



NISE
NATIONAL INFORMAL
STEM EDUCATION
NETWORK

**Effective Facilitation
techniques and strategies to have
conversations with your audiences**

Session Agenda

- **Brief overview of NISE Network resources**
- **NISE Network partner presentations**
 - **Stephanie Long**, Science Museum of Minnesota, Saint Paul, MN
 - **Sean Rooney**, Oregon Museum of Science and Industry (OMSI), Portland, OR
 - **Josh Sarver**, Center of Science and Industry (COSI), Columbus, OH
 - **Anika Taylor**, The Bakken Museum, Minneapolis, MN
- **Q & A**

All resources available online after the meeting:
nisenet.org/2019-partner-meeting



Activity & Content Training Films

vimeopro.com/nisenet/explore-science-earth-space



Explore Science: Earth & Space Toolkit Training Videos

These Explore Science: Earth & Space toolkit activity and content training videos were developed by the National Informal STEM Education Network (NISE Net).



Edu-Cathalon: A facilitation...



Exploring Earth: Temperatur...



Exploring the Solar System:...



Exploring the Universe:...



NISE Network Resources

nisenet.org/About_Professional_Development

*Training videos, online workshops,
guides and more!*

Facilitation Strategies (specific to Earth & Space):

- Misconceptions films
- Edu-cathalon
- Training Films

Facilitation Cheat Sheets:

- “Tips for Engaging Visitors”
- “Strategies for Engaging Bilingual Audiences”
- “Tips for Engaging Girls”



**Science
Museum**
of Minnesota™

Stephanie Long

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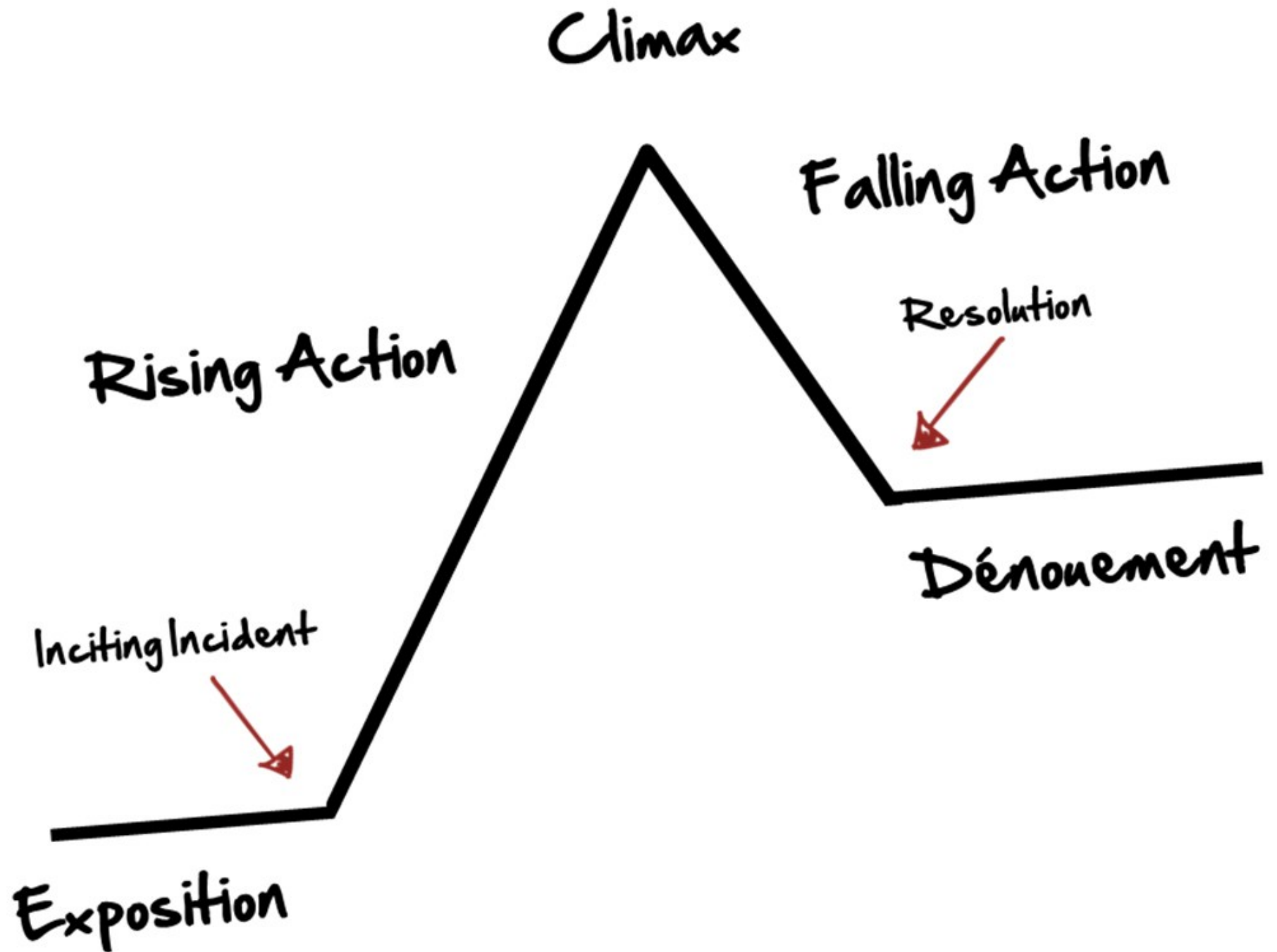
**SCIENCE
LIVE**

