Creating Three Dimensional, Equity Based Tasks for a NGSS Classroom

Everybody is a genius.

But if you judge a fish by its ability to climb a tree, it will live its whole life believing that it is stupid.

Albert Einstein.
Grouping Task

Take one of the name tags at your table and attach it to your shirt.

Now, walk around, introduce yourself to people and create groups of 4 based on your name tags.

RULES:
1. All members of the group must be able to justify why they belong in that group.
2. There can be NO MORE than 4 members in any group – NO EXCEPTIONS!
Familiar?
The 4th Dimension

And tasks that are equity based and truly Group-worthy
Ethos

Culture
School: The place where we can either reinforce or disrupt the narrow definition smart.

What messages do you think students get from your school about what it means to be smart?

- fast
- right
- good memory
- We don’t want to lower the bar we want to widen the walls.

What messages would you like students to get from your classroom about what it means to be smart?
Who Are We?

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Session Outcomes

- Learn how to create a classroom ethos that encourages risk taking, personal accountability, and redefines smart.
- Understand the difference between group work and group-worthy work.
- Understand the components of group-worthy and conversation worthy tasks.
- Engage in a group-worthy lesson about global change.
Rules of Engagement

• Equal air time
• Inviting others into the conversation
• No one teaches, everyone facilitates
• Leaning in - Working in the center of the table.
• Sticking together – no side conversations no side work
• No one knows everything, everyone knows something
• Don’t steal aha’s
An Ethos Driven Classroom

• A Safe place for mistakes to be made.

• Everyone is “for each other.”

• Grading Practices Engender hope.

• Productive struggle is expected.

• Risk taking, by students and teachers is common.

• The power of “yet” is valued.

• Different types of smarts are recognized and honored.

• We all understand “life happens.”
Who’s learning?  
What are they learning?  
When are they learning?

Appendix “D” - All Standards for All Students

SPED  
ELL  
Poverty  
Gender Equity  
Students of Color  
GATE  
Alternative ED
Who Has Access to Opportunities to Learn?

Participation + Learning
Cup Stacking Challenge

Liz LaRosa www.middleschoolscience.com 2015
Multiple Abilities are Needed For Success

- Your group will be successful with this task if:
  - You make sure everyone’s ideas are heard. (Eye Contact and Body Language)
  - You encourage clear communication. (“What do you mean? Who should pull more?”)
  - You take risks when pursuing solutions to the challenges.

Call one of us over for team questions or when you are ready for a teacher check.
All group members must be holding exactly one string at its end.

- You may NOT touch your cups with any part of your body. (unless they fall on the ground, then you may put it back on the table upside down.)

- Have each challenge checked by your teacher before moving on.
This is a Stamp Task!

We will be stamping your group when we see

- You make sure everyone’s ideas are heard. (Eye Contact and Body Language)
- You encourage clear communication. (“What do you mean? Who should pull more?”)
- You take risks when pursuing solutions to the challenges.
LET'S GET STARTED
Reflect and share peer feedback…

- Which stamp sticks out for you?
- What did your teammates say or do that helped your team get it?
- Think about specific words, ways of talking, or body language.
- Pick a “team favorite” stamp.
- Make sure someone is prepared to do a 90 second share out about how you got it and why it’s a favorite.
How can a task, and the structures and strategies wrapped around that task, encourage equal participation and increase students’ access to opportunities to learn?
Let’s Jump into a Content Related Task

Global Change

Climate Change
What Causes Climate Change Today?

- Use a piece of binder paper and create a model; be sure to include ideas from your content area!
- Include:
  - Earth systems (what shapes the way the Earth looks over time)
  - Measurable changes (ways we monitor how the world change)
  - Causes of change (human/non-human processes or events)
Group Model

- Now, negotiate with your group and use the white board to develop a **group model** that integrates ideas from everyone’s individual model. Use your color pen to add your content information.

Multiple Abilities Recognition

- Success on this task will include:
  - Aspects from every individual model are integrated into the group model.
  - The group model is a more complete representation than any one individual.
  - Individuals will be able to explain how their own content and ideas integrate with everyone else’s
What’s Really Warming the World?

Global Warming

This line shows the measured, or "observed," land-ocean temperature from 1880 to 2014.
What’s the Story of Your Graph

- Split the rest of the graphs up in your group. Make sure everyone has the same number.

- Take some time to make sense of your own graphs. Be prepared to “tell your stories” to the rest of your group.
Based on New Information from the Graphs Do You Need to Revise
Gallery walk and feedback!
Understanding Global Change

Jessica R. Bean

University of California, Berkeley
Museum of Paleontology
Understanding Global Change

A guide to the complexity of how human and non-human processes interact to change the Earth’s environment and its habitability.
Understanding Global Change Framework

Topics are organized by:

- **Earth system** (e.g. ocean circulation, greenhouse effect)

- **Measurable changes** that occur within the Earth system (e.g., temperature, extinction/diversification)

- **Causes of change** in the system (e.g., burning of fossil fuels, volcanism)
HOW THE EARTH SYSTEM WORKS

Atmosphere
Hydrosphere
Biosphere
Geosphere
CAUSES OF GLOBAL CHANGE

HOW THE EARTH SYSTEM WORKS

MEASURABLE CHANGES IN THE EARTH SYSTEM

Atmosphere

Biosphere

Hydrosphere

Geosphere
Systems and System Models

- A group of interacting or interdependent parts
- The Earth is a complex system of interacting physical, chemical, and biological processes
information:

knowledge:

@gapingvoid
Multiple Abilities Recognition

- Success on this task will include:
  - Explain global change is dependent on group’s contributions, and everyone can explain all the components.
  - Asking questions, giving feedback to move thinking forward or to clarify confusions.
  - A mathematical model that summarizes everyone’s thinking around the factors influencing global change.
Putting it Together

- Take your individual models, and the information you got from “What’s Really Warming the World?” and create a **storyboard model** of global change.

- Your model needs to include:
  - Components of Global Change
  - Relationships between the components
  - Causal relationships between the components
  - Labels
  - Arrows
  - Explanations of your connections
Ethos and and Group-worthy Task?
In Traditional Group Tasks

- Group gets assignment.
- Parts are split up.
- After each member of the group complete their part the group comes back together.
- If it is a group grade the person with the highest grade redoes the work of the person with the lowest grade!
Group Worthy Tasks

- Are low floor – high ceiling - wide wall
- Are three dimensional
- Are open ended and require complex problem-solving
- Can not be completed without the contributions of all group members.
- Has group and individual accountability and products
The 4th Dimension

How can I use roles to support equitable instruction in my classroom?

Reflect on how the norms that you have in your classroom to support student work.

What assumptions about my students status do I bring to the classroom?

What assumptions, real or imagined, do my students have about each other?

Intellectual status is an expectation for competence. A status problem prevents students from participating.

Look for what you don’t want to see.

Listen for what you don’t want to hear.
It’s a leap!
How do we Assign Competence to Our Students
Let’s take a look at the Chart
The 4th Dimension
E T H O S
Strategy
Pedagogy
Everything

[Image of breakfast food]

[Image of sandwiches]

[Image of wine glasses and bottle]

[Image of food on a plate]
Return to Outcomes

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Next Sessions

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Thank you for participating!

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