

From: [Alfi Slaby](#)
To: [1490Comments](#)
Subject: Suggested Revisions to the MLS Draft
Date: Friday, March 04, 2016 5:59:26 AM

Suggested Revisions to the MLS Draft

Grade 5.NBT.A.3

Currently reads: *Understand that in a multi-digit number, a digit represents 1/10 times what it would represent in the place to its left.*

Add on: Conversely, a digit represents 10 times what it would represent in the place to its right.

I suggest this because multiplying by 10 is an easier concept for students in Grade 5 to understand than multiplying by 1/10. Both are needed to deepen understanding of the Base 10 number system.

Grade 5.NF.B.5

A clarification or definition of the term *unit fraction* is needed.

Grade 6.NS.B.3.a

Find the greatest common factor (GCF) and the least common multiple (LCM).

should be moved to Grade 5 because the skill is needed for

Standard Grade 5.NF.B.3 *Solve problems involving addition and subtraction of fractions and mixed numbers with unlike denominators, and justify the solutions.*

Alfredine T. Slaby MEd
Middle School Math Teacher
Strain-Japan R-XVI School

From: [Pope, Sandra](#)
To: [1490Comments](#)
Cc: [Wood, David](#)
Subject: comment on K-5 science - also attached
Date: Friday, March 04, 2016 7:30:28 AM
Attachments: [K-5 science comment.doc](#)

To: Commissioner Vandeven

Re: K-5 Grade-Level Expectations

One of the results of being an educator for over 25 years is that one has an appreciation for the time and effort that is required to design a set of curriculum. It is necessary to meet a number of goals with student understanding and application of given subject matter as the primary purpose. It is with an awareness of the difficulty of this task that I have reviewed the proposed K-5 science curriculum.

As I recently reviewed the draft of K-5 Grade-Level Expectations for science, I was deeply concerned about that particular set of objectives and its lack of potential for meeting student needs in that subject area. I did not recognize a general body of basic content that students will possess for future use in many of the concept strands. It is a basic tenet of good educational theory and practice that a set of objectives provides a solid foundation from beginning basics to increasing levels of complexity and also foster higher order thinking skills at appropriate intervals.

For example, in PS2, Concept B, Types of Interaction, there is not building of prior knowledge or experience before third grade. The objective in third grade seems to be a solitary one without connecting to any other objective either in a grade before or after on the single item on "electric or magnetic interactions between two objects not in contact with each other." It is difficult to see how that specific objective fits into a cohesive unit of instruction. In addition, these rather isolated objectives occur numerous times throughout this proposed curriculum.

Other instances are in PS4, Concepts B and C where there are again objectives of a "stand along" nature. First graders are to learn about radiation and information technologies and instrumentation, but there is not a follow-through of these concepts, except one objective about light for fifth graders.

Throughout the basic areas of instruction and variety of concepts, I fail to see the instructional flow that will result in a student prepared with a core of knowledge for the subsequent grades and more demanding scientific theories. For example, the concept of the scientific method seems to now be an engineering skill. Also these concepts A, B & C (ETS1) neglect to include some basic vocabulary, like hypothesis, experiment, and evaluate. The stated objectives seem very vague in the areas of what exactly is expected of the students.

Another instance of an unclear statement in objective area is in LS4, concept D, which reads as follows: "Make a claim about the merit of a solution to a problem caused when the environment changes, and the types of plants and animals that live there may change." I will readily admit that I do not understand what I am to teach or what students are expected to learn according to that stated objective.

Likewise, there are notable exceptions or gaps in other areas. For example, it seems rather incredible that third graders are to "describe typical weather conditions...." and "describe climates in different regions..." (ESS2, concept D), and "make a claim" related to "the impact of weather-related hazard." without the benefit of having a cohesive unit about the water cycle. Focusing on a few narrow applications of weather/climate and ignoring a cycle essential to survival seems terribly counter-productive in supporting the education of inhabitants of our planet.

In the recent past teachers in Missouri have often considered the importance of addressing a range of levels as to enable students in acquiring and applying knowledge in subject area as outlined in taxonomies of learning, such as Bloom's domains and Depth of Knowledge (DOK) indicators. However, there seems to be a limited span of these indicators in the current draft. Words such as design, construct, and model are evident in abundance, but the more definite indicators that are supportive building blocks of understanding for elementary students, such as recall, define, match, recognize, and explain are not adequately represented for a balanced approach. To me this is evidence of a design that is not fully considering the developmental aspects of young learners.

Teachers are given the task of incorporating curriculum into a series of meaningful units and lessons for their students. As I view the set of objectives for third grade, I am struggling with the idea of weaving the objectives together in a way that is student-friendly, engaging, and reaches some sort of learning goal.

Following is a rough outline of what I envision:

Physical Science – two objectives on matter; two on motion (none on energy or waves)

Life Sciences – one objective on ecosystems; one on life cycles; one on traits; one on natural selection; one on adaptations; one on biodiversity

Earth & Space – one on shadows; two on weather and climate; one on design solution for weather-related hazard (none on water cycle)

Engineering, Technology, and Application of Science – one on defining a problem; two on possible solutions; one on solution process; (no hypothesis, experiments, or evaluation stated)

This combination lend itself to a series of short interactions, rather than fostering a deep engagement of the learner over a period of weeks as has occurred in my room in the past.

It has been my experience that elementary students love learning about themselves and the wonders of the world about them. Science is a much-anticipated time of the school day in my classroom. As mentioned above, I view science instruction and the students' experience and understanding as an amazing combination that resembles a rich, and colorful weaving with definite patterns throughout this fabric of learning. However, I have serious concerns and reservation about the pattern and design of this set of proposed science curriculum for elementary students.

Since approved curriculum has such long-range effects on students and their knowledge base for life, I respectfully suggest and request that the decision-makers on the proposed K-5 Grade-Level Expectations fully consider giving more time and effort to this task of long-range impact. A set of objectives that reflect clear-cut expectations and a comprehension, cohesive design is to be preferred to fragmented and ambiguous learning goals. Certainly the elementary students in Missouri are worth the extra investment in their education as young scientists.

Sincerely,

Sandra Pope

Third Grade Teacher

Morgan County R-II Schools, Versailles, MO

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From: [Brant, Samantha](#)
To: [1490Comments](#)
Subject: Updated Proposed Learning Standards
Date: Friday, March 04, 2016 7:51:37 AM

To whom it may concern,

I'm writing to ask that as you consider the timeline of implementation of the standards

YOU phase in the updated standards over the course of a couple years. For example - one content per year OR ELA and Social Studies together followed by Math and Science a few years later. This would allow our districts to revise curriculum over time as opposed to a mass overhaul. Please seriously take this into consideration for teachers who are writing classroom formative and summative assessments and gathering resources. We've just finished switching everything to the Common Core, so we will need some time to switch to the updated Missouri Learning Standards.

Thank you,

Samantha Brant

--

Samantha Brant
4th Grade Teacher, Paxton School
Platte County School District

From: [Susan Wilson](#)
To: [1490Comments](#)
Subject: Standards comments
Date: Friday, March 04, 2016 8:14:10 AM

One thing that I noticed while looking through the proposed standards is how many of them there were. If we are given so many standards to work on in a given year then the students may be introduced to them but there won't be mastery by many students at all because there won't be time to give the standards the attention that they would need.

Another comment that I have is that some of the standards seem to be way under the level of learning for a particular grade level and then some so far above what students at that age are developmentally ready for. This is setting those kids up for failure.

Please, take more time, and revise these standards in a way where are students will be able to learn without fear of failure. Why does there have to be such a rush to pass something through?

From: [Jean E Davis](#)
To: [1490Comments](#)
Subject: Comments about Proposed Standards
Date: Friday, March 04, 2016 8:31:53 AM

Hello!

Our fourth grade team at Hallsville Intermediate has checked out the proposed standards and have a few comments:

- completing a bibliography in 4th grade is not developmentally appropriate. A simplified bibliography would be better

Thank you!.

--

Jean Davis
4th Grade eMINTS Teacher
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From: [Tami Barrett](#)
To: [1490Comments](#)
Subject: English Language Arts Standards
Date: Friday, March 04, 2016 8:32:02 AM

Hello,

I would like to provide some feedback regarding the new Missouri ELA standards. I teach 6th grade, so I was looking at those standards, primarily. I really like the way the standards are organized. It seems less overwhelming than they way the were organized with Common Core. They seem much more efficient than Common Core Standards because they don't include some of the standards that were difficult to assess.

The only problem I have with the Standards is that the objectives should be more specific and, consequently, easier to assess. That was a problem with Common Core, as well.

Thank you for your time,

Tami Barrett
6th Grade ELA
South Callaway Middle School

Comments about the newest standards (in no particular order):

Too many standards for Kindergarten—in general, the number of pages for K-5 greatly outweighs the number of pages in 6-12.

RI2D—an example of really good flow---not necessarily seen throughout the document

- Newest standards are more open to interpretations (GLEs/CLSs had a, b, c, d)
- CCSS format is more user friendly—new format is so spread out
- In 6-12---no text to world, text to self). These do occur in K-5
- Reading and Writing standards to not align well in 7 and 8
- RL2B—Grade 8 (points of view for dramatic irony
 Grades 9-10 (point f view for character, plot, setting)---This might be easier?)
- RL2B—why only dramatic irony? Why not verbal and situational?
 - 7th—write a claim and counterclaim
 - 8th ---find a claim and counterclaim
- RL2D---flow seems off (9-10 seems easier than 8)
- RL2D—“elements of text” really broad
- RL2A—11-12 how do you measure aesthetic impact?
- RL3B—6-12 seem to be doing something with 2 texts— grade 9-10 is confusing. If an author alludes to a Biblical allusion, the “how” is the allusion. The “Why” would be how the allusion might add meaning, depth, etc. to the text. Is this more difficult than grade 8?
- RL3C 11-12 Would this require an author study? Is an author study part of the new standards?
- RL3D—how do we assess independent reading?
- RL1B---since this is all the same 6-12 what should teachers use to determine which affixes to teach or which reference materials to focus on?
- RI2C—should 11-12 read *analyze and evaluate* instead of just *evaluate*?
- RI2B—any clarification on *Rhetoric*?
- RI3B—flow seems off. Not sure why craft *and structure* are part of grade 7 since this is the only one that specifically states craft and structure. Grades 9-10 does not seem to connect. This seems easier than grade 8. Grades 11-12---how are we judging complexity?
- RI3C—grade 8 specifies to explain how the *central ideas* of text reflect...In grades 6 and 7, Central Ideas is not listed. What else might you use for the explanation besides Central Idea?
- W1A—would a relevant source ever not be credible? A credible source may not be relevant, but would a relevant source lack credibility?
- RL1D—7th grade—not sure why the phrase “distinct from personal opinion” is listed after the word summary; same issue in grade 8 with the word “objective” preceding summary.
- RL—why is synthesis only in grades 11-12? Why just with Theme?

