining basic requirements (for example, "include one statistic, two images, and two quotes") will also help.

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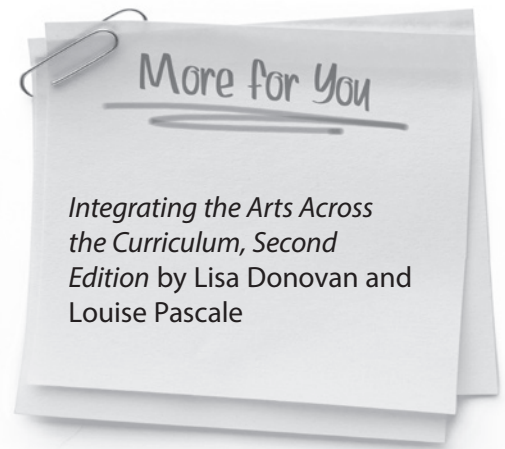
50 Strategies for Learning without Screens—152568

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# Graphic Novels and Comic Strips

Find your school librarian. (If you don't have one, put this book down, run for office, send money to school libraries, then come back.) Ask them what part of the library is most popular with students. They will probably tell you it's the graphic novel section. (If your library doesn't have a graphic novel section, well, you know what to do.) Librarians know that graphic novels provide high-interest reading, build content knowledge, and offer human perspectives on historical events. But the graphic novel or comic strip as a writing style is often overlooked as a way for students to show their own thinking and learning about a topic or skill. Give students blank paper and comic templates, rulers, art supplies, and a few simple comic samples to look through, and they will reward you with original and engaged thinking.



## Make It Real

### Grades PK–2

- On the board or on chart paper, draw a simple comic with no words. Have students come up with their own stories based on what you draw.
- After reading a story out loud, give each student a sheet of paper printed with three blank comic panels and ask them to draw three parts of the story.

### Grades 3–5

- Students can use comic templates to draw summaries of important events, math or science concepts, or the plots of stories they have read.
- When studying parts of a story or an aspect of writing, students can show mastery by drawing their own comics that illustrate one or more key terms.

### Grades 6–12

- Graphic novels make an inclusive alternative or addition to a research project. Each student can choose the perspective of one person involved and tell all or some of their story to humanize a complex or wide-ranging event.
- Quick comics of stick figures and labeled drawings help students rehearse and review difficult concepts in a new way.

## Keep in Mind

Not everyone is a skilled visual artist. If you are grading or assessing comics in any way, be clear that you are grading on the learning and thinking they show, not on artistic talent (unless that talent is one of your lesson's essential skills). You can also give students options to draw simple images, create collages, or work in teams with students who have a variety of skills.



## Math Art

Some people, such as the one writing this book, find it hard to grasp new math concepts without applying or visualizing them in a way that doesn't need numbers. You can use art to design or visualize a concept that introduces or reinforces foundational math.

## Make It Real

### Grades PK–2

- Geometric shapes are helpful for understanding symmetry and negative space. Students can fold sheets of paper in half, cut out half a shape on the fold, and then unfold the cutout to show symmetry. Or they can cut out shapes and use the shapes and their matching holes to show a negative-space version of symmetry.
- Display images of a variety of artworks and challenge students to find geometric shapes in the art. See how many they can find. As students get better at recognizing subtle shapes in images, give them their own copies of artworks and have them use pencils, crayons, or markers to outline the shapes they see.

### Grades 3–5

- Have students work in teams. Each team uses a bright flashlight to cast the shadow of a small geometric shape on a sheet of paper tacked or taped to the wall. One student traces the shadow on the paper with a pencil or marker. First, challenge students to estimate how much larger the shadow is than the shape, then have them measure both and use multiplication and division to determine scale.
- Professional artists often use math for proportions, scaling, and symmetry. Show students a few famous examples (such as da Vinci, Escher, and Kandinsky), and have them create their own art using these math concepts.

### Grades 6–12

- Creating visuals can help students understand why and how to balance atoms in a chemical equation by drawing them out (or using shapes to represent them), or using images rather than letter variables to practice algebra. (If two Godzillas equal ten sasquatches, and two sasquatches equal . . . you get the point.)
- Show examples of fractals created by computers and by nature, then have students develop algorithms they use to create their own fractal art.

### More for You

*Integrating the Arts in Mathematics, Second Edition* by Linda Dacey and Lisa Donovan

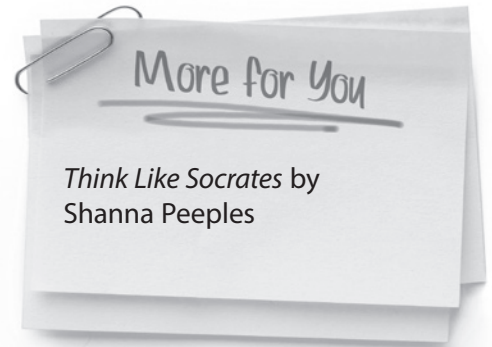
## Keep in Mind

You may hear a lot of “I thought this was math class” when you start doing new creative math projects with students. You may even get resistance that this isn't “real math.” Explain how these projects work the math muscles in students' brains and show that math is everywhere.



