Makerspace Rotations

NCTIES 2019
Cara Patterson and Tamara Arizpe

Win Prizes!!

* Be sure to enter our contest, by completing this [Google Form](#) to win some Makerspace Prizes!!
Welcome to Makerspace Rotations!

Makerspace rotations are based on classroom content and instruction. Participants will learn how to implement exciting and engaging makerspace rotations in elementary classrooms or media centers. Incorporating media, technology, and 21st century goals to create dynamic lessons. Experience demonstrations in Augmented Reality, Makey Makey, Green Screen, StikBot Robotics, STEAM etc. All sample lessons are tied with grade level literature, relevant subject area content, and aligned with NC State Standards. We are so excited to "plearn" with you all in our different activities. Full Steam Ahead!
Meet your Presenters!

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"Don’t Let The Fear Of The Unknown Hold You Back Because Anything Is Possible!"
How to Get Started?

Apply to Grants:

- Donors Choose
- Lowes
- Lockheed Martin
- GoFundMe
- Target Grants
- Teacher Geek Grants - Search by State
- BB&T Lighthouse Projects

- Check with your PTO, NCTIES, and local community!
Decide on your Theme!

“Every makerspace needs to have their own unique vision and that vision should be written down the form of a mission statement. That statement will help you convey to others what your makerspace is trying to achieve and to help people better understand your space, but it will also help you be able to better select products that are appropriate and meaningful to your particular makerspace.”  - Laura Fleming

Source: https://worlds-of-learning.com/2016/11/03/choosing-right-products-makerspace/
Makerspace Framework

- Mobility
- Allow for Open-Ended Exploration
- Knowledge of Student Needs, Wants, and Interests
- Empowerment and Engagement
- Relevance

“Create a unique learning environment that encourages tinkering, play, and open-ended exploration for all! “

Source:
Gather/Order Supplies

Dollar Store/Five Below

Amazon

Donations

PTO Contributions

Community Donations

Scholastic Dollars

Collaboration with Staff

- Check out our Resource page for a list of the products used in our Makerspace!
How to implement Makerspace Rotations?

* Discuss with your admins a schedule and time that will work best for the school. A chunk of 30 minutes is enough time to make this work!
Elementary Rotations

Elementary Rotations - It is important to remember that STEAM Stations should NOT be taught in isolation. It should encompass and enhance your North Carolina Grade Level Standards. Incorporate reading, writing, math, science, social studies, and technology goals into your stations.

- Stations could be in the place of your literacy or math centers.
- Stations can be rotated like any other stations. Just remember that you will need at least 30 minutes to work.
- Example: 5 stations a week and students do one station a day while others work on independent work or in small groups.
- Example: plan stations that would incorporate math and language arts. Students could work in their stations during reading time and complete them later on in their math block.
- Library Rotations - students do one station a week or class. They rotate through until they have completed all six stations.

Color Chart Rotation Spreadsheet
Secondary Level Rotations

**Middle/High** - Students apply through Google Form. Best implemented during an elective time or designated “Enrichment Time”

[Google Form Application](#)

[Rubric](#)

**After School** - Technology/Makerspace Club (More freedom to explore, create, free choice)

[How to Run an Awesome After School Maker Club](#)
Makerspace and STEM
How to tie it into Curriculum?
Makerspaces and STEAM

What’s the Difference?

MAKERSPACES
A DIY space where students work together to explore, create, research, invent, and learn.

STEAM
A guided activity with a focus on Science, Technology, Engineering, Art, and/or Math.

But they both promote...

Hands on learning  Real World Application
Engagement  4C’s
Inquiry
Be in the Know

○ What are the teachers teaching at the moment?
○ What’s in the curriculum framework for the nine weeks?
○ Essential Questions
○ PBL Projects
○ Tie to Current events
○ Align with School Improvement Plans
Once you have an idea of what they’re learning in class, how can you enhance their learning?
Makerspace

Are students learning about something that could allow them to OPENLY explore, invent, and create?