- RI1A is labeled Evidence/Inferences and students are asked to Draw Conclusions . RI1C is labeled Draw Conclusions, but this is only for visual elements. Could the labels on the A and C boxes be clearer?
- W3AB grade 7—the first part of the standard is repeated

From: [Stefanie Musser](#)
To: [1490Comments](#)
Subject: Proposed Missouri Learning Standards Feedback
Date: Friday, March 04, 2016 8:45:04 AM

In the area of Social Studies there are some major changes that were made to our current standards. As a 4th grade teacher who has taught this grade level for 10+ years, I have worked diligently to create a strong resource base for Missouri government. To see this entire set of standards moved to 3rd grade is not only disheartening, but I believe ineffective. This content is a struggle for my 9 year olds to grasp and truly understand at times. The thought of 8 year olds understanding this content in an effective manner seems absurd. As many 4th grade teachers across the state tie in a field trip to our state Capitol, I also worry about the ability for once again 8 year olds to manage and grasp this trip. We leave our school at 6:15am and do not return until nearly 11:00pm. The day is filled with learning and is packed with experiences over 4 hours from home. If these standards are adopted, this would put this day and responsibilities on 3rd graders who developmentally and maturity wise, are not ready.

With what appears to be a push of each grade levels standards to the previous grade level, this will directly affect more than just 3rd and 4th graders. The content that is now aligned in 4th grade is packed full of VERY rigorous information that will be a struggle for a 9 year old brain to first even begin to comprehend, let alone apply. After 10 +years of working with students this age, I do feel as though I am highly qualified to give my opinion on what a 4th grader is capable of comprehending both academically and emotionally. I could say the same for the new content that 5th grade is expected to cover which includes all of the wars from 1800 to 2000. Do we want and expect 10 year olds to be able to grasp this information that we once said was best suited for middle school minds?

I don't believe that our standards are attainable when we combine ELA, math, social studies, and science expectations. As a teacher who devotes her life to this profession, I believe we are doing a disservice to our children. At this moment, I spend 10+ hours at my school prepping and working to create learning lessons to best fit my students needs and standards, This doesn't include the 2+ hours I also spend at home each night grading, planning, and communicating with parents and this is all as I am trying to raise my own children as well. The point of me saying this is that our extensive standards look good on paper, but are not reasonable. We have little to no resources to support these standards which means that the hours upon hours of developing resources, aligning cross-curricular activities and unpacking of these standards fall on the shoulders of the teachers.

I have often wondered why the teams writing these standards can't communicate in a more efficient way and work together to combine cross-curricular standards. As we are attempting to compete with other countries in our academics, our approach appears to be shove more onto the students at an earlier age. Again, this looks good on paper, but with our standards a mile wide and a mile deep, how effective are we? Where are we devoting time to community and team building? How can we factor in any time for life enrichment activities that are also so important when our content is over flowing? More and more students are coming to us with less educational background. We are starting them in kindergarten with what seems to be 2nd grade skills. If a child is not developmentally ready how can this be effective?

I am the first to hold my students to high standards and expectations. They work diligently to develop and grow as both a learner and as a citizen. If I am truly expected to cover such a

vast amount of standards across the board, there will be absolutely zero time left in my day for anything else. I believe my job as an educator is to educate the child for success in all aspects of life. If we are hit this hard with content, then should there be a state requirement that ALL schools have a social worker and psychiatrist to handle what many of us have to handle on a daily basis with no training?

Please take into consideration the above viewpoints. I have worked and communicated with over 100 teachers in the state of Missouri. I can confidently say that I believe a majority of those teachers are at their breaking point with standards that are not supported by resources and funding that is minimally effective. The expectations keep getting higher and higher, but no one seems to be providing support that will allow our students to be equipped with the best education possible. If the teachers who are in this profession for the right reasons are so overwhelmed and ineffective that they choose to leave the profession, where does that leave the future of our students and our country?

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From: [Frank Vovk](#)
To: [1490Comments](#)
Cc: [Eric Flack](#); [Mike Szydlowski](#)
Subject: Comments on the proposed Missouri Learning Standards (Secondary Science)
Date: Friday, March 04, 2016 8:48:06 AM

1) The known age of the Earth is no longer on the standards. The age of the planet and the solar system were mentioned in the explanations and the foundation boxes...as these were deleted so was the known age of the Earth. This weakens the standards significantly. (4.6 billion years old)

2) The foundation boxes contain significant information on how scientists work. The 'Scientific Method' has been replaced over the years with an explanation as to how scientists do their job...a few pillars of how the work is done. For example...testable questions, why we do double blind studies, variables, the importance of data etc... These were explained in detail in the foundation boxes. Without the foundation boxes the standards are left with no mention of the scientific method or even an explanation as to how science is done. This will leave our students at a severe disadvantage...how scientists work is far more important as a concept than the minutia of what was learned through this process. The removal of the foundation boxes without a replacement is the equivalent of an art class which creates no art and is left with a series of slides depicting past works and no reference as to how or why the works were created. This is a devastating blow to the standards and must be addressed.

Science is a process and without learning what that process is you are not teaching science. Most of the older teachers will continue to teach this process, however, as new teachers enter the workforce and as state tests become more and more important, the 'process' of science will die and leave the students of our state behind.

3) I would like to suggest phasing in the standards one at a time to give school districts a break in the large work done on our end to meet the new challenges.

4) The state can certainly meet its obligation under ESSA and reduce the testing burden on our schools and our budget by creating a multifaceted exam like the ACT. This exam would be able to assess ELA, Math and Science at the same time while reporting out data for each subject area.

5) As school budgets are tested it is tempting for schools to cut science budgets around the state. I have seen classrooms with no equipment at all teaching science. As a response to this Texas has adopted a minimum standard for science classrooms and I would propose we adopt a similar if not the exact standard...here is the link to the standard: (you must search for science in the document)

<http://ritter.tea.state.tx.us/rules/tac/chapter061/ch61cc.html>

Thanks for your time,

Frank C. Vovk

Hydrogen is an odorless colorless gas which, given enough time, turns into people.

Science Curriculum Specialist 7-12
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From: [Katie Shininger](#)
To: [1490Comments](#); [Tina.Basler](#); [Dalania Watson](#)
Subject: Comments on Kindergarten Math Standards
Date: Friday, March 04, 2016 9:42:10 AM

Hello,

I am a Kindergarten teacher in the Jefferson R-7 School District in Festus. After reviewing the standards, I am pleased to see there are not a lot of changes from Common Core. I do have some questions about some of the standards.

I am concerned that some of the standards are vague and difficult to understand the expectations. For example, GM.B.1 Demonstrate an understanding of concepts of time and devices that measure time. This standard could be taken many ways, and I feel it would be better if the expectations were written more clearly.

Another standard where I would like to see it be more specific would be DS.A.1 Classify objects into given categories; count the number of objects in each category. Are there preferred ways to sort objects? With Common Core, we sorted by color, shape, size, and count.

I also have a concern with the layout. When looking at the progression of a standard across grade levels, it does not continue in the same row. For example, if I want to look at each grade level's expectations for money. I have to look on three different pages for grades kindergarten through second. It would be easier to vertically align if standards followed a continuum.

Thank you for taking time to read my comments and concerns.

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Sincerely,

Mrs. Katie Shininger
636-937-7170

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From: [Kathy Jackson](#)
To: [1490Comments](#)
Subject: ELA standards
Date: Friday, March 04, 2016 9:51:21 AM
Attachments: [Comments about the newest standards \(2\).docx](#)

I would have to say my biggest concern is the sheer number of standards. How can I teach anything thoroughly when I have so many things to cover? I have concerns with the flow across the grades. I teach 8, 9, and 10 ELA. As I was looking through the standards, some of the 9/10 standards appeared to be easier than the 8 standard in the same line. I also feel that 8 was much too specific in some categories, while other grades in the same category were way too general. I am attaching specific concerns from a work group that I attended. Thank you for your consideration.

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Kathy Jackson
Comm. Arts teacher 7 - 10
North Shelby High School
3071 Hwy 15
Shelbyville, MO 63469
[\(573\)633-2410](tel:(573)633-2410)

From: [Kerri Blessing](#)
To: [1490Comments](#)
Subject: comments about the proposed Social Studies standards
Date: Friday, March 04, 2016 10:09:03 AM

In reviewing the proposed Social Studies standards, I am disappointed to see so much change. I currently teach 5th and 6th grade Social Studies, and I have for the past 15 years. To lower my 5th grade Social Studies content to 4th grade is inappropriate. I do not believe 4th grade students are ready for the history that is proposed they learn. In addition, I do not see that 3rd grade will have the time in their schedules to teach everything that 4th grade currently teaches. I am curious as to why these topics are being pushed to a grade lower. I recommend the content stay where it is. If it HAS to be moved, I would like an explanation as to why.

Thank you,
Kerri Blessing

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Kerri Blessing
5th/6th Social Studies Teacher
200 S. 4th St.
Canton, MO 63435
573-288-5216

From: [Jennifer Hecktor](#)
To: [Vandeven, Margie](#); [1490Comments](#)
Subject: Comments regarding MLS proposed standards in ELA and Social Studies
Date: Friday, March 04, 2016 10:24:22 AM

Dear Dr. Vandeven and the Missouri State Board of Education,

I am writing to express serious concerns on behalf of our district regarding the proposed standards in English/Language Arts and Social Studies. Though we have expressed these same concerns throughout the process, it is clear in the most recent released revision of the proposed standards that these comments have not yet been acknowledged. We now fear that the proposed standards in these two areas will be approved in March, handcuffing our teachers and our students to unaligned, less rigorous, imprecise standards that do not reflect a path forward to prepare our Missouri students to compete nationally or globally for career and college.

