evidencing learning: identifying, measuring, and communicating your learning values

ACM Interactivity
May 2019
part 1

1. Project Overview
2. Defining Your Purpose for Measurement
3. Identifying Local Learning Values

part 2

1. Evidencing Learning
2. Identifying Observable Indicators
3. Designing Tools for Usability
4. Representation of Usable & Useful Data
5. Creating A Shared Language for Learning
shared problem of practice

- Documenting and assessing learning in children’s museums
- Articulating and communicating the value of learning in children’s museums
- Support staff to articulate and identify their own values with respect to learning in children’s museums
● Useable tool for documenting evidence of learning for practitioners
● Relevant & useful representation of data for improvement
● Articulate and communicate the value of making as a learning process to various stakeholders
  ● Engage in the process of co-design to develop a suite of observation tools to assess learning through making
    - Measurement Tool: Valid & Reliable
    - Improvement Tools: Based in “local learning values”
● Create professional learning resources for museums and libraries
Bay Area Discovery Museum Learning Outcomes

initial goals:
● a shared vision for education programs at BADM
● a guide for staff
● a tool for external communications about learning at BADM

guiding questions
● how can we unify learning goals across all museum programs?
● how can we assess whether programs support these goals?
a practice-based approach to learning

- Observable evidence of learner engagement
- Focused on the actions and interactions of learners as they engage in learning processes, rather than on the end results of their experience
- Fundamentally tied to the social and cultural contexts in which it occurs*
- Common language identified and developed collaboratively between researchers and practitioners
- Articulates ways to conceptualize, support, evaluate and assess learning through design

*(e.g. Brown, Collins, & Duguid, 1989; Lave & Wenger 1991; Gutierrez and Rogoff 2003)
## Learning Practices of Making

<table>
<thead>
<tr>
<th>Practice</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Inquire</strong></td>
<td>Learners’ openness and curious approach to the possibilities of the context through exploration and questioning of its material properties.</td>
</tr>
<tr>
<td><strong>Tinker</strong></td>
<td>Learners’ purposeful play, testing, risk taking and evaluation of the properties of materials, tools and processes.</td>
</tr>
<tr>
<td><strong>Seek &amp; Share</strong></td>
<td>Learners’ identification, pursuit/recruitment and sharing of expertise with others; includes collaboration and recognition of one’s unfamiliarity and desire to learn.</td>
</tr>
<tr>
<td><strong>Hack &amp; Repurpose</strong></td>
<td>Learners’ harnessing and salvaging materials, tools and processes to modify, enhance or create a new product or process; includes disassociating object property from familiar use.</td>
</tr>
<tr>
<td><strong>Express Intention</strong></td>
<td>Learners’ discovery, evolution and refinement of personal identity and interest areas through determination of short and long term goals; includes learners’ responsive choice, negotiation and pursuit of goals alone and with others.</td>
</tr>
<tr>
<td><strong>Develop Fluency</strong></td>
<td>Learners’ development of comfort and competence with diverse tools, materials and processes; developing craft.</td>
</tr>
<tr>
<td><strong>Simplify to Complexify</strong></td>
<td>Learners’ demonstration of understanding of materials and processes by connecting and combining component elements to make new meaning.</td>
</tr>
</tbody>
</table>
learning practices of making mediating outcomes

- **Tinker**
  - Persistence
  - Problem Solving

- **Develop Fluency**
  - STEM Content Knowledge
  - Career Readiness

- **Seek & Share Resources**
  - Collaboration
  - Communication
Context, Purpose, Stakeholders
play, tinker, make, engineering
science museum of minnesota

STEM interpretation
General Museum Volunteer Program

Experience facilitation
Play Tinker Make Engineer
play, tinker, make
science museum of minnesota

problem of practice
play, tinker, make

Science Museum of Minnesota

key stakeholders
tinkering at the montshire

Pneumatics Play: Air Works exhibition

Scribble Bots: Tinkering Loft
tinkering at the montshire
better understanding our work

- Observe learning in both facilitated and un-facilitated experiences to inform exhibit and program design and facilitator training.

