



Day 3:
Constructing a MEL Task

Activity Overview

CONSTRUCTING A MEL TASK

TOPIC: _____

STANDARD: _____

Evidence #1	Model A	Evidence #3
Evidence #2	Model B	Evidence #4

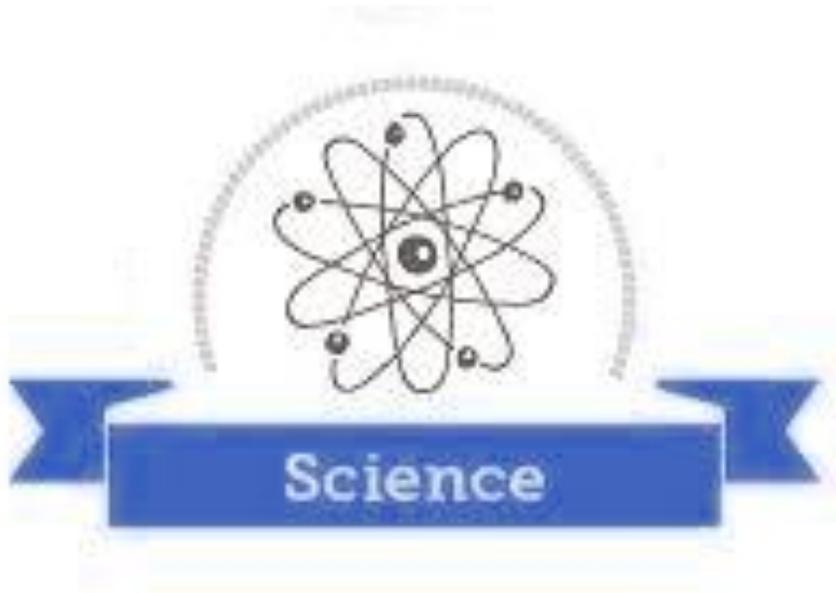
Expanded Lines of Evidence:

Evidence Statements:	Expanded Explanations:
#1:	
#2:	
#3:	
#4:	

1. Pick a disciplinary core idea (DCI) - *See Appendix E*
2. Identify a scientific model that relates to the DCI and determine an alternative model
3. Identify 4-6 lines of evidence and provide extended information for lines of evidence
4. Share your constructed MEL



Identify a Disciplinary Core Idea



- Working in groups, use the NJ state standards (NGSS) in Earth or Environmental Science, identify a DCI for which the MEL strategy would be appropriate:
 - Scientific models can be identified that support the standard
 - Alternative models can be identified

Develop the Models

SCIENTIFIC MODEL

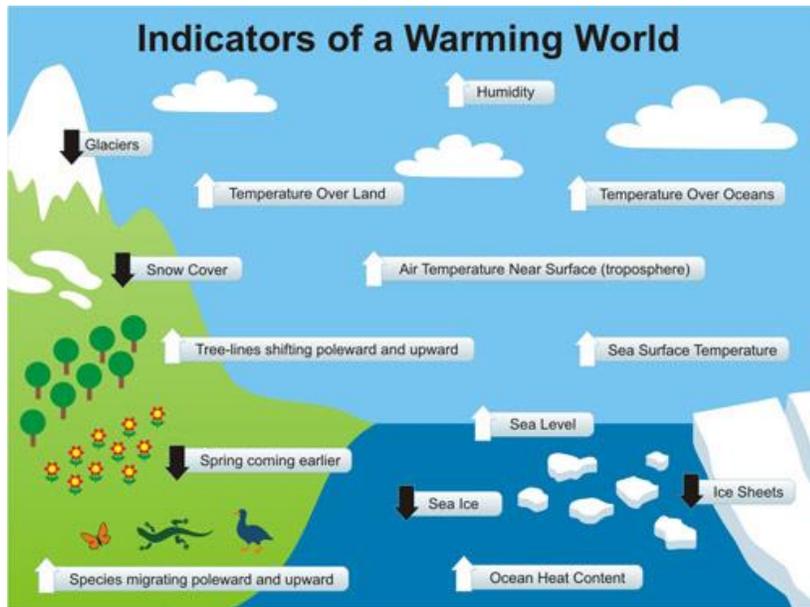
- Established
- Supported by Evidence



ALTERNATIVE MODEL

- Avoid opinion based claims
- Models may come from student misconceptions
- Don't use "not" statements
- Models should be related on some level
- Should be plausible on some level