The English/Language Arts groups K-5 and 6-12 did not meet during the work group time period. In contrast to the specific, rigorous, current Missouri Learning Standards that create a common vision and a common language for teachers, the proposed English/Language Arts standards do not build on one another in a logical way. One of dozens of examples of these significant disparities exist between K and 1 in the area of "character" in the following standards (attempt at coding to permit you to locate them):

2A.K.i (Kindergarten): **describe characters** in a story and the **reasons** for their action

2A.1.e (1st grade): **explain the actions** of the main character

2A.2.b (2nd grade): describe the main character in works of fiction including their traits, **motivation**, and feelings

Please notice that the progression of sophistication is illogical. Kindergartners are asked to explain the reasons (appropriately termed "motivations") behind a character's actions. First graders are not asked to explain "reasons for actions" nor "motivations." The standard then becomes much more complex in 2nd grade after backing off of the sophistication in first grade. Examples of this nonsensical sequence of skills abounds in these standards. (Please note that the coding would be much easier if the "character" standard had the same coding letter throughout).

The language standards have been watered down and have become very general. A K-5 teacher typically does not hold a college degree in English, and we find that elementary teachers struggle with grammatical concepts themselves. The current Missouri Learning Standards (MLS) were exceptionally helpful as they were pulled out, specific, and spoke to the precision and depth of the coverage of the language standard. This kind of explicitness is essential if these standards will be taught effectively at these early, and foundational, grades.

In terms of Social Studies, there is large concern about the movement of Missouri History to third grade from fourth grade. Additionally American History is now divided between 4th and 5th grade (ancient to 1799, 1800-present day). This movement would require not only a great deal of professional development, but also a large purchase of materials. Textbook companies are not prepared for this change, so during our year of writing and concurrent implementation, we do not have the materials to support this change.

Furthermore, there was mention in HB1490 that all four areas could be tested annually at 3-8. Currently some districts teach Geography in 6th, Ancient World in 7th, and US History in 8th. Others infuse the Geography standards throughout 6-8. Without knowing if we will be assessed at the end of the course, or knowing if we will be assessed over 6-8 SS comprehensively in 8th grade, we have no guidance for the writing that must take place immediately upon the release of these standards. Should we write 6th grade to World Geography, 7th grade to Ancient Civilizations, and 8th grade to US History, preparing for the eventuality of a grade-level assessment in these areas at these grade levels?

Many districts have spent enormous time, effort, and fiscal resources on writing common and benchmark assessments to the CCSS/MLS. This work is very difficult and taxing, as it requires tremendous professional development to build capacity of teachers to write quality assessments. With new standards, we will have to scrap many of these benchmarks and start again. In a large district, with a large number of teachers to do the writing, you can pull in new writers who can bring fresh eyes and brains to the process. In a small district, where every single core teacher is required to write, you are asking teachers to do work that they just did. They feel fatigued and are losing faith that any set of standards will hold long enough to make the time and effort worthwhile.

We have made comments throughout the process online, in committees, and to legislators. We are deeply concerned that the work groups were set up for failure in a highly political climate, and we are now concerned that in an attempt to honor the work that came out of these groups (amidst their difficult circumstances) that the proposed standards will be adopted in their

current state. We are appreciative of the workgroups and their time, but these standards are not going to move us forward; rather, they will take us backwards and cause confusion in areas that were just gaining clarification. We believe in the current Missouri Learning Standards, and we feel that the Missouri State Board of Education should not approve the ELA or Social Studies proposed standards as they stand.

Respectfully,
Jennifer Hecktor



--

Mrs. Jennifer Hecktor
Assistant Superintendent

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From: [Angie Vogel](#)
To: [1490Comments](#)
Subject: Comments-Proposed Learning Standards
Date: Friday, March 04, 2016 10:53:45 AM

I have been teaching primary grades for over 20 years and my last two years have been as a Title I Math Specialist K-5.

These are comments under the area of math that I would like to be taken into consideration when the Missouri Proposed Learning Standards are discussed in mid March:

Number Sense and Operations:

Kindergarten standards should include an understanding of the following math symbols: +, -, =.

Kindergarten also needs to know one more and one less of a number (first grade begins with a standard of 10 more and 10 less)

Word problems should be included for kindergarten and first grade using the appropriate level of addition and subtraction (Currently, it looks like word problems begin as a standard in 2nd grade).

Fractions are not mentioned until 3rd grade. K-2 needs a progression of introduction and practice with basic fractions so that connections can be made by third grade.

Under geometry and measurement, kindergarten should identify and know the value of a penny, nickel, dime and quarter (quarters were not mentioned in the kindergarten standard). Kindergarten should work on both identification and value so that first grade can build upon that standard. A natural progression for first grade in the area of money would be to count mixed coins to \$1.00. This progression could then include a second grade standard for counting mixed coins and dollar bills up to \$5.00.

Thank you for making it possible to send in comments which will lead to improvements in our state standards.

Angie Vogel
New Bloomfield R-III
Title I Math

From: [Megan Pollard](#)
To: [1490Comments](#)
Subject: New Proposed Standards Feedback
Date: Friday, March 04, 2016 11:04:33 AM

To Whom It May Concern,

I am writing you in regards to the new proposed standards. I am adamantly against these new proposed standards. First of all, these new proposed standards are **DRASTICALLY** different than the Missouri Learning Standards. Why? What's the point? Our district did what we were supposed to and began implementing the Missouri Learning Standards. The teachers, myself included, have spent countless hours learning the standards and rewriting our curriculum to meet the expectations of the Missouri Learning Standards. Our district has also spent a great deal of money purchasing new materials that met the Missouri Learning Standards and the curriculum that we've written. If the new standards are adopted, all that time and money will be wasted. **WASTED!** We do not have time or money to waste! We have sacrificed numerous hours away from our family and obligations outside of school to make sure that our curriculum meets all the expectations set forth. If these "new" standards that are being proposed are adopted, that cycle will happen all over again. Honestly, I cannot and will not abandon my family and other obligations again next year to rewrite all of the curriculum. Not to mention, we aren't being adequately compensated for our extra work! It is a requirement and we are left with no choice, but to do it. We are underpaid as it is and to have to do all of this extra work for essentially free is sickening! I have a degree in two other areas and never before I have I thought harder about leaving my current profession as an educator to pursue other areas. This constant changing needs to stop. It is not fair to our students, our teachers, our administration, and our district. Having common standards across the United States makes sense. Why would we do something different than the rest of the nation? If Missouri is not happy with the assessment, then fix the assessment not the standards! It is time for the State Board of Education to wholeheartedly listen to the concerns of those doing the day-to-day educating and put an end to this nonsense of changing something just because you can. Sometimes it's best just to leave well enough alone and this is a fine example. Put the students and educators of Missouri first and do what is right...**SAY NO TO NEW STANDARDS!**

Sincerely,

Megan Pollard
5th Grade English-Language Arts
Macon R-I Elementary

From: [Kelly Hardaway](#)
To: [1490Comments](#)
Subject: Proposed learning standards
Date: Friday, March 04, 2016 12:23:18 PM

To whom it may concern,

In reviewing the proposed Missouri Learning Standards, communication arts and math seem to be similar to previous standards. However, we have concerns with the new social studies standards. Fourth grade has always been responsible for Missouri history. All of our units have been designed to address those standards. We have put many days and hours into creating engaging learning activities to go along with the units. A large portion of this work would be lost if you change the social studies standards. In addition, we still have students who struggle with the difference between states and countries, so I feel trying to teach them 1800's history would be difficult for them to understand.

Thank you,

Kelly Hardaway
4th grade/Lonedell R-14

From: [Tim Pecoraro](#)
To: [1490Comments](#)
Subject: Proposed Standards Feedback
Date: Friday, March 04, 2016 12:28:00 PM

Feedback:

- The proposed standards include more volume than the current Missouri Learning Standards (MLS), but lack the same level of rigor.
- K-5 and 6-12 ELA strands are not aligned. This is a major concern.
- In Reading Foundation, suggest changing Phonemic Awareness to Phonological Awareness (standards listed for students in K-1 include hearing word parts beyond individual phonemes, which is phonological awareness).
- K-5 standards in ELA, Math, and Social Studies do not connect/flow with the 6-12 standards. K-8 focus should be to prepare students for high school readiness, standards that connect make this more attainable.
- Research standards are vague.
- Overall, the proposed standards lack the quality, rigor, and clear focus of the current Missouri Learning Standards.

Tim Pecoraro, Ed.D.
Assistant Superintendent for Curriculum and Instruction
Pattonville School District



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From: [Roblyn Melton](#)
To: [1490Comments](#)
Subject: Review
Date: Friday, March 04, 2016 1:04:01 PM
Attachments: [MLS Proposed Standard Review.xlsx](#)

Several teachers from Farmington R-7 did a short review of the proposed standards. Attached is a spreadsheet with their comments. They are broken down by subject and then grade level. Thank you for the opportunity to comment again.

--

Roblyn Hatch Melton
Farmington R-7
District Assessment Director
Instructional/Curriculum Coordinator
573-701-1310, ext. 2137

Please comment on standards that concern you and how you would recommend rectifying the issues

I found that these standards lean much more towards literature in a wide variety than informational text. I do like the Digital Literacy section and was very much needed. Most of the standards seemed to be clear and concise. There were a few that I struggled with and I will list them below with the reasoning.

1B 5.d - identifying and explaining the meaning of common idioms, adages, similes, metaphors, hyperbole, and other sayings

1B 4.e- Identifying the meaning of common idioms and figurative language

-When looking at this standard vertically, I think the verbiage in the fourth grade standard should be much clearer like the fifth grade standard. I believe it should explicitly define what kind of figurative language they are expecting. I think it would be even better if in fourth grade they were able to include the more simple figurative language such as simile, metaphor and personification. Then that would leave idioms, adages and hyperbole for fifth grade.

2 A 5.h Introduce origin myths, and acquire knowledge of culturally significant characters and events in Greek, Roman, and Norse mythology

- I think this could be written more clearly and not include all three origins. If this was moved to sixth grade it would correlate very well with studying Ancient Greece and Rome in Social Studies.