Standards:

- RL.2.5 Determine the beginning and ending of a familiar story with a logical order
- RL.2.5 Describe the overall structure of a story, including describing how the beginning introduces the story, the events unfold in the middle, and the ending concludes the action.
- RL.5.7 Analyze how visual and multimedia elements contribute to the meaning, tone, or aesthetics of a text.
- SL.5.5 Include multimedia components and visual displays in a presentation

makerspace activity - Create an avatar based on a character from a story read in class or a historical figure for our school Wax Museum. Students will customize features, clothing, background images, and record their voice telling about their specific character or figure. Retelling events from a story or their influential past experiences.
Makerspace Tools and Lessons

Grades 2nd-5th

* All lessons are geared towards grades 2-5 and are aligned with NC State Standards, Media Library Standards, and ISTE Standards. Lessons can easily be tweaked for all different grade levels and content subject areas.
Makey Makey Example Lesson

LESSON SAMPLE

How does it tie into the curriculum?

● Retelling a story
● Identify characters and setting
● Problem and solution
● Beginning, middle, and end
● Write and create an alternate ending
● Blogging

Watch Video
Quiver Example Lesson

LESSON SAMPLE

How does it tie to the curriculum?

- Literature - (extension activity) take what you learned from the story and make your own.
- Compare and contrast how your dot went from ordinary to extraordinary just like the character in the story. How were they alike and different?
- Curriculum based content to make lessons come to life
- I-nigma google form exit ticket with specific questions.

Watch Video
StikBot/Green Screen Lesson

LESSON SAMPLE

How does it tie into the curriculum?

- Writing scripts/storyboards
- Directing, scripting, role playing
- Movie directing, editing skills
- Trial and Error
- Problem Solving
- Collaboration

Watch Video
Dash and Dot Example Lesson

LESSON SAMPLE

How does it tie to the core curriculum?

- Incorporates multiple content areas (Math, Geography, ELA, Social Studies)
- Creative writing
- Coding and programing skills
- Interaction w/Robot
- Collaboration among students
- Recording and speaking skills
- Flip Grid Reflection

Watch Video
Cozmo

**LESSON SAMPLE**

How does it tie into the curriculum?

- Mathematics for different grade levels (measurement, finding sum, difference)
- Programming and Coding skills
- Problem solving
- Interaction with Robot
- Student Reflection using Google Forms

Watch Video
Ozobots/Robot Mouse

Lesson Sample

How does it tie into the curriculum?

- Problem solving
- Self-correcting errors
- Critical thinking
- Analytical thinking
- If-then logic
- Working collaboratively with others
- Discussion and communication skills • Calculating distance
- Spatial concepts
- Retelling story events

Mouse Robot Video  Ozobot Video
PET ROBOTICS

Lesson Sample

How does it tie into the curriculum?

- Collaboration
- Opinion writing
- Individual participation accountability - Answer Garden
- Following directions and building skills - Pet Robotics
- Incorporates Art
- Problem Solving
- Rubric assessment

Bird Pet Video  

Dog Pet Video
How do you know what they learned?
Assessment!

- Revisit the Essential Question
- Flipgrid Reflection
- Post it Parade
- Digital Exit Tickets
- Padlet
- Blogging
Let’s Rotate!
Rotations

Participants will have ten minutes at each station. All supplies are on your table. One activity per table. Directions are on the tables. A timer will go off and we will rotate! Feel free to use own devices. Full STEAM Ahead!

Directions for each Station

Lesson Plans

10 Timer Tool Youtube

* Remember to enter our Contest if you haven’t done so already!
Contest Time! Makerspace Prize Giveaways!

Let’s spin the wheel!
Resources

Be sure to check out our Resource Page for a list of products, helpful websites, grant opportunities, and more!
Feel free to email us!

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