Identify 4 Lines of Evidence



Evidence statements are brief

- One - two sentence summaries

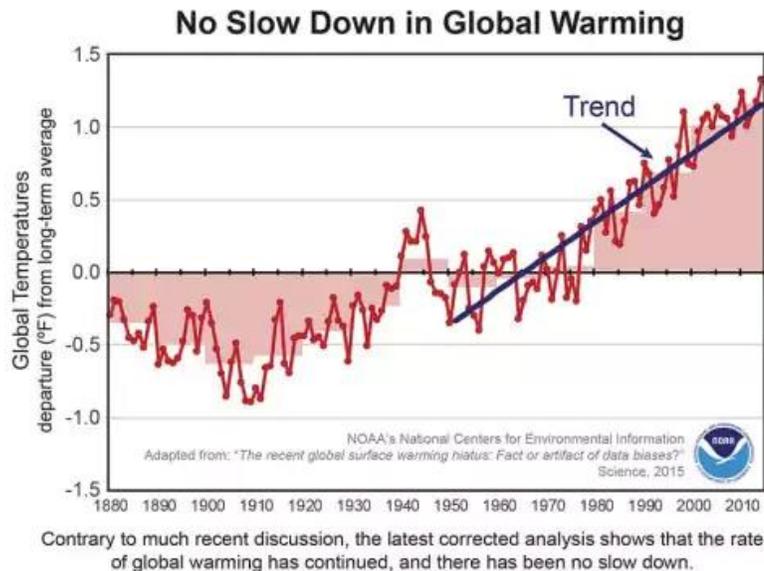
Evidence can come from:

- Readings
- Research
- Student Investigations
- Lab Activities

Ideally, evidence should reasonably connect to both models

Consider adding evidence that falsifies the non-scientific model

Expanding Your Lines of Evidence



- Evidence statements are brief, supported by expanded explanations
- What background information can be provided to support evidence statements?
- How will students get extended information?
 - Readings?
 - Activities?
 - Investigations?

In our activities we presented readings as expanded explanations but this isn't always the case!

Template

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Sharing your Constructed MEL Activities

CONSTRUCTING A MEL TASK

TOPIC: _____

STANDARD: _____

Evidence #1

Model A

Evidence #3

Evidence #2

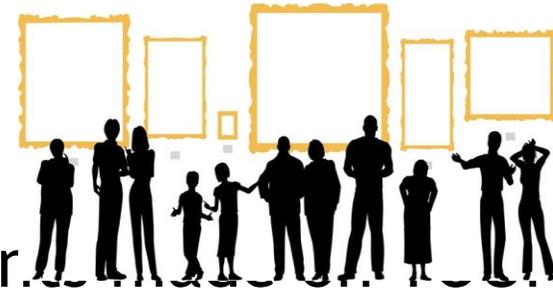
Model B

Evidence #4

Expanded Lines of Evidence:

Evidence Statements:	Expanded Explanations:
#1:	
#2:	
#3:	
#4:	

1. Using the same layout as shown on your handout, re-create your activity on chart paper and hang up.
2. Gallery Walk:
 - Use sticky notes to give feedback on each group's activities
 - Strengths?
 - Weaknesses?
 - Suggestions?
 - Other ideas?
3. Review the commercial constructed MEL



Caution!



Not an easy process!

Construction of MELs used in this workshop were:

- Written by teams of researchers
- Reviewed
- Field Tested
- Reviewed again

baMELs are even more complicated to produce!

Review & Reflection



- What were some of the challenges in constructing your MELs?