2 B 5.b Read infer and draw conclusions to identify forms of poems

- I think this would be more concise if we knew exactly what types of poetry we were needing to teach. This leaves it as a guessing game where it could be very clear.

2B 5. a and c

Read, infer and draw conclusions of how poets use sound effects in humorous poems

Looks to me like the state is requiring English Language Arts Learners to focus on being readers, writers, speakers, listeners, and researchers. I can support that. This document provides guidance. With what we call differentiated instruction, many times the 11-12 standard is something that some 9-10 graders are prepared for. I also like the fact that the standards seem to have been compressed and editing has squished out redundancy and lunacy. My final input would be to continue to compress: "Our life is frittered away by detail. An honest man has hardly need to count more than his ten fingers, or in extreme cases he may add his ten toes, and lump the rest. Simplicity, simplicity, simplicity! I say, let your affairs be as two or three, and not a hundred or a thousand; instead of a million count half a dozen, and keep your accounts on your thumb nail. In the midst of this chopping sea of civilized life, such are the clouds and storms and quicksands and thousand-and-one items to be allowed for, that a man has to live, if he would not founder and go to the bottom and not make his port at all, by dead reckoning, and NBTb.2-Grade 2 talks about adding up to four 2 digit numbers. Doesn't follow the flow of Grade 1.

GMa.1-Grade K needs to add a list of said objects to describe. Grade 1 needs to list the said shapes they are expected to draw.

GMa.2-Grade 2 needs to be more specific on details/information. Wording is very confusing.

Geometry SRT B - Why do we need to derive formulas? Students need to be able to apply the formulas.

Geometry - Most standards say define, develop, or prove. Where is the application?

Geometry - Standards seem vague.

Algebra 2 DS A 6 - "Analyze decisions and strategies using probability concepts" but there isn't any probability in the standards. Probability is in the geometry class standards.

GM2- "Use a variety of tools to construct geometric shapes." - the variety of tools needs to be specific, which type of tools should students be using? Compass, protractor, ruler?

GMB2b- Find the volume and surface area of prisms, pyramids and cylinders- This is a lot more than current standards. Current standards specify only right prisms. This adds many additional geometric shapes. Are students asked to have formulas memorized for SA and V of these dimensions? If so, this is an awful lot for a 7th grader to memorize and apply.

DSP.B Analyze different data distributions using statistical measures. - Needs to specify what types of data
NBTA8: dividing decimals to the hundredths make it more relevant and can help students connect w/ money.
Great!

MD1: There needs to be more of a vertical alignment w/ converting measurements. I think 4th grade could at least

- * Concerned that there is no discussion of decimals vertically prior to the introduction of fractions.
- * Problem solving should be spiraled vertically concerning appropriate operations. For example, in grade 2 they are writing and solving problems involving addition and there is no mention of this again.
- * Patterns have no vertical appearance until grade 5.
- * If fluency is expected at one grade level, it must be revisited or it will not remain fluent.
- * Vocabulary should maintain consistency throughout vertical alignment--attributes is mentioned in Kindergarten but not again, using other similar words like characteristics.
- * Volume has no vertical alignment.
- * In 5th grade we are expected to solve problems using measurement conversions but this isn't addressed prior to

MATH

Number Sense and Operations in Base Ten

- * NBT.A 3rd grade - Use place value understanding and properties of operations to perform multi-digit arithmetic.

4th and 5th grade builds on this standard, my concern is that 4th grade goes up to millions, 5th grade goes up to billions decimals, and thousands. 3rd grade reads as above, and doesn't state up to... will they go up to 1,000 or 10,000 or...??

- * Common Language - I see inconsistencies for example some places it reads number, whole number, multi-digit number..... The language changes dependent on grade level.... there should be a common language.

Relationships and Algebraic Thinking

- * 3rd grade - Multiply and divide whole numbers within 100.

Does this mean that they will divide and have remainders as well?? The standard doesn't say they will or will not have remainders. Currently, 3rd grade divides whole numbers that divide evenly.... no remainders.

Social Studies

Knowledge of the principles expressed in documents shaping constitutional democracy in the United States. Would it make sense to teach the United States Constitution before Missouri Constitution for application? Students need a basic understanding of how our country was formed by ratifying states into our nation. You can't teach Missouri history in isolation without prior background knowledge of how our government was formed. Early immigration to America, conflicts between the different countries that settle in America; France, Spain, and

3LS3A- Heredity: Inheritance and variations of Traits. Construct scientific arguments to support claims that some characteristics of organisms are inherent from parents and some are influenced by the environment. This is not an age appropriate standard for the third grade. They are not going to be able to differentiate between the two.

3LS4B- Biological Evolution; Unity and Diversity. Use evidence to construct an explanation for how the variations in characteristics among individuals of the same species may provide advantages in surviving and finding mates.

AT 8 YEARS OLD, THEY DO NOT NEED TO LEARN ABOUT FINDING MATES. They will not be able to explain. Most concern me, they are hard to understand and too broad to apply in a classroom as they are. Need to be broken down specifically to each idea. NGSS has a much better explanation to each standard and how to

"9-12-ETS-4 Use a computer simulation to model the impact of proposed solutions to a complex real-world problem with numerous criteria and constraints on interactions within and between systems relevant to the problems."

-What computer program would students use?

-Would the students already know how to use that specific program?

-How would you assess this?

-ETS 1-4 are very similar...analyze, design, and evaluate a solution to a complex-real-world problems.

-I see the combination of science and research skills

-What is the time frame to complete 1 standard?

-How are students supposed to solve a complex real-world problem when highly paid scientists have not figured it out?

9-12-ESS1-2 : I am concerned about "Construct an explanation of the Big Bang Theory." This is going to cause a moral dilemma for many students. The rest of the standard could be left as is.

9-12-ESS3-3: I don't think "create a computational simulation" is a realistic expectation."

0-12-ESS2-7: What kind of argument are they asking for when the standard says "construct an argument based on evidence about the simultaneous coevolution of Earth's systems and life on Earth?"

- alignment in life science for 5th- 8th grade is off. In 5th grade, needing to know about cells, tissues, organs, organ systems before it is taught in 6-8.

- 6-8 PS1B 1-6 "construct" - are teachers giving the idea or are students coming up with ideas on his own, also give parameters, examples or materials to use

- 6-8 PS standards are not rich in vocabulary (ex:Newton's Laws)

- 6-8 PS2A 2-1- Specify as Newton's Laws

- PS3A 3-1 standard unclear

- PS3A 3-3 need examples

- PS3A 3-4 very unclear, needed to refer to NGSS to make sense of standard, could be improved with examples of investigations that could take place

- PS4A 4-2 instead of "and use a model" change to "create a model"

- LS4A 4-1 use words placement of fossils in explanation

- LS4B 4-3 give examples of technologies that need to be covered (GMO's, fertility treatments, cloning?)

ESS2 Earth's Systems - Biogeology - Kindergarten - construct an argument using evidence would be a challenge for kindergarten

ETS1 Engineering Design - Defining and Delimiting Engineering Problems - Kindergarten - challenging - would There is a problem with vertical alignment with the life science standards. In fifth grade the students are asked to compare organ systems, yet organ systems are not taught until middle school. In second grade students are asked to use information about the structures of plants, yet plant structure is not taught until middle school. If the standards want a specific plant structure to be discussed in early elementary, they need to be specific, otherwise 1C-Grade 1 doesn't get into the the Bill of Rights. Way over their heads.

I really don't have concerns about specific standards other than they are vague. This is a huge amount of content to cover in the course of a year unless divided by grade level on a curriculum map. As far as 6th grade and what we've done in the past, the World History and Geography standards are very similar to current ones.

SS5.1E 1800-2000 seems very broad

SS5.1F Specific National Symbols-flags???

SS5.2A Specific historical time periods? 1800-2000? Revolution? Civil War/Reconstruction?

SS5.3aC Who/What is determining what is historically significant?

SS5.4A what are "other economic concepts"

SS5.4D What is the "economic lens?"

SS5.5B What are the specific regions, states, capitals, river systems, and mountain ranges--any or all?

SS5.6A "historical time periods" seems very broad

SS5.6C 1800-2000 broad

SS5.7A Research paper or product of social science inquiry?

SS5.7G Any social studies topic from 1800-2000?

From: [Peters, Roshonne](#)
To: [1490Comments](#)
Subject: MLS Updates
Date: Friday, March 04, 2016 1:11:49 PM

I would like to provide my feedback about the proposed changes to the Missouri Learning Standards.

PLEASE consider changing one content per year OR ELA and Social Studies together followed by Math and Science a few years later. This would allow our districts to revise curriculum over time as opposed to a mass overhaul. Thank you for your considerations!!

Sincerely,
Roshonne Peters
5th Grade

--

Roshonne Peters
BA/MaEd
Paxton School / Platte County RIII School District

From: [Victoria Briscoe](#)
To: [1490Comments](#)
Subject: New Standards
Date: Friday, March 04, 2016 1:19:25 PM

I just wanted to send a comment regarding the new proposed standards. I have read through the entire list as well as the common core standards. I find it ridiculous that the lists are practically identical. I feel that is was a waste of time for some individuals to simply change some vocabulary, so people would not think it is common core. I think we could write better standards if we truly put our mind to it. I know some things were added, however I don't know if that was appropriate or not.

I never had a problem with the common core standards. I thought it was a great idea to have the entire country on the same path. However, I do feel that educators should have been consulted with the standards were developed. There are issues with the standards, but having everyone on the same page was something to be proud of. As an educator, I can't tell you the number of times that students have moved here from another state and we find that the students need skills we previously taught taught to them and then they would have had skills we haven't taught yet. It would make things a lot easier if we were all on the same page, but I know that will never happen. I understand teachers frustration also about not being consulted on helping to decide what to teach. We have a vast amount of knowledge to pull from, and it is like legislators are scared of that. All the conflicts, I am afraid will never be completely resolved and that to me is disheartening.