# One-Pagers

This idea is perfect for teachers who usually need a team of oxen to pull writing from their students. It may seem that the best essays are often the longest. But if you've ever happened across the internet, you'll know that few people are writing (and even fewer are reading) long-form pieces these days. Communicating complex information with nuance and brevity is an essential skill. This strategy asks students to present information in a variety of forms—charts, stories, lists, quotes, images, and diagrams—all working together to convey information clearly.



## Make It Real

### Grades PK–2

- One-pagers can help students prepare for conferences. Give each student a sheet of paper and have them draw and/or write what they've learned in your class, important moments they remember, and so forth. Each student can "tour" their adult through the page during a conference.
- Using the Critical Thinking with Scissors strategy on page 26, students can pull information from different sources on a topic (types of weather or favorite animal, for example) and put the most interesting and important things together on one sheet.

### Grades 3–5

- Use the freedom of a one-pager to give students a chance to build effective arguments. Each student chooses a topic and figures out what elements and information would be most effective to prove their point. (Which animal would win in a fight? Why are carbon credits an ineffective strategy for curtailing pollution?)
- Ask students to brainstorm a list of what-if statements they find interesting. For example: "What if people had wings? What if the internet went down for a month? What if you could do whatever you wanted for a day?" Have each student choose one statement and do a one-pager on it.

### Grades 6–12

- Create a choice board offering a variety of one-pager elements, including different styles of writing. In the choices, give students room to ask and answer big questions in new ways.
- Assign one-pagers to help students practice asking and answering big questions, to direct inquiry or research projects, or in response to world events.

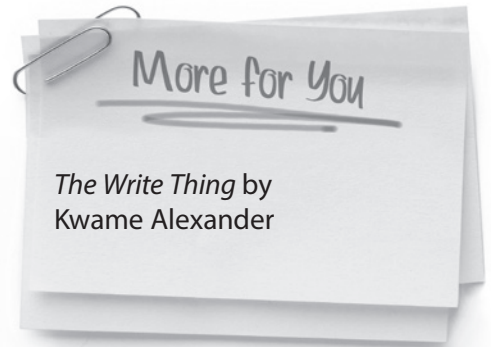
## Keep in Mind

Provide examples to show students how one-pagers differ from a simple page of writing or pictures. Outlining basic requirements (for example, "include one statistic, two images, and two quotes") will also help.



## Writing Prompts

A consistent practice of freewriting or journaling is a powerful way to build a culture of writing in your classroom. Written responses to articles, lessons, or research can help students remember what they've learned. The right prompts enable students to access deep and original thinking.



## Make It Real

### Grades PK–2

- Sentence stems support young writers to dig deep and write complex ideas. In a group of stems, switch up the ideas and sentence parts left open. For example: “When I look at the stars, I think \_\_\_\_.” And: “I feel \_\_\_\_ when I listen to music.”
- Writing doesn’t have to be written. In fact, many writers do their best writing while walking and talking or walking and thinking. Take your students on a story walk. Pair them up and have partners tell each other stories while they walk outdoors.

### Grades 3–5

- When studying a historic event or movement or while reading a shared novel, ask students to write from the point of view of someone whose voice isn’t heard in the materials at hand. What would they be thinking? Why? How do the happenings affect them?
- Writing poorly can be really freeing. Ask students to write the worst poem, story, or joke they possibly can.

### Grades 6–12

- Ask your students to remember a conflict from their lives, your studies, or even from popular media and write an inner monologue for one person on each side of that conflict. Encourage students to try to understand what each person believed and why.
- A story walk (see Grades PK–2) can work well for secondary students too. For a more solo version, have each student carry a notebook on the walk and stop at a given point or at your signal to write down what they’ve been thinking about.

## Keep in Mind

If students will be keeping their freewriting in the room and handing it in, have a discussion with them about privacy. Be honest with them about if and/or how often you will read what they’ve written, as they may have something they really do—or don’t—want you to read.

# Perfect Square

“So the question is not whether we will be extremists, but what kind of extremists we will be. Will we be extremists for hate or for love? Will we be extremists for the preservation of injustice or for the extension of justice? . . . Perhaps . . . the nation and the world are in dire need of extremists.”