Live shows daily
With your museum admission



Stories are just data with a soul

– Brene Brown



Story Treatment

Audience

Target audience

Length

Total running time of your story

Place Performed

Description of the space

Setting

The place where the story's events occur

Goals

No more than three goals

Content

Description of theme and characters

Scenario

Outline of action and plot



Write for the stage not the page

– Truman Capote

Laughter is good for thinking
because when people laugh, **it is
easier for them to admit new ideas
into their minds.**

– Dalai Lama

The Five Fs

- FLAWS
- FAILURES
- FRUSTRATIONS
- FIRSTS
- FEARS



Best Practices for Science Stories:

Understand how your story connects to the mission of the exhibit.

Prepare a flexible outline of your story in advance.

Identify the hook, conflict, climax and the resolution.

Warm up your mind and body before engaging with the public.

Listen to your audience. Allow for silence.

Watch for body language.

React and adapt to your audience and respond in a positive manner.

Honor what the visitor brings to the conversation.

The Log Line

- Protagonist
- Life upended when
- The hero commits to action



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OMSI



Sean Rooney

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Building with Biology

Activities and Conversations about Synthetic Biology

NISEnet Project Goals:

- Multi-directional conversations between scientists and the public

OMSI Project Goals:

- Promoting volunteer growth by utilizing strengths of scientists and teen volunteers

Volunteer Floor Staff

Teen Volunteers

- Informal-ed experience
- Connect with youth well

Scientist Volunteers

- Formal-ed experience
- Connect with adults well
- Content experts



Training Strategy

Teen Volunteers

- Attend training with scientists
- Intro lecture
- Teens as participants in forum

Scientist Volunteers

- Explore informal environment
- Train and practice kit
- Teens provide feedback



Event Strategy

Pair up teen with scientist

- Co-learners
- Building new skills

Rotate volunteers

- Various skills practiced
- No facilitation in middle



Reflection:

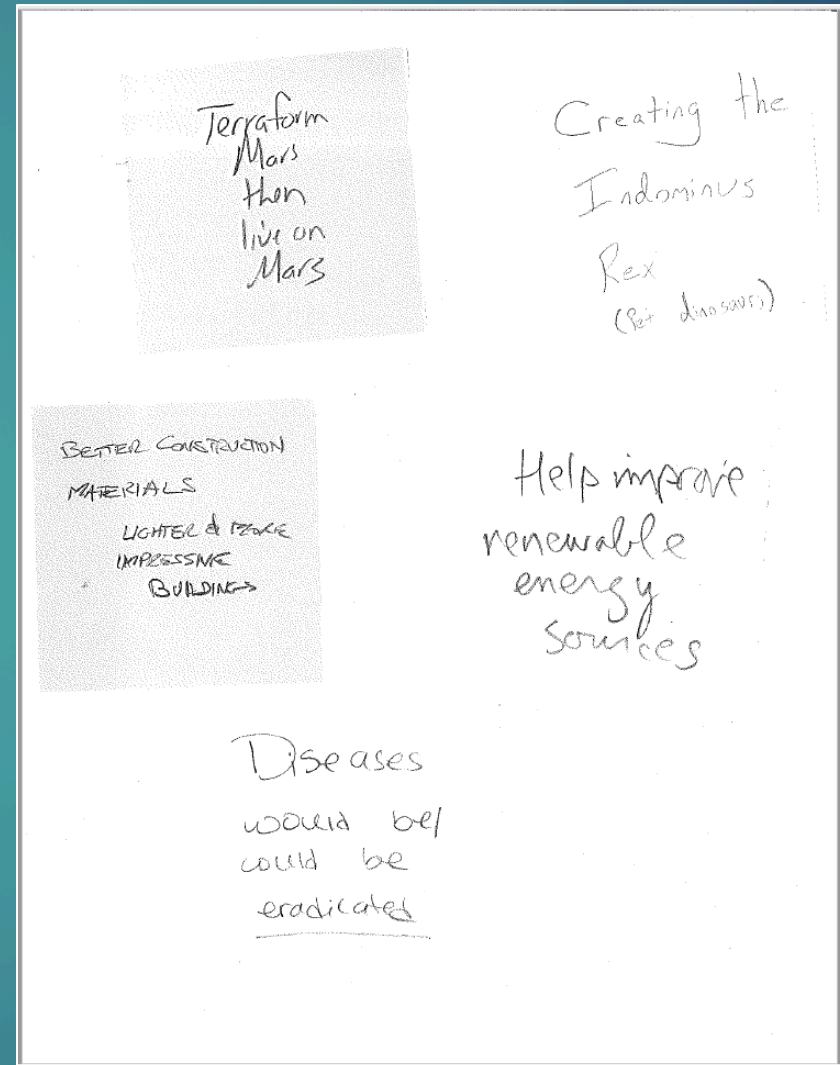
How might synthetic biology change our lives?

Immediate

- Enthusiasm shared by all
- Should have rotated more
- Add another session of debrief as a team

Now

- Kit activities are used only by experienced staff
- How to fix?—Do again



Josh Sarver

Vice President of Exhibits & Programs

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TO ENGAGE, INSPIRE, & TRANSFORM