- Develop a shared observation tool that honors Montshire’s goals and criteria for tinkering.
tinkering at the montshire sharing & communicating our vision

- Exhibit development and program design teams.
- Museum-wide staff
- Floor staff: facilitators
- Museum leadership
- Funders and other stakeholders.
children’s museum pittsburgh
Our mission is to transform research into early learning experiences that inspire creative problem solving
BayAreaDiscoveryMuseum.org / Facebook & Instagram: @BayAreaDiscoveryMuseum / Twitter: @BADM_org
our process:

1. review *learning practices of making*
2. identify and refine local learning values
3. document and refining values
4. Identify indicators of learning values
5. creation and revision of usable tools
6. engagement with data to improve practice
Our mission is to transform research into early learning experiences that inspire creative problem solving
BayAreaDiscoveryMuseum.org / Facebook & Instagram: @BayAreaDiscoveryMuseum / Twitter: @BADM_org

our process: BADM

Stakeholder interviews:

What are our educational values?
What is important for children to learn through experiences at BADM?

- Research
- Input from teams
- Development of indicators
- Development of tool
Identify Museum-Wide Learning Goals
- Internal Context
- External Context

Develop Instrument for Self-Assessment

Formative Evaluation and Program Refinement

Future: Potential for Summative Evaluation and External Sharing
<table>
<thead>
<tr>
<th></th>
<th>Explore &amp; Tinker</th>
<th>Persistence &amp; Skill Building</th>
<th>Relationship Building</th>
<th>Creative Thinking &amp; Doing</th>
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<tr>
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<td>Engineering</td>
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<tr>
<td><strong>CPL</strong></td>
<td>Messing Around</td>
<td>Geeking Out</td>
<td>Community Building</td>
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</tr>
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<tr>
<td></td>
<td>Test</td>
<td>STEM-Content</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Iterate</td>
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## Learning Values Across Sites

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<td>Iterate</td>
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</tr>
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</table>
BADM Learning Goals

- Be Curious
- Come Up with New Ideas and Try Them Out
- Make Thoughtful Decisions
- Communicate Thinking
- Take Risks and Persist Through Challenge
- Learn to Collaborate
- Build STEM Knowledge
identifying learning values

3-5 post-its per question

- as a learner, what do you personally value in a learning experience?
identifying learning values

3-5 post-its per question

- as a **learner**, what do you personally value in a learning experience?
- as a **designer**, what learning goals do you design to support?
identifying learning values

3-5 post-its per question

- as a learner, what do you personally value in a learning experience?
- as a designer, what learning goals do you design to support?
- as an organization, what are your learning values?
identifying learning values

3-5 post-its per question

• as a **learner**, what do you personally value in a learning experience?

• as a **designer**, what learning goals do you design to support?

• as an **organization**, what are your learning values?

*Look for similar constructs across all three categories? synthesize and group them.*
identifying learning values

with a partner

1. are there similar constructs that you share with your partner?

2. which of these are actionable? That you can apply to your work.
<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
<th>Example</th>
</tr>
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<tr>
<td>Learning Principle</td>
<td>The affordances of design for learning, or the aspects of designed experience that staff facilitate, create or provide to support learner engagement in the learning practices</td>
<td>Curation of Resource</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Social Learning Context</td>
</tr>
<tr>
<td>Learning Value/Practice</td>
<td>The learning behavior: the thing the learning does</td>
<td>Seek &amp; Share Resources</td>
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identifying learning values

with a partner

1. are there similar constructs that you share with your partner?

2. which of these are actionable? That you can apply to your work.

3. choose three learning values; work together to reframe them to become a learning behavior (verb).
identifying learning values

with a partner

1. are there similar constructs that you share with your partner?

2. which of these are actionable? That you can apply to your work.

3. choose **three** learning values; work together to reframe them to become a learning behavior (verb).

4. Synthesize across your table and choose three that are common across your group.
looking ahead to the next session

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thank you!