I am a firm believer that we should be putting the kids first. They should be our number one priority. It is not about competing with another state to show that our kids work hard or are smarter. I feel as if we need to examine the rigor of the standards. If you put so many requirements on the younger grades that they can't teach anything in depth, we will continue to have the same outcome. I saw in a previous comment from a 7th grade teacher that she feels she is having to reteach some of the basics for reading and math. I understand where she is coming from. If elementary schools could focus on the basics our students and schools would succeed more. I would also encourage writers of the standards to familiarize themselves with children's developmental process. We have amazing theorists who have provided us an inside look at how children develop and what is developmentally appropriate. Some things you are asking students to complete are not developmentally appropriate for all students. There needs to be a clear and better divide between what is expected of students in special education, students in general education, etc. All children are NOT the same. They are each unique individuals who learn in different ways. Children learn at different rates and there is no consideration for this in the standards. The want all children to be a carbon copy. Please understand that there are students who struggle. For instance, one year we had a student who's listening comprehension was very high, but they struggled reading the text. They had amazing progress that year, but do to the fact we could not assist the student with the "test" they felt terrible when the results came back. What good was accomplished that year? None. Their exact words to me, were why should I try if they are just going to make me feel like I can't do anything right.

I know that we have to have some kind of accountability. It is important to make sure schools are teaching and doing the right thing. But, what good are we doing and what are we really showing if the standards used to create the test that we are assessing student achievement on, unravels all the hard work students have worked for. We have another issue of when a student has a low IQ and doesn't qualify for special education. They are in a no win situation with these standards. You might say make accommodations, and we do however, our accommodations could possibly be exhibiting the prior grade level standards. I think a lot more thought needs to be put into the standards and the future assessments. A few work sessions is not enough to write standards for the amazing kids in this state. I know some teachers were invited to attend these meetings, but if you ask me you need many more teachers to help you. If you have never been in a classroom, you have no idea what is happening. There are so many things you couldn't possibly take into account. You may think you know, but I promise you you don't. I know I didn't until I started teaching, and I come from a family of educators. There is a different kind of knowledge you get when you are the one pulling ten to twelve hour days.

I do like that the standards are a little more specific with what they students should be required to master by the end of the year. I do think an assessment should be created before we begin this next school year, so teachers have an opportunity to look at the design and help students prepare for that kind of assessment. Types of questions and specific vocabulary can change the outcome of any assessment. The vocabulary in the standards should be addressed also. Please make sure you are using the same vocabulary throughout each grade from K-12.

I don't think that anyone is deliberately setting out to make things harder on teachers/students/parents/etc. I just don't think enough time and planning has been put into these standards. It looks like the common core standards were rewritten with just a little extra specifics. Creating standards and assessments should be a full time job for a set of educators. This is a hard job, and I don't want to make light of that fact. I understand that you will never make everyone happy, just don't make more work for yourself and make things harder for teachers to really teach their students. I know I have gotten off topic, but these are issues that I think need to be brought to your attention. Thank you for your time. Good luck with revisions and all that will arise from this process.

Victoria

From: [Don Jeffries](#)
To: [1490Comments](#)
Cc: [Vandeven, Margie](#); [Joel.Holland](#); [Jeff.Buscher](#); [Karl.Shininger](#)
Subject: Windsor Middle School Missouri Learning Standards Feedback
Date: Friday, March 04, 2016 1:42:02 PM

Thank you for the opportunity to provide feedback on the learning standards that will be the foundation of the education of our students at Windsor Middle School. The staff in our building was extremely appreciative to play a small part in the standard approval process.

The link below is a Google Document produced to compile the thoughts of the staff here at Windsor Middle School when it comes to the proposed standards.

[Windsor Middle School Missouri Learning Standards Feedback](#)

If you have any questions or need anything else for this task, please feel free to contact Windsor Middle School Principal Karl Shininger or myself.

Don Jeffries

--

Don Jeffries
Windsor Middle School Curriculum Coach
Windsor High School JV Baseball Coach
Windsor C-1 School District

Missouri Learning Standards Feedback

Windsor Middle School

First of all, the administration and faculty at Windsor Middle School would like to thank DESE Commissioner Margie Vandeven and her staff at DESE for the opportunity to provide feedback to the standards that will become the foundation for the education we deliver to our students on a daily basis. The staff at Windsor Middle School thinks it is great that the new Missouri Learning Standards development has had a great deal of teacher input throughout the entire process: drafting, revising, and then hopefully final approval.

The teachers at Windsor Middle School have viewed the Draft Form of the new Missouri Learning Standards. This document is the feedback by our faculty regarding the new standards. Overall, the majority of the standards will work well for the students in our building in the eyes of the faculty here at Windsor Middle School. The feedback below offers questions/concerns related to specific subjects/grade levels. It also provides possible solutions to improve the standards prior to going into a final form for approval in May.

Social Studies Grade 6--Michelle Zak

- Concern that the span of time covered stretches to 1450 under the new standards. The current GLEs place more emphasis on groups of people/territories. The current GLEs do not stretch to the 1450s when it comes to Europe. However, it goes beyond that date when it comes to some items in Asia and South America
 - Solution/Question--Why the emphasis on a timeline as opposed to the current setup of emphasis on groups of people and civilizations? What exact item ends at 1450 to make that a significant date to have as a cut off for middle school and a beginning for high school?
- The Magna Carta is not in the current GLEs, but it called out by name in the new standards.
 - This can be covered but districts will need to make sure that it becomes a major focus of a unit or a stand alone unit.

Math/Algebra Grade 8--Heather Phipps/Tom Brinkmeyer

- Overall, the learning standards look almost exactly like the common core standards that we planned our curriculum around.
- The first item that surprised us a bit was evaluating perfect squares up to 625 and perfect cubes up to 1000.
 - We ask our students to memorize the perfect squares up to 144, but we let them use a calculator for anything higher. We feel that many of our students could do this, but some may struggle to do this without memorizing these or using a calculator. The word evaluate does not clarify whether the use of a calculator is allowed or not. We would like that part of the standard more transparent.
- EE1.C.2.a--We feel that one challenging item for pre-algebra students is solving systems of equations. The word approximation of their intersection confuses us a bit.
 - We only have our students give exact integer ordered pairs rather than an "approximation." Why not be specific with the skill?
- GM.C.1--The phrase "understand the concepts" related to surface area and volume is a little unclear.
 - We would be curious as to whether or not students are expected to memorize formulas for surface area and volume or can they use a reference sheet. If the expectation is memorization, teachers need to know that, so they can prepare the students for that.
- DSP A 1-4--We feel there is not enough scaffolding in previous grade levels to tackle scatter plots to the DOK level expected.
 - We believe students need more prior knowledge or the 8th-grade expectations should be more introductory in nature. Drawing a line of best fit and creating a linear equation from the data seems more appropriate for Algebra rather than pre-algebra.
- EEI A 4--As this is most likely students' first exposure to scientific notation, we think conversion and choosing units of appropriate size is reasonable.
 - However, operations with scientific notation should be expected in Algebra.
- Perhaps we are relying too much on our own personal learning; however, we believe these standards are rigorous and challenging. So much so, that some of our students will hit a wall and give up on math before their brains are developed

enough to handle some of the abstract concepts they are expected to master in 8th grade.

Science Grades 6 through 8--Sandi Schmidt, Terry Glass, Abby Bostic, Adam Phipps, and Jared Bunton

- The biggest concern that the Windsor Middle School science team has is how the Scientific Method (currently strand 7 in the Science GLEs) has had the specifics of the process removed. Elementary and middle school students need to know the basics of conducting a valid experiment before embedding abstract phrases related to the scientific method in the standards such as “plan and conduct an investigation” and “analyze and collect data” into specific items in the three sciences.
 - Our recommendation is to have a separate area in the standards that discusses the fundamentals of “planning and conducting an investigation” and “collecting and analyzing data.” A person could perform both of these skills with a Google Search and not conduct a true scientific experiment himself or herself. Plus, in looking at the findings of an experiment, the student needs the basics spelled out to be able to determine the validity of those findings.
- Another area of concern is how the language is abstract and ambiguous with the new standards. The language does not specify exact items in each of the sciences that need to be addressed at the middle school level.
 - This area can be fixed by providing specific terms that should be covered in each of the specific sciences. A supplementary Tier-3 vocabulary appendix could go a long way in making things clearer for the teachers working with the standards.

If you have any questions about the feedback that has been provided by Windsor Middle School, please feel free to contact either Principal Karl Shininger or Windsor Middle Curriculum Coach Don Jeffries. Contact information for both individual is listed at the bottom of this document.

Karl Shininger
Windsor Middle School Principal
kshininger@windsor.k12.mo.us
636-464-4417 ext.4420`

Don Jeffries
Windsor Middle School Curriculum Coach
djeffries@windsor.k12.mo.us
636-464-4417 ext. 1145

From: [Valerie Westmoreland](#)
To: [1490Comments](#)
Subject: Comment on Standards
Date: Friday, March 04, 2016 1:57:20 PM

Looking at 7th grade Math Standards GM.B.2 states "Use angle properties to write and solve equations for an unknown angle. However, I do not see where it is supported in 6th grade. I would like to see either 6th grade involvement or need to rewrite the standard.

I can see the spiraling in most of the other standards. We really need to ensure that we have the foundations laid down before moving on to a more in depth topic.

"

--

Sincerely,

Mrs. Valerie Westmoreland
7th Grade Math Instructor
Odessa R-VII School District
Odessa Middle School
607 S. 5th
Odessa, MO 64076
816-633-1500 ext. 794
vwestmoreland@odessa.k12.mo.us

From: [Steven Day](#)
To: [1490Comments](#)
Subject: HS Physical Science (9-12-PS1)comments
Date: Friday, March 04, 2016 2:45:53 PM
Attachments: [Input for Grade Level Expectations for 9-12 Physical Science.docx](#)

My comments regarding High School Physical Science Standards

9-12-PS1-A-1 I believe that the standard is good as written.

9-12-PS1-A-2 I have looked at this standard many times and understand mostly what the point of the standard is, but

the “Construct and Revise” portion of the standard seems rather meaningless. I Believe the standard

would be better written as a “Predict” products.

9-12-PS1-A-3 I believe that the standard is good as written

9-12-PS1-A-4 I believe that the concepts of crystalline/molecular structure, and the applications of that structure, are

more suited for an upper level chemistry class, not an introductory one.

