Get started! Making Faces: Tinker to Discover

1. Choose a paper oval
2. Look at the loose parts in the round tray
3. Choose an assortment of loose parts that can make eyes, noses, and mouths
4. Tinker with objects to create a face on the oval
5. Optional: use objects from your bag or pockets
6. Listen for prompts
Making Faces: Make to Learn

Change the expression of your face according to the questions we ask.
Making Faces: Application Project

Portraiture: Presidents, Self Portraits, etc
Making Faces: Application Project

Apps that you can use to animate and add sound to your face.

Chatterpix

Stop Motion Studio

Gif Maker
Making Spaces

Museums Developing and Delivering Quality Maker-Center Professional Development
Our mission is to harness the potential of maker education to transform teaching and learning.

We provide training, support, and resources to individuals, institutions and communities who are integrating maker education into their learning environments.

Three delivery methods:
- Online resources
- Events (workshops & convening)
- Learning Communities (Making Spaces)

http://makered.org
@MakerEdOrg
What is Maker-Centered Learning and why is it important?
## Approaches to Maker Education

- **Tinker to Discover**: Learners develop an initial understanding through tinkering and making. Learners work toward short-term learning goals and then explore, make, and own their discoveries.

- **Make to Learn**: Learners build on, deepen, or cement understanding through making.

- **Application Project**: Learners apply their understanding in order to make a specific project, deepening and showcasing their knowledge.
To develop a national strategy to sustainably integrate making into schools and learning environments across the country.
National Cohort
Partner with and connect 5-10 Regional Hubs

Regional Hubs
Partner with and connect 5-10 local educational sites

Educational Sites
Teams of 1-5

National Network
Cohort of Hubs
Regional Hubs
Educational Sites
Educators

National Network
Connects Hubs across cohorts

MAKING SPACES
A PROGRAM OF MAKER ED
Community Centers, Non-profits, and one Government Agency
Making Spaces National Network

Be a part of Cohort 6!

Applications close June 30

https://makered.org/making-spaces/
## Making Spaces National Network: Structures of Support

<table>
<thead>
<tr>
<th>Who</th>
<th>What Structures</th>
<th>Documentation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hubs</td>
<td>Intensive Workshop</td>
<td>Resources</td>
</tr>
<tr>
<td></td>
<td>2 day in-person workshop once a year</td>
<td>Hub Portfolios</td>
</tr>
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<td>1-1 Call</td>
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<td>Cohort Call</td>
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<td>Monthly zoom with all Making Spaces Cohorts (optional)</td>
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**Who**
- **Hubs**: 10 orgs, team of 2

**What Structures**
- Intensive Workshop
  - 2 day in-person workshop once a year
- 1-1 Call
  - Monthly zoom w/ Hub and Maker Ed
- Cohort Call
  - Monthly zoom with full Cohort
- Community Call
  - Monthly zoom with all Making Spaces Cohorts (optional)

**Documentation**
- **Resources**
  - Shared Google Drive
  - Curated collections
  - Community Slack
- **Hub Portfolios**
  - To document process and share work with current and future Hubs
Making Spaces - Creating Sustainability

Culture
- Establish or refine program values and vision
- Create a more inclusive organization

Pedagogy
- Engage with maker-centered pedagogical strategies
- Develop activities within a maker-centered framework

Equity
- Implement anti-racist and anti-oppression tools
- Integrate liberatory and equity focused teaching practices

Community
- Build internal capacity & funding strategies
- Increase engagement and relevance with local community
● Location: Albuquerque, NM
● Birthdate: 1995
● 40,000 square feet
● Making Spaces Cohort 4 Hub
● Making Spaces Goal: To support each site in developing its own system of Makerspace values
Explora: Creating Makerspace Values

Initial survey results: concern about sustainability

Steps:

- Focus on values
- Develop logic models
- Require more than one participant per site
## Explora: Creating Makerspace Values

<table>
<thead>
<tr>
<th></th>
<th>M</th>
<th>A</th>
<th>K</th>
<th>E</th>
</tr>
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<tbody>
<tr>
<td>1</td>
<td>Making engages all learners, particularly those who are marginalized by traditional schooling methods.</td>
<td>Making helps young people develop good habits of mind.</td>
<td>Making allows youth to develop as artists, innovators, engineers, entrepreneurs, and problem-solvers.</td>
<td>Making allows youth to improve their lives and contribute to the communities around them.</td>
</tr>
<tr>
<td>2</td>
<td>Making programs support opportunities for developing interest and identity.</td>
<td>Making prepares young people for success in the jobs of tomorrow.</td>
<td>Making is an ideal platform to provide equitable educational opportunities to all.</td>
<td>Making is an ideal platform for applying previously taught content knowledge to new situations.</td>
</tr>
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<td>3</td>
<td>Making is learner-driven and connects to the intellectual passions of youth.</td>
<td>Making is easily adapted to culturally and linguistically responsive teaching and learning.</td>
<td>Through making, young people gain access to a wider variety of job opportunities.</td>
<td>Making develops critical thinking, creativity, communication, and collaboration.</td>
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Explora: Creating Makerspace Values