For more information, visit:

makingobservations.org

bayareadiscoverymuseum.org/about/learning-goals
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  abank@pittsburghkids.org
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  jokmin@badm.org
evidencing learning: identifying, measuring, and communicating your learning values

part 2

welcome!

as you walk in, you will notice that there is a different learning value on each table.

please find a learning value that has meaning to you and sit at that table.

if a table is full, please find another table at which to sit.
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What does it mean to evidence learning?

“...assessment as an evidentiary argument about students’ learning and abilities given their behavior in particular circumstances.” (Gorin, 2012)

- Ongoing
- Performance-based
- Formative (DiCerbo, Shute, & Kim, 2017)
what does it mean to evidence learning?

Think of something you understand or do really well.

Think of three different ways someone else would know that you understand or do this thing really well?

how might you know that I am good at making pancakes?
what does it mean to evidence learning?

brainstorm five different kinds of evidence of learner engagement in the learning value at your table.
<table>
<thead>
<tr>
<th>Subjective</th>
<th>Objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Curiosity</td>
<td>Buttons</td>
</tr>
<tr>
<td>Sleeping</td>
<td>Shoes</td>
</tr>
<tr>
<td>Chewing someone out</td>
<td>Boots</td>
</tr>
<tr>
<td>Talking</td>
<td>6 people</td>
</tr>
<tr>
<td>Not current</td>
<td>1 newspaper</td>
</tr>
<tr>
<td>Traveling</td>
<td>4 signs</td>
</tr>
<tr>
<td>train/subway</td>
<td>Moutain</td>
</tr>
<tr>
<td></td>
<td>Hats</td>
</tr>
</tbody>
</table>
what do you see?
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</tr>
<tr>
<td>Indicators of Learning</td>
<td>Observable evidence of the learner engagement in the context. What you can actually see.</td>
<td>Seeking /Sharing information about a tool, material or process</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Seeking/Sharing assistance with a tool, material or process</td>
</tr>
</tbody>
</table>
identifying observable indicators of learning

review your list of evidence of learner engagement in the learning value at your table.

refine the list to include only observable indicators of learner engagement in the learning value at your table.
designing tools for usability
### Observation Tool: Tinkering and Making at Montshire (v4.1)

#### Inquire
**Mess around with materials**
- Messing around with and exploring materials
- Discovering a principle

#### Test
**Investigate a principle through experimentation**
- Investigating a principle through experimentation
- Playful use of tools, materials and/or processes
- Identification of problem to be solved
- Tested a thing they made
- Trying (system) multiple times

#### Iterate
**Make a change based on observable results**
- Applying principle and/or knowledge to solve problem
- Making a change based on observable results

#### Persist
**Engage in worthwhile struggle**
- Persevering through setbacks and/or failures
- Worthwhile (to learner) struggle
- Focus/deep involvement

#### Create
**Allow for divergent solutions**
- Unconventional use of tools and materials
- Novel solution(s) (looks different than others)
- Divergent Solutions
- Integrating personal narrative into product
- Nonconventional definitions of success

#### Share
**Collaborate and share expertise**
- Observing others
- Displaying work
- Sharing expertise
- Learning solutions and techniques from other learners
- Sharing incomplete or completed work with others
- Celebrating in a public context

**Problem learner is solving:**

**Notes on social learning and interactions:**

**Facilitation: Who?**
*(staff, parent, peer, etc.)*

**Facilitation Level:**

<table>
<thead>
<tr>
<th>None</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>High</th>
</tr>
</thead>
</table>

**Emotion observed (affect):**

- No joy
- Joy!
### Observation Tool: Tinkering and Making at Montshire (v4.1)

<table>
<thead>
<tr>
<th>Inquire</th>
<th>Test</th>
<th>Iterate</th>
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<tbody>
<tr>
<td>(Mess around with materials)</td>
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<td>□ Messing around with and exploring materials</td>
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<td>□</td>
<td>□ Identification of problem to be solved</td>
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</tr>
<tr>
<td>□</td>
<td>□ Tested a thing they made</td>
<td></td>
</tr>
<tr>
<td></td>
<td>□ Trying (system) multiple times</td>
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Engagement Scale: 1 2 3 4 or N/A