**lives and communities by being the best partner
in science, technology, and industry learning**



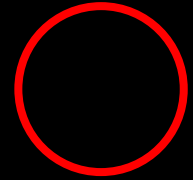




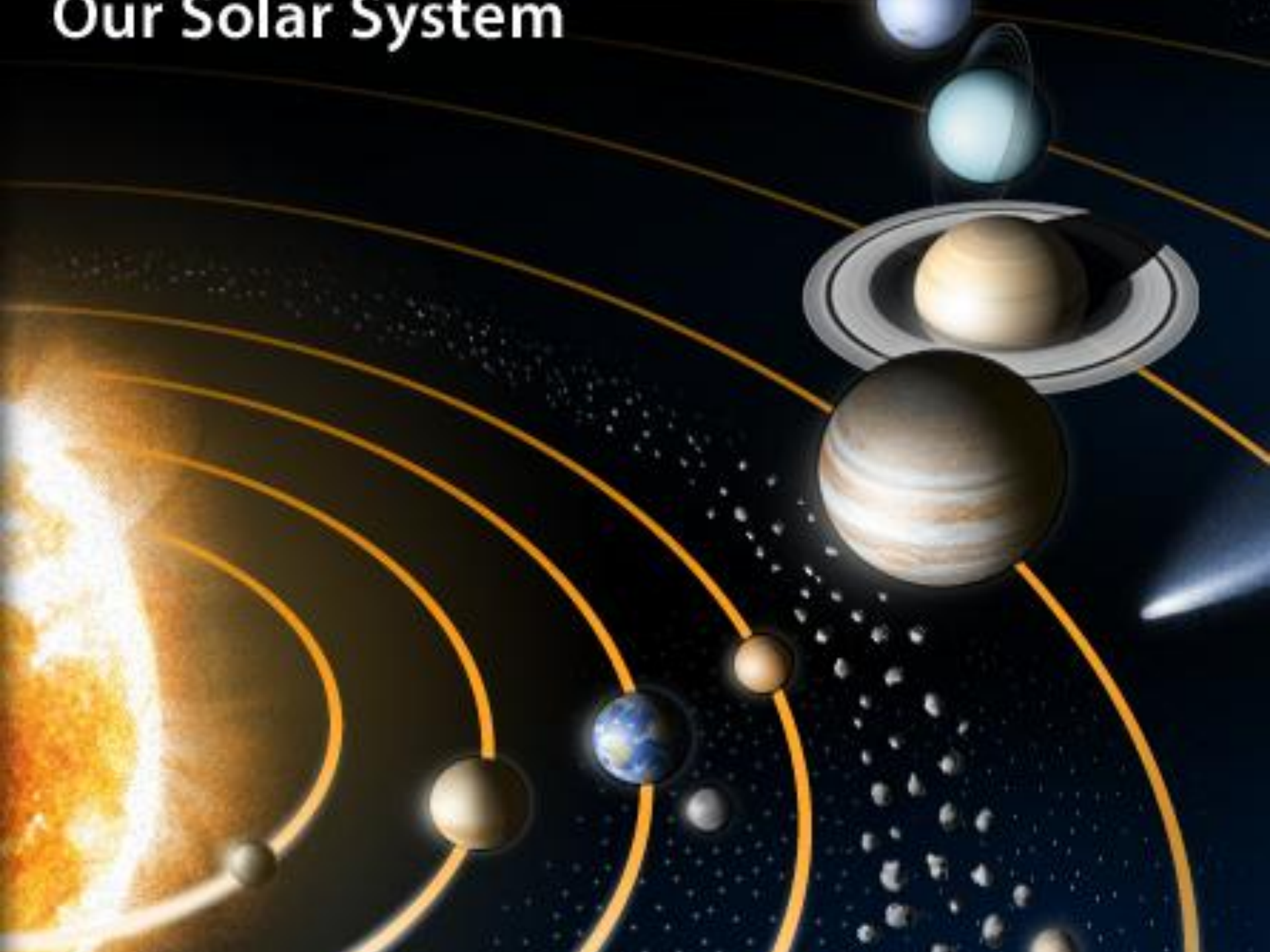


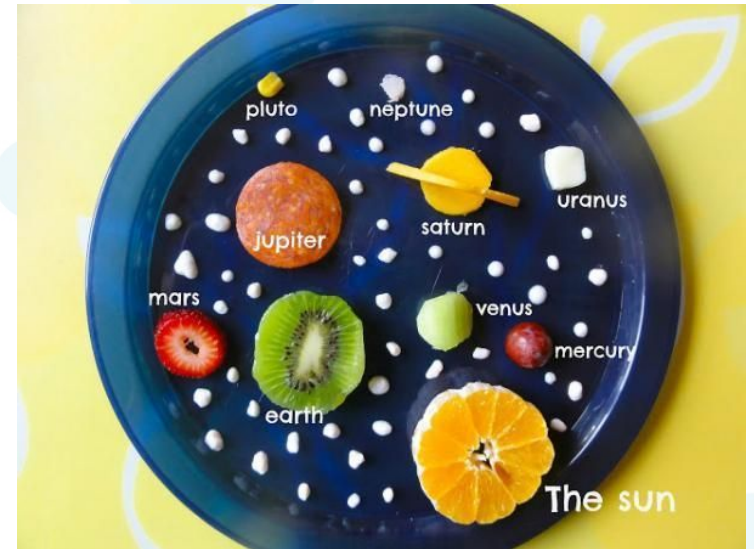
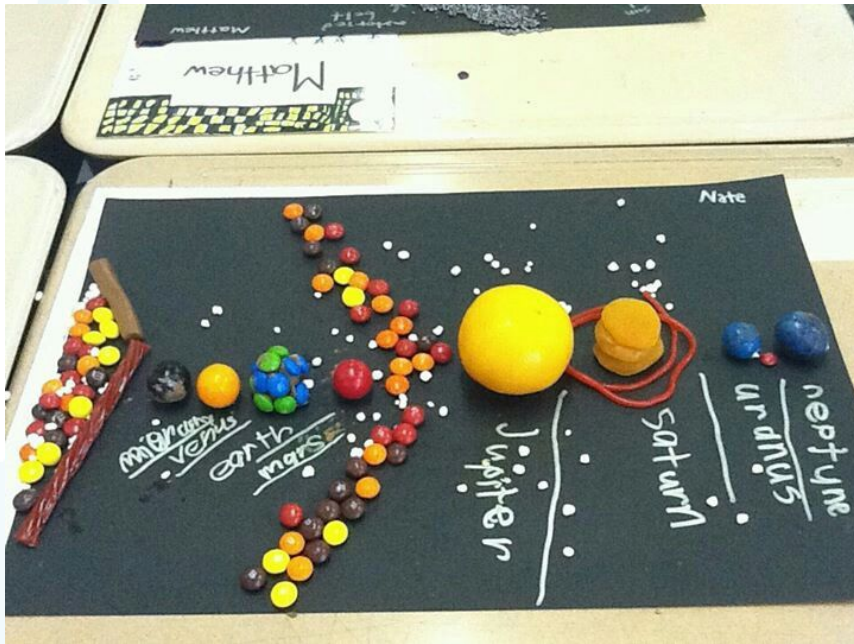
Photo Courtesy of Mae Goh Primary School