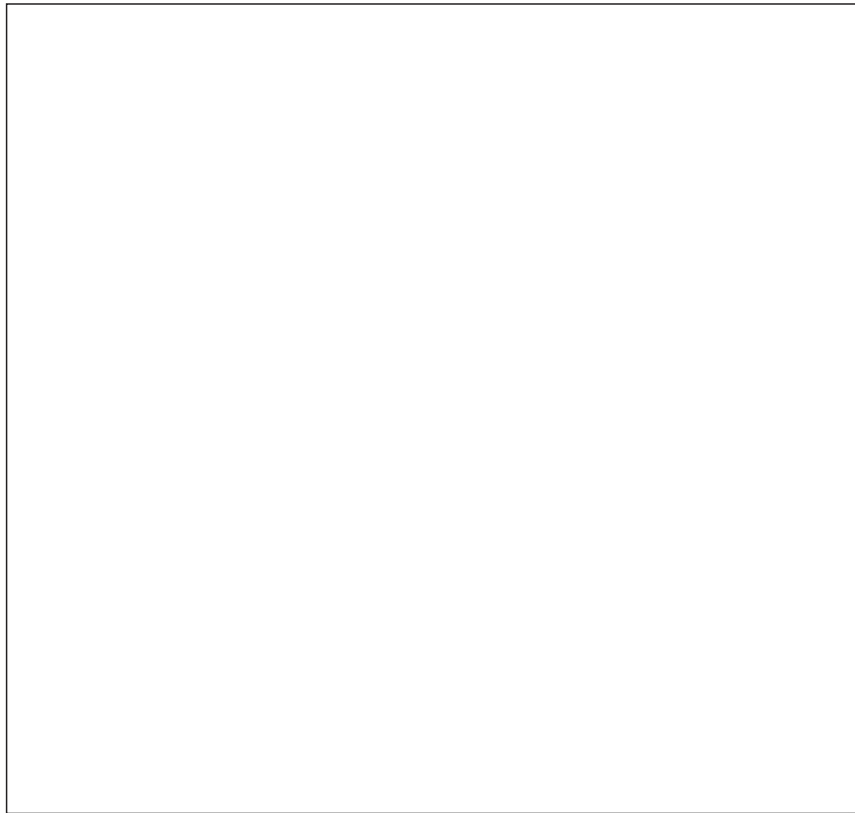
Source: King, Martin Luther Jr. 1963. “Letter from a Birmingham Jail.” African Studies Center—University of Pennsylvania. [africa.upenn.edu/Articles\\_Gen/Letter\\_Birmingham.html](http://africa.upenn.edu/Articles_Gen/Letter_Birmingham.html).

In his “Letter from Birmingham Jail,” King talks about the need for people to be “extremists.” That may sound like a scary idea, but it’s important to understand what King means by the word. To him, an extremist is someone who’s moved to action, who believes they must change the world. He also talks about what it means to be a “moderate” in a time of injustice or suffering: it means believing injustice or suffering is bad but not wanting to do anything to fix it.

In front of you is a square of paper. Before you write or draw on it, think about the questions King asks in his letter. What kind of extremist will you be? In other words, what do you want to do to change the world?

You can choose what you put in the square in front of you. Think of it as your piece of the world. How do you want to change it? What do you think people should do, know, or experience? You may want to draw a picture or write a poem or story or speech. Or maybe you think the world needs more beauty, more laughter, more compassion. What can you draw or write that inspires that emotion or expresses that want?

## Sketch Your Ideas



When you are done, you will have a chance to share with the class as much as you’d like to about your square, and then we will display the squares for everyone to see and think about.

# Black History Month Walking Museum

**Goal:** Each student will create a display that celebrates a person, event, movement, or moment in Black History.

Your display *must* include:

- at least one primary source document related to your topic
- an analysis of that primary source that explains its context or importance or points out interesting parts
- three visuals
- a list of resources where you found your information

Your display *can* include:

- QR codes to more information, videos, music, and so on
- timelines
- graphs, charts, or infographics
- writing
- any creative display options you can think of

## Step 1: Identify a Topic

- Try not to choose something you've heard about or done before. There are millions of possible topics that you could explore for this project.
- Think about important people, places, art, music, politics, science, fashion, or any other part of society. Maybe start with something you are interested in.

## Step 2: Research

- Read, watch documentaries, listen to podcasts, interview people—and search deeper than just your topic name. What else was happening during that time? Who were the people around? What impact can we see today? What led to this? As you notice terms or people that keep popping up in your research, or ideas, places, or people you are unfamiliar with, look those up too.
- Keep track of your information and where you found it. When you find something interesting, write it down.
- Find a primary source document (something written at the time by people who were there, such as a speech, law, letter, or journal) related to the topic.

## Step 3: Create

- Think about what would make people want to view and read your display.
- Make sure you are spelling words correctly in your display.
- Find or make compelling images.
- Don't just copy a bunch of text. Most of your display should be in your own words. Remember that most museums use display writing that is short, interesting, and informative.