

# STEM Cohort B PD/Planning Day - August 4/Sept. 14, 2016

**WELCOME BACK!**

Introductions/Snacks

Sign into Schoology.

Take Teacher STEM survey in our PL folder

## #2 Opener

### Matt's commercial

Reflect or write your beliefs statement about teaching and learning. How do practices align with beliefs? Reflect on reading and Shifts in science.

(Where the Hell is Matt video linked in our PL folder for today)

## #1 Grounding/

### Engage:

\*Read, Review, Revise

Agenda

\*Personal Learning

Target in S and E

notebook

\**Invent to Learn* reading

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# NGSS/STEM

## Mini-Lesson

Review the NGSS 3 dimensions.

How is STEM and NGSS related?

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# What are Systems and Structures that make a thinking rich classroom?

Mini - Lesson/Explain:  
Separate out into math  
and science groups



**All Standards for all Students**

**CDE Summer Planning Institute**

**Joanna Bruno - State Science Coordinator**



# Science Phenomena



Phenomena may not be Phenomenal



# Arches National Park

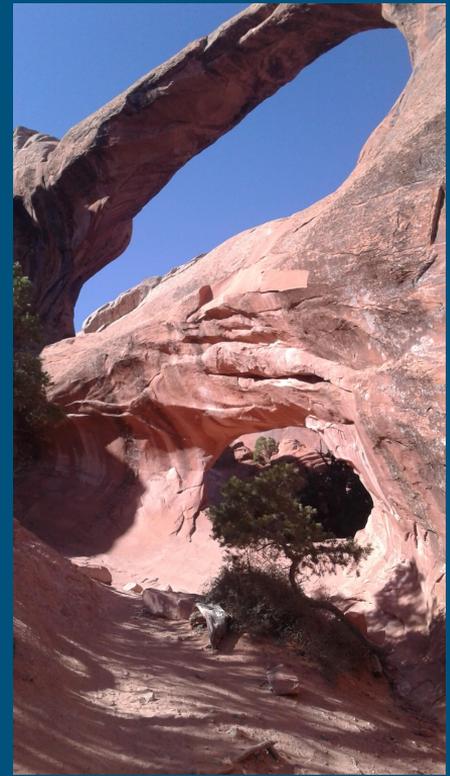
Almost 2000 arches in this region of Utah



# Delicate Arch in Winter



# My Hiking Adventure in Arches this summer!



# ENGAGE: First Thinking/Group Thinking

- Record your thinking in the first box regarding this prompt:
- How were these Arches created? What do I already know, what do I wonder about? Have you been there?
- As a group, share your first thinking. Add only new thinking to the second box.

# Performance:

Phenomenon: Large arches in rock formations can be seen in Arches National Park.

## Group Performance (Explore/Explain)

1. [Develop questions](#) to obtain information for the causes of arches forming in rock formations.
2. [Obtain information](#) to use as evidence to support explanations for the mechanisms that caused rock arches to form in Arches National Park over time.
3. [Construct an explanation](#) for the causes of rock arches forming in Arches NP. (CER poster)
4. [Develop a model](#) to show the changes in a system that cause the formation of arches over time in Arches NP.

## Individual Performance - Elaborate

5. [Develop an argument](#) for how or why your evidence supports your group's explanation for the causes of arches forming in Arches National Park. Create a CER poster and Use your group's model to help [communicate the argument](#). (Elaborate)

## Group Discussion

### Reflection/Evaluate

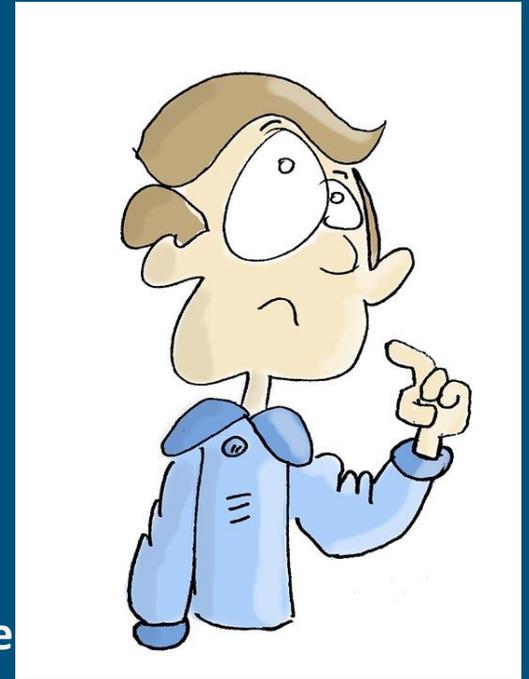
6. [Reflect](#) on the nature of science instruction that leads students to use the practices to: a) Gather information through exploring phenomena, b) develop explanations based on evidence, and c) communicate using models and written arguments for the causes of changes in systems.
7. [Reflect](#) on the Core Ideas and evidence needed to make sense of this phenomenon.



# Debrief/Reflection

## Students

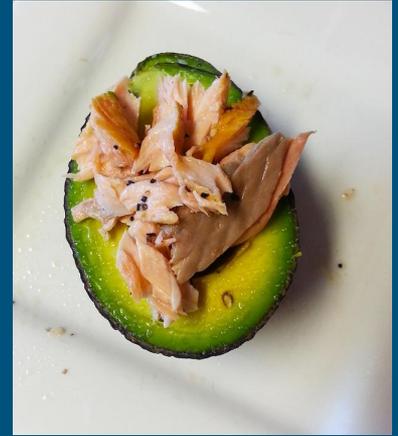
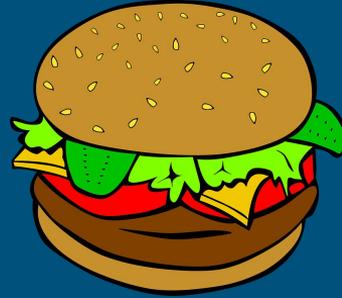
1. What did you learn about today?
2. Did you do an effective job of communicating your learning to others?
3. Were you able to develop answers to your questions?
4. What were the strategies, skills, and procedures I used effectively in this lesson?



Please give the student STEM survey online to your students before Fall Break.  
Complete the lab day survey if you haven't filled it out yet. I need a lab host for the 19th!

# LUNCH!

11:30-12:30 on your own



# Worktime

## Backpack Challenge!

- \*Form Groups of 3

- \*Debrief:

What can you use design challenges for in your classroom?



# Worktime/ Elaborate

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Planning with a Purpose!

\*5E's/STEM

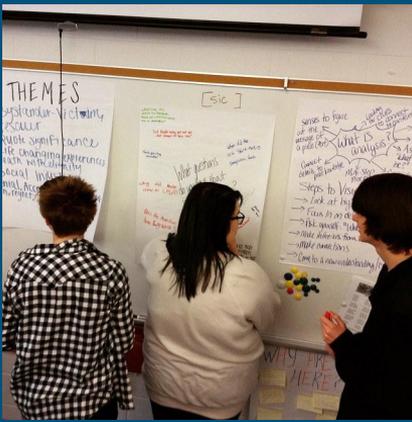
\*Planning for thinking

\*SEP and SMP

\*Learning Targets and  
Standards

\*Resources in Schoology





## Virtual Gallery Walk

2:30-:2:45 -

Share Unit/Lesson plan with  
another person/team

5 minute to share

5 minutes feedback

Repeat. Find another person if  
time.

## Debrief: 2:45 - 3:00

- Go to Schoology Discussions and Record your own personal reflection from today.
  - Get on Denise or Sherri's calendar for planning!
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