9-12-PS1-A-5 I’m sure the person on the committee who had extensive training in “modeling” has something in mind

for this standard. But to most Missouri teachers, I believe the use of the word model seems to imply

that the student will create an actual model. I’ve been teaching a long time, and I’m not sure I know

how to do that with this particular standard.

9-12-PS1-B-6 I believe this standard is good as written

9-12-PS1-B-7 “Refine the design of a chemical system” is another phrase meaning what exactly?

Express a

knowledge of Le Chatelier’s Principle? Just say so then. Content of the standard is fine.

9-12-PS1-B-8 Again, if what you mean is Stoichiometry, then say so. If what you mean is have students be able to

balance an equation, say so. Don’t use such obtuse wording as “Use symbolic representations and

Mathematical calculations...”. Content of the standard is fine.

9-12-PS1-C-9 Once again, the language of the standard is unnecessary. “Use a nuclear equation” is much more clear

Than “use symbolic representations”. Content of the standard is fine.

9-12-PS2-A-1 I believe the standard is good as written.

9-12-PS2-A-2 I believe the standard is good as written.

9-12-PS2-A-3 Again, if you want teachers to design an Egg Drop Contest, then say so. The wording of this standard is,

well, unnecessary. How about....”Students will apply the principles of motion/momentum/and

impulse in their design/building/testing of an egg drop device. Design of other

similar devices with
similar function (car crash protection/shipping containers for fragile materials/etc)
are acceptable as
well.”

9-12-PS2-B-4 I believe the standard is good as written.

9-12-PS2-B-5 I believe that your average student would be incapable of actually designing the experiment, on their own, that Faraday originally conceived. That seems to be what the standard requires students to do.

I believe that a better attack might be for the teacher to demonstrate the experiment, then have

students take the concept of magnetic/electrical induction and discover variables that affect the magnitude of the electrical/magnetic fields produced.

Suggested variables include wire diameter, voltage, current, magnetic flux, etc.

9-12-PS3-A-1 The “computational model” is already created!!! Just say “Students will use the Conservation of

Energy relationship to predict energy changes within a mechanical system”.

Content is fine

9-12-PS3-A-2 This standard is, like so many here, over-worded. If you want to say “Students should recognize that

The potential energy of a substance can take many forms, and that the kinetic energy of a substance

can also”, then say so. If that isn’t what you intend for this standard, then this 29 year veteran is at a loss!

9-12-PS3-A-3 I believe the standard is good as written.

9-12-PS3-B-4 I believe this standard is overwritten. Something simple like “Plan and conduct an experiment that

Investigates the relationships of heat transfer between objects to include variables of mass, specific heat, and temperature (change).”

9-12-PS3-C-5 Standard is unclear. Rewrite to say something like “Students should use Coulomb’s Law to calculate

and predict forces between two charged objects. Student should also be able to describe what

effect movement of charged object either closer to, or farther away, has on the potential energy of the object.”

I personally believe that this concept is unnecessary at an introductory level physical science class.

9-12-PS4-A-1 I believe the standard is good as written.

9-12-PS4-A-2 I believe the standard is good as written.

9-12-PS4-B-3 I’m not sure exactly what “Communicate technical information” means here, but I assume the writers

intend for students to “Investigate/research the effects that electromagnetic

radiation has on different types of matter. (including, but not limited to microwave ovens, global warming, conversion of light energy into thermal energy).”

9-12-PS4-B-4 I believe the standard is good as written.

Respectfully submitted,

Steven Day

Rolla High School

From: [Kerri Greenwell](#)
To: [1490Comments](#)
Subject: Proposed Standards
Date: Friday, March 04, 2016 2:50:24 PM

Here are notes from the ELA perspective. Thank you for considering our opinions on this matter.

- There are too many standards for Kindergarten.
- The number of pages for K-5 greatly outweighs the number of pages in 6-12.
- Newest standards are more open to interpretations (GLEs/CLSs had a, b, c, d)
- New format is so spread out compared to the CCSS.
- CCSS is more user friendly.
- 6-12 does not contain connections like text to world, text to self, etc. These do occur in K-5.
- 7-8 Writing Standards do not flow well.
- Why do 7th graders have to write a claim and counterclaim, but the 8th graders only have to find a claim and counterclaim?
- RL2D---The flow is off and it is really broad.
- RL2A—11-12 How does one measure aesthetic impact?
- RL3B—6-12 seem to be doing something with 2 texts— grade 9-10 is confusing. If an author alludes to a Biblical allusion, the “how” is the allusion. The “why” would be how the allusion might add meaning, depth, etc. to the text. Is this more difficult than grade 8?
- RL3C 11-12 Would this require an author study? Is an author study part of the new standards?
- RL3D—How do teachers assess independent reading?
- RL1B---How do 6-12 grade teachers determine which affixes to teach or on which reference materials to focus?
- RI2C—Should 11-12 read *analyze and evaluate* instead of just *evaluate*?
- RI2B—What exactly is meant by *Rhetoric*?
- RI3B—This standard does not flow well. Not sure why craft *and structure* are part of grade 7 since this is the only one that specifically states craft and structure. Grades 9-10 do not seem to connect. This seems easier than grade 8. Grades 11-12---How will complexity be judged?
- W1A—A credible source may not be relevant, but would a relevant source lack credibility?
- RI1A is labeled Evidence/Inferences and students are asked to Draw Conclusions . RI1C is labeled Draw Conclusions, but this is only for visual elements. Could the labels on the A and C boxes be clearer?
- W3AB grade 7—The first part of the standard is repeated.

Overall, the wording of these standards could be much better.

Kerri Greenwell

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From: [Sara Watson](#)
To: [1490Comments](#); [Vitt, Aaron](#)
Subject: MLS
Date: Friday, March 04, 2016 3:03:57 PM

I do not necessarily like the structure of the headings for concepts and "themes"--I feel like it needs to be better laid out.

I do not like how standards for one subject like "World History 9-12" fit with "American Government" as well but "American Government" will be left blank---only to then find that standard for American Government in the same spot---feel like these should be more consistent.

From: [John Garagnani](#)
To: [1490Comments](#)
Subject: Proposed High School World History Standards
Date: Friday, March 04, 2016 3:09:02 PM

To whom it may concern,

I have reviewed the latest version of the proposed standards, discussed them with my colleagues, and come to the following conclusion.

The changes and additions are very appropriate. We especially like the addition of developing a research plan and making predictions as part of the objectives under the Tools of Social Science Inquiry. However, the return to the old format is very hard to follow. The format as proposed in the fall of 2015 is much easier to follow. Furthermore, the format as proposed in the fall includes a much needed general description of each theme and a very helpful listed of suggested primary and secondary sources. We strongly recommend a return to the format as proposed last fall.

Thank you,

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Mike Garagnani
Social Studies
Camdenton High School

From: [Pardeck](#)
To: [1490Comments](#)
Cc: [Vickie Pardeck](#)
Subject: Thoughts on new standards
Date: Friday, March 04, 2016 3:49:38 PM

Thank you for the opportunity to comment on the new Missouri Learning Standards. In thinking about these new standards, several things come to mind. As district curriculum leaders, we will need support in explaining these new standards to teachers. Most districts have spent the last four or so years working to understand the past Missouri Learning Standards, aligning and providing new resources to staff, and coaching staff through best practices for teaching the standards. Our mantra has been to teach children to think deeply and critically. Teachers are becoming more comfortable with teaching those standards and using the new resources. Much focus has been placed on developing stamina in students for reading, writing, and math. Emphasis has been placed on spending the time to confer with students regarding their thinking. Students are beginning to see themselves as readers and writers. They have been able to use time to develop number sense and to see themselves as mathematical problem solvers. Much of this has occurred because we've told teachers that "less is more", that going deeper is better than a shallow race through content.

Most teachers have commented on the new standards. My heart sinks when they perceive these new standards as a step back to past GLEs, and a race to "cover" all the standards and bulleted items. They perceive this as a mandate to "start over". We have worked to help teachers facilitate rich units of study, and to provide the time and descriptive feedback that children need to learn. My worry is that, especially in ELA, teachers will easily revert back to using these new standards as a checklist of disjointed skills to be taught and assessed through a packet of worksheets and low level lessons.

In light of this concern, district coordinators will need PD in understanding and explaining the differences in the new standards in regard to the previous standards. The standards themselves need to be prioritized. DESE can provide strategies for teachers to integrate these standards and descriptors into meaningful and achievable units of study. Districts have already committed many hours and dollars to resources tied to the previous standards. Sessions regarding how to continue to utilize these resources with the new standards would be very beneficial. I think all this must be completed with an understanding of the current context surrounding teachers and education... that teachers are tired and discouraged with the constant changing of the expectations.

Again, thank you for the opportunity to share my thoughts.

Vickie Pardeck
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From: [Mary Van Orden](#)
To: [1490Comments](#)
Subject: ELA Standards
Date: Friday, March 04, 2016 3:55:10 PM

There is serious concern regarding the transition between K-5 and 6-12. Several times in the K-5 standards there is a notation that there are no 6-12 correlations. Sometimes this is appropriate and sometimes it is not. For example: In terms of Reading Foundations, this is acceptable, but in Speaking and Listening it is not. In Speaking/Listening #2 Listening for Entertainment, there is no 6-12 correlation. Since we speak and listen for entertainment throughout life, this standard should be developed K-12. This happens in Reading, Reading Foundations and Speaking and Listening.

Mary Van Orden

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From: [Brooke Smith](#)
To: [1490Comments](#)
Subject: concerns regarding standards
Date: Friday, March 04, 2016 3:57:13 PM

I teach 5th grade math.. I have read through the proposed standards and feel they are better but there is still a lot of vague wording that will make it difficult for me to measure whether I have met this standard with my students. I also feel that the standards have decreased in rigor and left a few gaps from the previous standards.

For example: NBT.3 Understand that in a multi-digit number, a digit represents 1/10 times what it would represent in the place to its left. (Why have we left out understand a digit represents 10 times what it would represent to its right?)

NF. 1-2 Understand that parts of a whole can be expressed as fractions/and or decimals. Also, Convert decimals to fractions and fractions to decimals. (We went from recognizing and generating equivalent fractions to changing them to decimals. I believe this is a higher level thinking and the age level for this skill is not appropriate for 5th grade. I believe understanding that fractions are also division problems is the important task for 5th graders. We are missing that standard, and I am afraid it will cause gaps in their learning.