Social Justice and Equity - M1, A3, K2, E1

Workforce Development - M4, A2, K1, K3

Skill Development - M2, A1, K4, E3

Learning - M3, A4, E2, E4
<table>
<thead>
<tr>
<th>We believe (our values):</th>
<th>Based on (our strengths):</th>
<th>We aim to (our goals):</th>
<th>For whom (our audiences):</th>
<th>Because we know (our community needs):</th>
<th>We will succeed when (our metrics for success):</th>
</tr>
</thead>
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<tr>
<td>● E1 Making allows youth to improve their lives and contribute to the communities around them.</td>
<td>●</td>
<td>● (1) Provide opportunities for beginning ELs feel they can express themselves • (1) Create authentic purpose for making so that beginnings ELs feel like they are part of and contributing to the community • (2) Encourage K-2 girls to feel proud of their STEAM abilities • (2) Provide experiences for active engagement in STEAM for K-2 girls</td>
<td>● (1) Beginning English Learners</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>● E3 Making develops critical thinking, creativity, communication, and collaboration.</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
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Explora: Creating Makerspace Values

Session Structure:

- Network/community building activity
- Hands-on Maker activity
- Building sustainability activity
- Discussion/debrief
## Explora: Creating Makerspace Values

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Focusing on Early Childhood to Spark the Young Learner’s Interest in Making

- Location: Baton Rouge, Louisiana
- Birthdate: August 22, 2017
- 26,000 square feet
- One of our 18 learning zones is a dedicated and facilitated makerspace
- Making Spaces Cohort 4 Hub
We believe...making and tinkering is a pathway to STEAM careers for our youngest learners.

We aim...to grow leaders and provide professional learning experiences for early childhood educators.

We do this because...there is a gap in STEAM professional development in early education.

We will succeed when we have...built regional capacity to sustain, grow, and deepen the impact of maker-centered learning.
Who

- Cohort 1–9 sites: public schools, lab school, library branch from 3 parishes (counties)
- Leadership Teams: teacher representative from each grade PreK to 3rd plus administrator (principal, librarian, STEAM coordinator, etc)
Focusing on Early Childhood to Spark the Young Learner’s Interest in Making

How

- Mix of virtual and in-person professional development with making and tinkering themes ranging from light and shadow to circuits to kinetic sculpture and simple machines
- Constantly evaluating to meet sites’ needs
Focus on Phenomena

What

- The Next Generation Science Standards (and Louisiana’s State Standards) guide teachers on how to engage young students in science using phenomena.
- Phenomena are observable events that occur in the universe and that we can use our science knowledge to explain or predict.
- Our approach for Making Spaces aligns to these standards—we tinker with phenomena.

Spinning  Gravity and Balance  Force and Motion
The Literacy Connection

Much of what we do starts with a story. Children’s literature is ripe with ideas for maker-centered learning projects. We often use problems presented in children’s books to springboard our ideas.
Local Connections

What are the children seeing around their communities?

What events/holidays/etc. can jumpstart a maker project?

- Weather events (hurricanes, power outages, etc)
- Black History Month (Black Inventors and Inventions)
- Fairs and Festivals (tinkering with sound or simple machines)
● Location: Bentonville, Arkansas
● Birthdate: July 15, 2015
● 27,000 square feet
● Making Spaces Cohort 1 Hub
● The Amazeum exists to spark and nurture the curious and creative spirit in all of us. We do this by focusing on play and making/tinkering.
Building Community Through Cohort Model
6 cohorts
27 schools
10 districts
1 mission
<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thursday Sept 16, 2021</td>
<td>4:00-5:00 pm</td>
<td>Investigate Importance of Making</td>
</tr>
<tr>
<td>Thursday Oct 7, 2021</td>
<td>4:00-6:00 pm</td>
<td>Values and Vision</td>
</tr>
<tr>
<td>Thursday Nov 11, 2021</td>
<td>4:00-6:00 pm</td>
<td>Curriculum Integration</td>
</tr>
<tr>
<td>Thursday Dec 9, 2021</td>
<td>4:00-6:00 pm</td>
<td>Documentation and Assessment</td>
</tr>
<tr>
<td>Thursday Jan 13, 2022</td>
<td>4:00-6:00 pm</td>
<td>Implementation Strategies</td>
</tr>
<tr>
<td>Thursday Feb 17, 2022</td>
<td>4:00-6:00 pm</td>
<td>Supplies and Budget</td>
</tr>
<tr>
<td>March 2022</td>
<td>TBD</td>
<td>Site visits at individual schools</td>
</tr>
<tr>
<td></td>
<td></td>
<td>MCL introduction for school staff</td>
</tr>
<tr>
<td>Thursday April 7, 2022</td>
<td>4:00-6:00 pm</td>
<td>Fundraising for Sustainability</td>
</tr>
<tr>
<td>Thursday April 28, 2022</td>
<td>4:00-6:00 pm</td>
<td>Planning Next Steps</td>
</tr>
</tbody>
</table>
Ground Rules

Misery is Optional

Lean In as a Learner & Listener

Be raggedy

No one knows everything, together we know a lot
Strategies for Building Community: Profile Making

We are excited to bring new experiences to ALL our students. To 25 of them!
Strategies for Building Community: Mixing Teams
Strategies for Building Community: Shared Experiences
Strategies for Building Community: Utilizing Alumni
Strategies for Building Community:
Valuing Relationships
Questions?

Connect with us

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Lauren Butcher: lbutcher@explora.us
Alexandra Pearson: apearson@knockknockmuseum.org
Mindy Porter: mporter@amazeum.org