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<th>Persist</th>
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<tr>
<td>(Engage in worthwhile struggle)</td>
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<td>□ Integrating personal narrative into product</td>
<td>□ Collaborating</td>
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<tr>
<td></td>
<td>□ Nonconventional definitions of success</td>
<td>□ Learning solutions and techniques from other learners</td>
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<tr>
<td></td>
<td></td>
<td>□ Sharing incomplete or completed work with others</td>
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<td></td>
<td>□ Celebrating in a public context</td>
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Engagement Scale: 1 2 3 4 or N/A

Problem learner is solving:

Notes on social learning and interactions:

Facilitation: Who? (staff, parent, peer, etc.)

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Emotion observed (affect):

- No joy
- Joy!
### Observation Tool: Tinkering and Making at Montshire (v4.1)

#### Inquire
* (Mess around with materials)*
- Messing around with and exploring materials
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#### Emotion observed (affect):

- No joy
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Observation Tool: Tinkering and Making at Montshire (v4.1)

<table>
<thead>
<tr>
<th>Observer Name:</th>
<th>Date:</th>
<th>Start Time:</th>
<th>End Time:</th>
<th>Total Time:</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Exhibit/program title:</th>
<th>Purpose of Observation:</th>
<th>Science Concept Explored:</th>
</tr>
</thead>
</table>

Treatment, materials, facilitation method being evaluated (if applicable):

<table>
<thead>
<tr>
<th>Individual perceived age and sex in social group at exhibit:</th>
</tr>
</thead>
<tbody>
<tr>
<td>(individual #1 is primary learner being observed)</td>
</tr>
<tr>
<td>#1 □ Pre-K □ age 6-8 □ age 9-12 □ age 13-18 □ Adult □ Male □ Female</td>
</tr>
<tr>
<td>#2 □ Pre-K □ age 6-8 □ age 9-12 □ age 13-18 □ Adult □ Male □ Female</td>
</tr>
<tr>
<td>#3 □ Pre-K □ age 6-8 □ age 9-12 □ age 13-18 □ Adult □ Male □ Female</td>
</tr>
<tr>
<td>#4 □ Pre-K □ age 6-8 □ age 9-12 □ age 13-18 □ Adult □ Male □ Female</td>
</tr>
<tr>
<td>#5 □ Pre-K □ age 6-8 □ age 9-12 □ age 13-18 □ Adult □ Male □ Female</td>
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</tbody>
</table>

Learner Context (group composition, family dynamic, etc.)

<table>
<thead>
<tr>
<th>Total number in group:</th>
<th>□ Working alone</th>
<th>□ With peers, working with peers</th>
<th>□ With family, working with family</th>
<th>□ With peers, working alone</th>
<th>□ With family, working alone</th>
<th>Learner Experience Observed</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(circle)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Partial / Full</td>
</tr>
</tbody>
</table>

Additional Notes and Observations

Notes on Exhibit Design: what works well, what needs improvement, possible solutions:
OUTCOME: COME UP WITH IDEAS AND TRY THEM OUT

Overall, does your observation indicate that the child was coming up with (new, different?) ideas and trying them out? YES _____ NO _____

<table>
<thead>
<tr>
<th>BE CURIOUS - Look for children:</th>
<th>NOTES: what you saw/heard</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Express or create a unique idea, combination of ideas, or solution</td>
<td></td>
</tr>
<tr>
<td>Did you observe this behavior?</td>
<td></td>
</tr>
<tr>
<td>Yes __________ No __________</td>
<td></td>
</tr>
<tr>
<td>(2) Repeat an idea and/or tinker and experiment</td>
<td></td>
</tr>
<tr>
<td>Did you observe this behavior?</td>
<td></td>
</tr>
<tr>
<td>Yes __________ No __________</td>
<td></td>
</tr>
<tr>
<td>(3) Engage in pretend play or symbolic thinking (uses one object or symbol to represent something else)</td>
<td></td>
</tr>
<tr>
<td>Did you observe this behavior?</td>
<td></td>
</tr>
<tr>
<td>Yes __________ No __________ N/A _____</td>
<td></td>
</tr>
<tr>
<td>(4) Test an idea/solution and observe the results</td>
<td></td>
</tr>
<tr>
<td>Did you observe this behavior?</td>
<td></td>
</tr>
<tr>
<td>Yes __________ No __________</td>
<td></td>
</tr>
</tbody>
</table>
**OUTCOME: MAKE THOUGHTFUL DECISIONS**

Overall, does your observation indicate that the child was making thoughtful decisions?

