

Analysis by EEANM of the proposed NM STEM-Ready Standards with NM PED changes on 10/17/17 and 10/18/17

Please note that EEANM cannot comment on the revisions to the New Mexico-specific content as outlined in the 10/18/17 letter until we have a chance to see and review the revisions, thus these have not been included in this document.

Below are the changes to original NGSS language taking into account the proposed NM STEM-Ready standards along with the 10/17/17 and 10/18/17 changes from NM PED:

Key: Underlined = new language

~~Strike through~~ = omitted

Overall, as of 10/19/17, there are 217 NGSS as written plus 4 NGSS with revisions in the proposed NM STEM-Ready standards with changes. There are 1.8% of NGSS as written that are still revised from original language at this point.

Elementary School 1 revised standard

4-ESS3-1: Obtain and combine information to describe that energy and fuels are derived from ~~natural~~ renewable and non-renewable resources and how their uses affect the environment.

Middle School 1 omitted standard

~~MS-LS4-3 Analyze displays of pictorial data to compare patterns of similarities in embryological development across multiple species to identify relationships not evident in the full formed anatomy.~~

High School 2 revised standards

7. HS-ESS2-7: Construct an argument based on evidence about the ~~simultaneous co~~-evolution of Earth's systems and life on Earth.

9. HS-ESS3-6: Use a computational representation to illustrate the relationships among Earth's systems and how those relationships are being modified ~~due to human activity~~.

More details about the proposed revisions and how the changes announced on 10/17/17 and 10/18/17 have brought the NM STEM-Ready standards closer to the original NGSS wording (comments in blue):

Elementary School

4-ESS3-1: Obtain and combine information to describe that energy and fuels are derived from ~~natural~~ renewable and non-renewable resources and how their uses affect the environment. *This has not been addressed, but it could be argued that from an instructional perspective that this change might not matter. Also, the addition of the 3 dimensions on 10/18/17 could also address this revision.*

Middle School

~~MS-LS4-3 Analyze displays of pictorial data to compare patterns of similarities in embryological development across multiple species to identify relationships not evident in the full formed anatomy.~~

This has not been addressed.

2. MS-ESS1-4 Construct a scientific explanation based on evidence from rock strata for how the geologic time scale is used to organize Earth's ~~4.6-billion-year-old~~ geologic history.

Addressed on 10/17/17 with using original NGSS language.

3. MS-ESS3-5: Ask questions to clarify evidence of the factors that have caused ~~the rise~~ fluctuations in global temperatures over the past century.

Addressed 10/17/17 with revising back to original NGSS language.

4. MS-ESS3-3: Apply scientific principles to design a method for monitoring, evaluating, and managing a human impact on the environment.

Addressed 10/18/17 with "The Importance of 'The Framework' for Our Educators".

5. HS-LS4-1: Analyze, interpret, and communicate scientific information that common ancestry and biological evolution are supported by multiple lines of empirical evidence.

Addressed 10/18/17 with "The Importance of 'The Framework' for Our Educators".

6. HS-LS4-2: Construct an explanation based on evidence that ~~the process of evolution primarily results from four factors:~~ biological diversity is influenced by (1) the potential for a species to increase in number, (2) the heritable genetic variation of individuals in a species due to mutation and sexual reproduction, (3) competition for limited resources, and (4) the proliferation of those organisms that are better able to survive and reproduce in the environment.

Addressed 10/17/17 with revising back to original NGSS language.

7. HS-ESS2-7: Construct an argument based on evidence about the ~~simultaneous co-~~evolution of Earth's systems and life on Earth.

Not addressed, but the three dimensions of NGSS may cover this.

8. HS-ESS3-5: Analyze ~~geoscience~~ data and the results from global climate models to make an evidence-based forecast of the current rate of global or ~~regional climate change~~ climate fluctuation and associated future impacts to Earth's systems.

Addressed 10/17/17 with revising back to original NGSS language.

9. HS-ESS3-6: Use a computational representation to illustrate the relationships among Earth's systems and how those relationships are being modified ~~due to human activity~~.

Not addressed, but the three dimensions of NGSS may cover this.

If you see any errors in this document, please send them to info@eeanm.org.