RA B.2- Translate written expressions into algebraic expressions. (I am unsure why there is a jump from determining composite and prime numbers in 4th grade to translating words to expressions. I believe this standard can be academically met; however, 4th grade isn't preparing them for this standard. They need to be familiar with the terms before coming to 5th grade.)

Before these standards are approved I would like to see some of this vague language clarified and possible gaps in learning so that I am able to make SMART goals with my students to prepare them for future school work and life beyond.

Thanks!

Brooke Smith

5th Grade Math
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From: [Wall, Jennifer](#)
To: [1490Comments](#)
Subject: Math Learning Standards Comments
Date: Friday, March 04, 2016 3:58:16 PM

Thank you for taking comments on these standards.

I've noticed that the Standards for Mathematical Practice are missing from all grade levels in this version of the standards. These are important enough that they need to be within the main Learning Standards document. I don't know if they were removed with the intention of putting them in an appendix or supporting document, but it really needs to be included with the standards themselves.

I also don't understand the format. It seems to me as if the rows should show how learning progresses from one grade to the next and show increasing level of complexity and understanding throughout the grades. However, it seems as if the rows just show the standard number in the grade level. I'm not sure how this view is beneficial. If it were set up more where in the same row we'd see that in K we have fluency for sums and differences within 5, in 1st and 2nd we have fluency with sums and differences within 20, in 3rd we have fluency for sums and differences within 1000, in 4th we have fluency using the algorithm, we could see this progression. The way it is set up now, these specific standards are spread out between pages 5, 6 and 15.

As for the content, I think these are a rich set of standards I would be happy to adopt. We just need to have the Standards for Mathematical Practice included, and have a format that shows progressions throughout the grades.

Thank you for taking these comments into consideration,

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From: [Wilmes, Patty](#)
To: [1490Comments](#)
Subject: Comments for proposed standards/expectations
Date: Friday, March 04, 2016 4:02:42 PM

Reading: Comprehension-1A Grade 3-d: Should state 'recount' instead of 'retell' at this grade level.

Reading: 1B, Kindergarten-d: Using a picture dictionary to find words at this level is not typical. There is a lot of emphasis on using a dictionary at other grade levels. This skill can be taught but in real world application does not exist. People use technology which is not integrated into proposed standards.

Reading: 1C: Box statement at bottom of page: 'As students mature and grow as readers, the text level and connections should become more complex.' How will this be determined, addressed, taught and assessed?

Reading: 1D: Grades 1-5-b- What are the suggestions of evidence? What is the appropriate length of time this is to be done? Need more explicit directions.

Reading 2A; Grade 1-b: 'Discuss the main idea...' this is a jump from retell in Kin and then from 1st to 2nd when they describe the main characters. Needs to be either more foundation in 1st to build up to 2nd grade skills and more clarification on what is to be discussed.

Reading 3A; Grade 1-a: Restate the main ideas using text features. You can't always do this. Not sure this is best way to express. Maybe use text features to ASSIST in restating/telling/identifying main idea.

Reading Foundations: 4A; Grade 1-Orally read grade appropriate texts with fluency and comprehension. What measure should teachers use to assess this?

Writing: 1B Cont.; Grade 5-d-Not an effective conclusion for all writing types. There are effective ways to conclude writing. This also needs to be addressed prior to 5th grade.

Writing: 1C; Grade 5: 'with assistance': When does this change? It goes from Grade K-5 stating this. When do students work independently?

Writing: 2A: Grade 1-d: What does 'a sense of order' mean? Needs to be clarified for instructional purposes.

Writing 2C: Grade 1-a: From 1st to 2nd grades, big jump from 'use' to 'establish'. Grade 2-d: develop sensory details-does this connect to Grade 3b? Also, why is this not addressed at other grade levels?

Grade 3b: What exactly does this mean? Can other examples be added here?

Writing 3A: Grade 1-C: Add 'persomal' to Kindergarten. Could they present also in Kindergarten? Grade 4-e: What does the asterisk represent? Grade 4-h: 'Plagiarism' becomes a word that teachers tend to solely focus on. Could it be exchanged for 'paraphrasing'? It's

also addressed in 'restate information in own words'.

Grade 5-B: Change 'researchable' to 'research'. Grade 5-e: Big jump from 4th to 5th grades.

Writing 3A: Grade 1-f: add 'and student' after 'teacher'. Grade 4-k,l: What format is recommended? Grade 5-j: What is the rubric to be used?

Language 1A: Grade K-d: what does this mean exactly? Can examples be provided? Grade 1-g,h,i: Orally or written? Big jump from K to 1st.

Language 1B: Grade 1-e: What sight word lists are suggested? Grade 1-f: spelling knowledge should change to phonics. Grade 3-e: This skill has been taught for over 15 years at 1st grade. Grade 5: Where is alphabetizing?

Speaking/Listening: Grade K-c: Is this verbally? Also, what 'classroom rules' are suggested? Grade K: 2A: 'Classroom expectations' - need guidelines.

4A: Grade 1-b: 'group or individ' addressed in header. Need transition between b and c to 2nd grade. Grade 3-a & c: aren't these the same? Could also add 'props or tools'. Grade 4a: This should start in 3rd. Grade 4d-Need classmate rubric for listener. Grade 4f: add 'audience'. Grade 5-need to add components from 4th.

Patty Wilmes

NWRPDC

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From: [Sheila Ward](#)
To: [1490Comments](#)
Date: Friday, March 04, 2016 4:29:03 PM

To Whom It May Concern,

This is a collective email from a group of Teaching Methods Coaches from the Ferguson-Florissant School District. During a recent PD we spent time analyzing the crosswalk documents of the old and new Missouri Learning Standards. We appreciate the amount of time and effort that was put into this document. We have many concerns regarding the direction in which the standards are heading.

Our district has spent the past two years investing time and resources into professional learning centered around the Missouri Learning Standards. As a district struggling to maintain accreditation, we have a sense of urgency for increasing student achievement.

- 1st grade: concerns over students being able to identify root words within words that contain suffixes and prefixes along with requiring students to find words in a dictionary.
- 2nd grade: the teaching of compound words as they are two separate words that have meanings that will help to define the new word. this is very often not true. Some examples are: butterfly, teaspoon, tablespoon, rainbow.
- 3rd-5th grade: the pre, during, and post reading skills are written as if they are skills to be taught in isolation.
- a single MLS converted to 4 GLE's with multiple sub-skills for each.

It is our wonderment if the MLS were changed to improve the standards or just to separate them from the Common Core.

Thank you for your consideration.

Ferguson Florissant Instructional Coaches

From: [Betsy O'Day](#)
To: [1490Comments](#)
Subject: Science Standards
Date: Friday, March 04, 2016 4:34:58 PM
Attachments: [Standards Review March 2016.pdf](#)

Please see attached concerns and review.

There needs to be coherency K-12. I think the foundation boxes that secondary put in their original document are important for teachers, curriculum writers and assessors. There should be similar boxes in elementary as well.

Thank you for your consideration.

Betsy O'Day

Since standards are an assessment document, it is important to consider consistency and grain size of the expectations. This will affect the assessment items that are written for each expectation. The items recommended for removal are for the following reasons: 1) many are at a grain size smaller than the other performance expectations – they narrow the focus and limit or dictate instruction, 2) they are not consistent with the other expectations – they use verbs that are instructional in nature and not scientific practices (using inquiry in context), and/or 3) the content is covered in other performance expectations already written in the document. The items recommended to be moved are for more depth in instruction as well as coherence throughout K-5 which will result in deeper understanding by students. This will also provide more coherency between elementary and secondary. The items for rewrite are for more clarity to the teachers, curriculum writers and assessment writers using these standards.

To develop understanding in science concepts, students need to have time for deeper instruction. That can only occur in science if concepts have standards written to allow this type of instruction to occur at 1 or 2 grade levels (at most 3). It cannot happen when concepts are spread over all grade levels. When spread out, instruction will remain at the surface and will be very fact and knowledge based rather than at higher DOK levels.

Matter and Its Interactions (PS1)

Recommend removal from standards:

K-PS1A Structure and Properties of Matter

Sort objects based on observable physical properties (e.g., size, material, color, shape, mass) and explain sorting criteria.

- This dictates curriculum through the use of the verb “sort”. The standard is already part of this standard in grade 2 (**2-PS1-A Structure and Properties of Matter: *Plan and conduct an investigation to describe and classify different kinds of materials by their observable properties.***) encompasses this. Grade 2 should have a suite of expectations that allow for deeper instruction around these concepts.

Recommend removal from standards:

1st grade - Given and equal arm balance and various object, illustrate arrangements in which the beam is balanced.

- Students will have several opportunities in context to measure mass/weight. There does not need to be an assessable expectation for this. This is also done in math.

Recommend removal from standards:

1st grade – Compare and contrast physical properties associated with mass/weight.

- This is part of **K-PS1A Structure and Properties of Matter** : *Sort objects based on observable physical properties (e.g., size, material, color, shape, mass) and explain sorting criteria.*
- As written, you will have teachers using the term mass with students at the elementary level and that should not happen until middle school (at the earliest upper elementary)

Recommend removal from standards:

2-PS1-B Types of Interactions of Matter

Describe ways to separate the components of a mixture by their physical properties (e.g., sorting, magnets, screening)

- This is still based on understanding of structure and property. This concept would be taught in the proposed standards in 5th grade where it is more developmentally appropriate after instruction in earlier grades around the structure and properties of matter - **5-PS1-B Types of Interactions of Matter:** *Conduct an investigation to determine whether the combining of two or more substances results in new substances.*

Recommend removal from standards:

3-PS1A Structure and Properties of Matter

Predict and investigate that water can change from a liquid to a solid (freeze), and back again (melt), or from a liquid to a gas (evaporation), and back again (condensation) as the result of temperature changes.

- Evaporation should not be done until students have the ability to understand the particle nature of matter – research tells us that is not until at least 5th grade. This standard, with the exception of evaporation, is part of the **3-PS1B Types of Interactions** which should be moved to 2nd grade with the others for depth and coherence.

Recommend removal from standards:

4-PS1B Types of Interactions of Matter

Describe ways to separate the components of a mixture/solution by their physical properties.