**YES ____ NO ____**

<table>
<thead>
<tr>
<th>BE-CURIOUS—Look for children:</th>
<th>NOTES: what you saw/heard</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Makes a choice</td>
<td>Exhibits self-control when making a choice</td>
</tr>
<tr>
<td>Did you observe this behavior?</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>(2) Plans their process</td>
<td>Demonstrates planning through conversation, writing/drawing, models, interactions, etc.</td>
</tr>
<tr>
<td>Did you observe this behavior?</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>(3) Evaluates or compares</td>
<td>Considers, evaluates and/or compares multiple ideas, methods or solutions</td>
</tr>
<tr>
<td>Did you observe this behavior?</td>
<td></td>
</tr>
</tbody>
</table>

---

*Scott Burg*
- This is tough one!
- You should be more specific here. Makes a choice about what? ‘Exhibits self-control when making a choice?’
- Again, this indicator feels a bit too broad. I’m having trouble envisioning what ‘planning a process’ would look like. How about, ‘Makes plans and follows through with their process.’ Or, ‘Uses vocabulary/interactions, etc. when planning their process.’
- How does this indicator differ from #1?
<table>
<thead>
<tr>
<th>Outcome</th>
<th>Major Concepts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Come up with ideas and try them out.</td>
<td>Engagement, divergent thinking, STEM experimentation, original ideas, define problems, cognitive flexibility</td>
</tr>
</tbody>
</table>

3-5 years: Examples of Indicators

*Children in this age group will demonstrate this outcome when they:*

- Think of unique and original ideas
- Connect an idea to a problem that can be solved (figure out how to build a tall tower with blocks)
- With support, make a theory about the world and test it
- Carry an idea to fruition (put pennies on a plane to make it go farther)
Date:

Your name:

Program/exhibit observed:

Learning outcome:

Overall insights: *e.g. what did I notice? Any patterns of behavior? Anything that can be generalized?*

Successes and/or challenges observed:

Changes I am now considering to my programs as a result of this evaluation session:

Questions I now have:
representation of usable & useful data
observation context: wind tube
# Observation Tool: Tinkering and Making at Montshire (v4.1)

<table>
<thead>
<tr>
<th>Inquire</th>
<th>Test</th>
<th>Iterate</th>
<th>Notes</th>
</tr>
</thead>
</table>
| (Mess around with materials)  
- Messing around with and exploring materials  
- Discovering a principle  | (Investigate a principle through experimentation)  
- Investigating a principle through experimentation  
- Playful use of tools, materials and/or processes  
- Identification of problem to be solved  
- Tested a thing they made  
- Trying (system) multiple times  | (Make a change based on observable results)  
- Applying principle and/or knowledge to solve problem  
- Making a change based on observable results  | "It’s a kite!"  
- Hard to center grandchildren  
- Made both "rackets" in pen  
- Still need working  |

<table>
<thead>
<tr>
<th>Persist</th>
<th>Create</th>
<th>Share</th>
<th>Notes</th>
</tr>
</thead>
</table>
| (Engage in worthwhile struggle)  
- Persevering through setbacks and/or failures  
- Worthwhile to learner struggle  
- Focus/deep involvement  | (Allow for divergent solutions)  
- Unconventional use of tools and materials  
- Novel solution(s) looks different than others  
- Divergent Solutions  
- Integrating personal narrative into product  
- Nonconventional definitions of success  | (Collaborate and share expertise)  
- Observing others  
- Displaying work  
- Asking for help  
- Documenting work  
- Sharing expertise  
- Collaborating  
- Learning solutions and techniques from other learners  
- Sharing incomplete or completed work with others  
- Celebrating in a public context  | "- grandpa + 1 yr old grand daughter"  
- "grandpa + 1 yr old grand daughter"  
- "laughing together"  
- "let’s try this, let’s try that - supportive"  
- "grandpa stayed a couple minutes late"  |

