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Creating Your Makerspace

Diana Rendina states in this lesson, “there is no such thing as a one-size-fits-all makerspace,” and we learn the different ways to define a makerspace and the different possibilities for creating one in your school using what works best for you and your students. Read the interview with Heather Moorefield-Lang, “Research Roundup: The Voice of Experience in Creating a Makerspace,” and reflect on her research on creating or improving existing makerspaces and relate that to your learning space. How will you include your students in the process, helping to build your maker culture at the same time?

Makerspace Idea / Design	Supplies Needed	Maker Culture Notes

Creating an Active Learning Environment

In this lesson, we talk about your library's physical space and what is needed to support the type of learning environment needed in design challenges. Even if you are starting off with heavy wooden tables and chairs, this lesson gave solid ideas and steps to creating an active learning space, no matter the materials. Think back to the five different active learning spaces mentioned in this lesson. How would you go about creating these in your library? If you already have one, did any of Diana's ideas show you an improvement you could easily make?

Active Learning Space	Brainstorming
<p style="text-align: center;">Small Group Space</p>	
<p style="text-align: center;">Large Class Space</p>	
<p style="text-align: center;">Technology Space</p>	
<p style="text-align: center;">Quiet Space</p>	
<p style="text-align: center;">Makerspace</p>	

Planning Your Maker Workshop

A maker workshop is a structured session to teach students a specific skill and help them to build their creative confidence; they are the foundation for future creative projects. Think about some maker skills that would be valuable to your students and use the template below to start planning your maker workshop.

	Beginner	Advanced	Product Specific
Skill / Product			
Location / Time			Number of Sessions:
Supplies / Budget <i>Consumable</i> <i>Reusable</i>			
Maker Mentors			
Planning Notes			

Creating Connections for Your Makers

In this lesson, the importance of connecting your makers to other makers outside of your school is discussed. Allowing students to share their work helps them pursue their passions and supports their student voice. Several methods of connecting your makers were discussed in this lesson. Choose 2-3 methods and create an action plan for incorporating those into your next maker event.

Connect Your Maker Method	Action Steps

Using the Design Process to Get Creative

Building empathy is a crucial step in the design process and design thinking asks you to do just that – understand the problem being faced by someone before attempting to create a solution. Think about some design challenges you have done in the past or one that you plan to roll out in upcoming months. How can you incorporate the steps of the design process into that design challenge? What steps were already there? Reflect on the different steps of the design process and how they will help your students become more creative.

Design Process Step	Value
Identify a Problem	
Research to Build Empathy	
Brainstorm Human-Centered Solutions	
Prototype / Test	
Improve the Design	
Reflect	

Creating a Good Design Prompt

Students can walk into a makerspace and see all of the materials and tools and become overwhelmed figuring out where to start. Guiding students with a good design prompt can help to avoid creative burnout and get them excited about their projects. In this lesson, the steps of creating a good design prompt are given. Take a few moments and create a good design prompt for a new design challenge. Reflect on how these steps will help your students focus on their creativity.

Design Challenge	
Define the <u>WHAT</u>	
Define the <u>WHO</u>	
Define the <u>HOW</u>	
Define the <u>TIME FRAME</u>	
Define the <u>AUDIENCE</u>	

Creating a Design Challenge with Design Prompts

After reviewing the design challenges in this lesson, take a few minutes to think of some ideas for your classroom and design challenges that will work for your students. Think of design prompts for each challenge and jot down any notes about supplies needed, audience, etc. Or use this as a starting point to get some ideas and then work with your student steering committee to come up with the next big design challenge.

Design Challenge	Design Prompts	Notes

Reflect and Practice Notes

Activity	Reflect & Practice
Creating Your Makerspace	What are some experiences you have encountered with your students that have strengthened your makerspace and maker culture? Is there a particular project or moment that you saw your students' creativity take off? Do you have a strong maker culture in makerspace? How can you strengthen that?
Notes:	
Supporting Your Maker Culture	Think about the steps to create a maker culture discussed in this lesson and reflect on how you already do or can incorporate these into your makerspace. Is your library a safe space? Are students involved? Do you have creative stations in your library? What would your makerspace logo look like?
Notes:	
Creating an Active Learning Environment	Looking around at the furniture in your library, does active learning come to mind? Libraries are known to be quiet spaces filled with large desks and chairs and not very accommodating for design challenges. Reflect on your current library or makerspace and the items that would need to be budgeted for and what you already have that you can modify.
Notes:	
Transform Your Space on Any Budget	Many of the suggestions you will find in this lesson allow you to recycle furniture that you already have in your library space. What elements immediately come to mind that could be repurposed? Are you able to separate spaces to create some of the five active learning spaces mentioned in this lesson?
Notes:	

<p>Planning Your Maker Workshop</p>	<p>Maker workshops do not have to be complicated events and with planning ahead of time, they should be a great experience for your students. One of the elements of a workshop is having the supplies. If you needed to get supplies for a consumable workshop, what are some resources you could use to request donations? How would you describe your workshop to the potential donor? Would you need more than one?</p>
<p>Notes:</p>	
<p>Creating Connections for Your Makers</p>	<p>In this lesson, Diana Rendina talks about the joint design challenge created with Colleen Graves about the Hour of Code. What are some other lessons in your school year that would work well with another group? Creating a design challenge around a common school or library theme is a great starting point. Reflect on some of your upcoming lessons and how they would lend themselves to a joint design challenge.</p>
<p>Notes:</p>	
<p>Using the Design Process to Get Creative</p>	<p>Design thinking is a human-centered approach to creative problem solving that starts with empathy and students understanding the problem before attempting to create a solution. How can you incorporate design thinking into your makerspace? What are some ways to develop empathy in students?</p>
<p>Notes:</p>	
<p>Documenting the Design Process</p>	<p>An important point of this lesson is that the exact terminology varies from once source and organization to the next when it comes to the design process. Looking at what is provided in this lesson, do you already have some of these steps in your process, just in different terminology? How successful have those steps been? Reflect on what you are already asking of your students and how the design process laid out in this lesson can improve your next design challenge.</p>
<p>Notes:</p>	

<p>Creating a Good Design Prompt</p>	<p>In this lesson, the basic steps are laid out for a good design prompt. Once you have finished creating a new design prompt, reflect on how you would change some steps or what you would add that would work best for you. How would you update the template for a design prompt? What are some other steps you think would help your students?</p>
<p>Notes:</p>	
<p>Creating a Design Challenge with Design Prompts</p>	<p>In this lesson there are three design challenges discussed to help steer your creativity in creating challenge-based makerpaces. These challenges may be differentiated just as you would a lesson plan. Choose one of the design challenges discussed in this lesson and reflect on how you would change it to make it work in your library or makerpace? What adjustments would you make to the design prompt?</p>
<p>Notes:</p>	
<p>Picture Book Design Challenge</p>	<p>Using picture books to create a design challenge is a wonderful way to combine literacy and creativity. What other types of books or reading materials do you think would lend themselves to a design challenge? What materials lend themselves best to create maker connections to?</p>
<p>Notes:</p>	