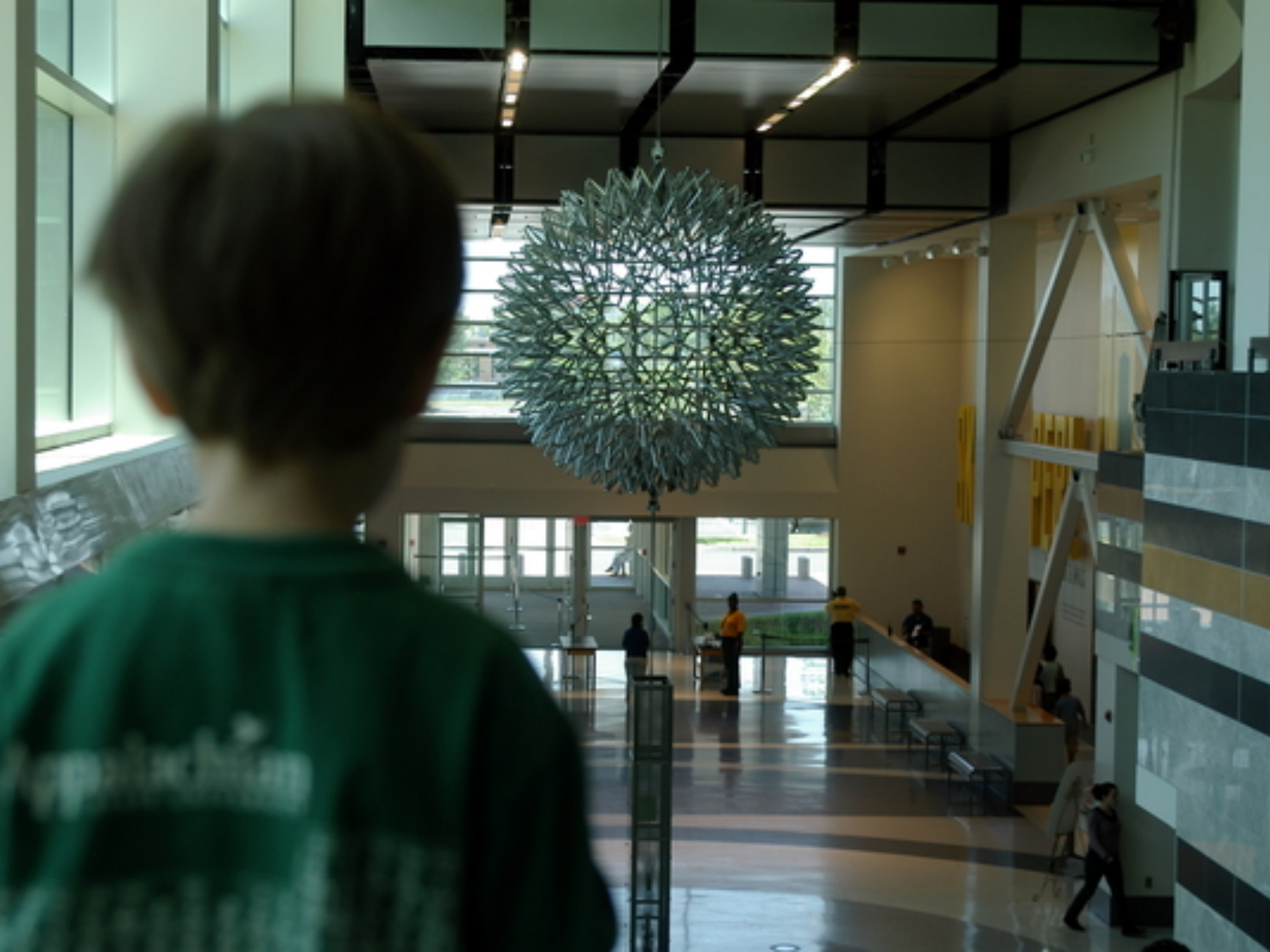




Our Solar System









GoSi
Center of Science and Industry

Saturn

Uranus

Neptune



ASTRONOMY



Josh Sarver

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The Apple and The Banana

Or

(For Today's Purposes)

Dr. Apple and Ms. Banana



Anika Taylor
Associate Director of Education
The Bakken Museum
taylor@thebakken.org

The Apple

The “expert” educator

- Explains content
- Performs demos
- Manages flow and timing
- Asks closed questions

The Banana

The confused, under-informed, or skeptical educator

- Is learning the content
- Models making mistakes
- Ask direct questions to the apple
- Asks open questions of the audience
 - Often provides comic relief

Advantages

- Audience can identify with the Banana
 - It's okay not to know something
 - It's okay to make mistakes
- Audience can teach the Banana
 - Banana can ask questions of the audience about how to learn something or why
 - Audience can guide the Banana and take on expert role, thus building engagement and confidence
- Modeling that science is a human endeavor and often well served by working in team
- The Banana can wind them up while the Apple can maintain control over the chaos
- Two person shows tend to be more entertaining
- Traveling with a team of two is often more pleasant

Disadvantages

- It takes more time
 - To train people
 - To perform (2 people's time per program)
- It takes more finesse
 - Understanding the role of the earnest doofus
 - Understanding the role of the tolerant though sometimes annoyed educator
- It costs more money

Questions?

All resources available online after the meeting:
nisenet.org/2019-partner-meeting



THANK YOU!



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nisenet.org

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nisenet.org/newsletter



Social networking:
nisenet.org/social