| Problem learner is solving:  
- "let’s make a parachute!"  
- "well make a cloth bubble"  
- "let’s make fish"  | Notes on social learning and interactions:  
- Grandparents: stepping back & letting kid handle Bond!  
- "let’s try this, let’s try that - supportive"  
- "grandpa stayed a couple minutes late"  |

| Facilitation: Who?  
- (staff, parent, peer, etc.)  
- Grandparents  | Facilitation Level:  
- None  
- 1  
- 2  
- 3  
- 4  
- High  |

| Emotion observed (affect):  
- No joy  
- Sad  
- Displeased  
- Happy  |

| Affect (descriptive word):  
- Bumming around  
- Excited  |

Engagement Scale: 1 2 3 4 or N/A
representation of usable & useful data
representation of usable & useful data

TEST

<table>
<thead>
<tr>
<th>Indicator of Test</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investigating a principle through experimentation</td>
<td>20%</td>
</tr>
<tr>
<td>Playful use of tools, materials and/or processes</td>
<td>10%</td>
</tr>
<tr>
<td>Identification of problem to be solved</td>
<td>60%</td>
</tr>
<tr>
<td>Tested a thing they made</td>
<td>80%</td>
</tr>
<tr>
<td>Trying (system) multiple times</td>
<td>40%</td>
</tr>
</tbody>
</table>
a case of organizational change

- Success Stories
- Challenges
Clay Paintings
10:30 – 11:30 a.m.
Explore clay in a new way as you use colorful clay to make a tactile painting.
Learning Goal: Make Thoughtful Decisions
Ages: 3-10

Animal Evidence
1 - 2 p.m.
Children will explore and connect to the natural world around them by comparing, contrasting, and categorizing different animal footprints and animal evidence.
Learning Goal: Be Curious
Ages: 3-10

Support Your Child’s Learning
Prompt your child to process input of their end product, support their growth mindset, which is the end result.

Support Your Child’s Learning
Ask your child open-ended questions about the evidence animals leave behind. This can lead to further exploration and reflection about the ways we also leave a mark on the world around us.
learning value

- Curiosity
- Creativity
- Collaboration
- Risk-Taking
- Wonder
- Making Choices

ACM workshop learning values

obsorable indicators

- asking follow questions
- inspecting objects or spaces
- handling or playing with materials
- making eye contact/pointing
- seeking out other sources of info
- showing excitement/engagement/eagerness
- taking notes
- spending time on task
- retelling, explaining, sharing with someone else (dragging someone along)

- trying different methods, materials, skills, or techniques
- sharing or documenting the story
- variety in final product (uniqueness)

- working together and/or helping another
- listening to others
- watching a task progress
- encouraging others
- engaging others in conversation

- multiple attempts to complete a challenge (persistence)
- trying something new (nerves)
- facial expressions
- fearlessness (time it takes to do first attempt)

- ooohs and ahhhs
- fixed attention or staring
- pointing
- gazing with mouth open
- "what if" questions

- verbal request for materials or exhibits
- physically stopping
- scanning environment for options
- movement towards an area of interest
- written responses after visits
- time spent in exhibit areas
thank you + next steps

• Refining & Designing Tools
• Online Toolkit: makingobservations.org
• Professional Development Opportunities
Lisa Brahms - Children’s Museum of Pittsburgh
lbrahms@pittsburghkids.org

Peter Wardrip - University of Wisconsin Madison
wardrip@wisc.edu

Annie McNamara - University of Pittsburgh
anne.mcnamara10@gmail.com

Keith Braafladt - Science Museum of Minnesota
keithb@smm.org

Greg DeFrancis - Montshire Museum of Science
greg.defrancis@montshire.org

Alison Bank - Children’s Museum of Pittsburgh
abank@pittsburghkids.org

Janine Okmin - Bay Area Discovery Museum
jokmin@badm.org