- This is word for word as a 2nd grade expectation. This would already be included in the following standard. **5-PS1-B Types of Interactions of Matter:** *Conduct an investigation to determine whether the combining of two or more substances results in new substances.*

**There should be an expectation at the 5th grade level that requires students to examine materials and identify them based on properties. There are additional properties of matter that are explored with the force of magnetism and energy between 2nd and 5th grade that would be used when separating mixtures that creates a need to explore properties at a higher level.

Motion & Stability; Forces & Interactions (PS2)

Recommend removal from standards:

1-PS2A Forces and Motion

Describe ways to change the motion of an object (i.e., how to cause an object to go slower, go faster, go farther, change direction, stop)

- This would be part of the **K-PS2B Types of Interactions:** *Plan and conduct an investigation to compare the effects of different strengths or different directions of pushes and pulls on the motion of an object.*

2-PS2-A Forces and Motions

Predict and demonstrate how the motion of an object could be changed by an applied force or the mass of an object

- This stands alone and has no depth. This is about balanced and unbalanced forces. This would be covered in **4-PS2A Forces and Motion** - *Plan and conduct an investigation to provide evidence of the effects of balanced and unbalanced forces on the motion of an object.* That expectation should be moved to 3rd grade.

Recommend rewriting as one standard about interactions using a practice:

3-PS2B Types of Interactions (Motion & Stability)

Predict and describe the electric or magnetic interactions between two objects not in contact with each other.

3-PS2B Types of Interactions (Motion & Stability)

Predict the effects of an electrostatic force (static electricity) on the motion of objects (attract or repel)

Recommend removal from standards

4-PS2B Types of Interactions (Motion & Stability)

Plan and conduct a fair test to compare and contrast the forces (measured by a spring scale in Newtons) required to overcome friction when an object moves over different surfaces

- This would also be covered in **4-PS2A Forces and Motion** - *Plan and conduct an investigation to provide evidence of the effects of balanced and unbalanced forces on the motion of an object.* That expectation should be moved to 3rd grade.

Recommend removal from standards

4-PS2B Types of Interactions (Motion & Stability)

Predict how changes in either the amount of force applied to an object or the mass of the object affects the motion (speed and direction) of the object

- This would also be covered in **4-PS2A Forces and Motion** *Plan and conduct an investigation to provide evidence of the effects of balanced and unbalanced forces on the motion of an object.* That expectation should be moved to 3rd grade.

Recommend placing both of the following in 3rd grade to facilitate coherence, grade level appropriateness and rigor:

- 4-PS2A Forces and Motion
Make observations and/or measurements of an object's motion to provide evidence that a pattern can be used to predict future motion.
- 4-PS2A Forces and Motion
Plan and conduct an investigation to provide evidence of the effects of balanced and unbalanced forces on the motion of an object

Energy (PS3)

Recommend removal from the standards:

4-PS3B Conservation of Energy and Energy Transfer

Provide evidence to construct an explanation of an energy TRANSFORMATION (e.g. temperature change, light, sound, motion, and magnetic effects).

- This would be covered in **4-PS3B Conservation of Energy and Energy Transfer**: *Make observations to provide evidence that energy can be TRANSFERRED from place to place by sound, light, heat, and electric currents* and **4-PS3B Conservation of Energy and Energy Transfer**: *Apply scientific ideas to design, test, and refine a device that converts energy from one form to another.* There does not need to be an expectation that creates a progression to another expectation in the same grade level.

Recommend removal of following 1st grade expectation from standards:

*Identify the source of energy that causes an increase in the temperature of an object (e.g., Sun, stove, flame, light bulb)

- There will be many places in instruction with other expectations that this knowledge will be necessary to learn. This is fact based knowledge and requires no investigation or use of scientific practices.

Recommend removal of following 5th grade expectation from standards:

Observe and explain that simple machines change the amount of effort force and/or direction of force.

- Simple machines are an application of force and motion concepts. This belongs in middle school where the math associated can be used to explain the trade-offs. While it could be taught in elementary conceptually, this expectation will not ensure that this would occur. Most resources use math as a basis the concepts. In addition, NAEP took simple machines out of elementary assessment several years ago based on research.

Waves and Applications in Technology for Information Transfers (PS4)

Recommend remove from K:

K-PS4A Wave Properties

Compare and contrast different sounds (i.e., loudness, pitch, duration)

- The use of “compare and contrast” makes it too prescriptive – dictates curriculum and very knowledge based.
- It will fit under **2-PS4-A Wave Properties: *Plan and conduct investigations to provide evidence that changes in vibration create change in sound.*** That expectation is in both 1st and 2nd grades and should be kept in Grade 1

1-PS4B Electromagnetic Radiation

Identify the source of energy that causes an increase in the temperature of an object (e.g., Sun, stove, flame, light bulb)

- This could be rewritten to be less of a fact and put with **K-ESS2D Weather and Climate** to add depth to K. Put here, it is stand alone. As written this is prescriptive and a basic level knowledge fact to be memorized – needs a practice.

Recommend removal of following 5th grade expectation from standards:

Observe and explain how an object (e.g., moon, mirror, objects in a room) can only be seen when light is reflected from that object to the receiver (eye).

- This would be covered in the following 5th grade expectation: *Develop a model to describe that objects can only be seen when light is reflected off them or when they produce their own light.*

From Molecules to Organisms: Structures and Process (LS1)

Recommend rewriting:

2-LS1-A Structure and Function

Identify and compare the physical structures of a variety of animals (e.g., sensory organs, beaks, appendages, body covering) (Do NOT assess terms: sensory organs, appendages)

- The verbs “identify and compare” are very knowledge based and not investigative. Plants need to be included so use of the term ‘organism’ would be more inclusive. This structure and function standard could be rewritten to include a practice and put with 1st grade standard because students would need the science background to complete this expectation - **1-LS1A Structure and Function & 1-LS1D Information Processing Design** a solution to a problem by using an external structure from a plant or animal

Recommend edit:

5-LS1-C Organization for Matter and Energy Flow in Organisms –

Support an argument that plants get the materials (i.e. carbon dioxide, water, sunlight) they need for growth chiefly from air and water

- The i.e. items in the parenthesis seems redundant. Specification of carbon dioxide might lead to the process of photosynthesis which should not be taught in elementary.

Recommend edit:

3-LS1B Growth and Development of Organism

Develop a model to compare and contrast observations on the life cycle of different animals.

- Needs to be edited to include plants - organisms

Recommend removal from standards of the following 2nd grade expectation:

Identify and compare the physical structures of a variety of animals (e.g., sensory organs, beaks, appendages, body covering) (Do NOT assess term: sensory organs, appendages).

- This would be covered in **4-LS1A Structure and Function: *Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and plant reproduction.*** This is too specific and dictates curriculum.

Recommend removal:

5-LS1-A Structure and Function

Compare and contrast the major organs/organ systems (e.g. support, reproductive, digestive, transport/circulatory, excretory, response) that perform similar functions for animals belonging to different vertebrate classes

- This would be included in the following expectation: **4-LS1A Structure and Function: *Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and plant reproduction.*** This is too specific and dictates curriculum.

Recommend removal:

5-LS1-A Structure and Function

Compare and contrast structures (e.g., wings vs. fins vs. legs; gills vs. lungs; feathers vs. hair vs. scales) that serve similar functions for animals belonging to different vertebrate classes

- This would be included in the following expectation: **4-LS1A Structure and Function: *Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and plant reproduction.*** This is too specific and dictates curriculum.

Ecosystems: Interactions, Energy, and Dynamics (LS2)

Recommend rewrite:

2-LS2-A Interdependent Relationships in Ecosystems (GLE)

Predict and investigate the growth of plants when growing conditions are altered (e.g., dark vs. light, water vs. no water)

- Predicting would occur when planning an investigation – plan and conduct investigations. 2nd graders need to be involved in planning an investigation

Recommend removal:

5-LS2-A Interdependent Relationships in Ecosystems

Predict the possible effects on a food chain or food web of adding or removing an organism.

- This would be included in the following expectation: **5-LS2-B Cycles of Matter and Energy Transfers in Ecosystems**: *Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment.*

Heredity and Inheritance: Variation of Traits (LS3)

Edit:

3-LS3A Inheritance of Traits

Construct scientific arguments to support claims that some characteristics of organisms are **inherent** (inherited) from parents and some are influenced by the environment.

- Typo - inherent should be inherited

Biological Evolution: Unity and Diversity (LS4)

No changes needed

Earth's Place in the Universe (ESS1)

Recommend removal:

K-ESS1A The Universe and Its Stars

Describe the presence of the Sun, Moon, and stars in the sky over time.

- part of **1-ESS1A**. *Use observations of the sun, moon, and stars to describe patterns that can be predicted* – does not need to be done here, depth in grade 1

Recommend removal:

3-ESS1B Earth and the Solar System (GLE)

Explain how the Sun's position in the sky and the Earth's rotation affect the length and direction of shadows.

- Students need to have a basic understanding of shadows first and investigate them – that should happen in 1st grade with the light and sound PS standards. This is not grade appropriate for 3rd grade. 5th graders have a difficult time with this. The concept of cause and effect regarding shadows and Earth's rotation is best taught in grade 5 with this: **5-ESS1-B Earth and the Solar System**: *Represent data in graphical displays to reveal patterns of daily changes in*

length and direction of shadows, day and night, and the seasonal appearance of some stars in the night sky.

Earth's Systems (ESS2)

Recommend removal:

1-ESS1-2 Identify patterns indicating relationships between observed weather data and weather phenomena (e.g., temperature and types of precipitation, clouds and amounts of precipitation) WC1 Column E

- This is already in Kdg. It does not need to be repeated here. 3rd grade will pick it up again.

Suggest an edit:

4-ESS2A Earth Materials and Systems

Plan and conduct scientific investigations or simulations to determine how natural processes (e.g. weathering and erosion) shape Earth's surfaces

- "to provide evidence" instead of "determine" – science is evidence based

Earth and Human Activity (ESS3)

No changes needed

From: [Ruggirello, Rachel](#)
To: [1490Comments](#)
Subject: Comments on proposed standards
Date: Friday, March 04, 2016 4:47:44 PM
Attachments: [Comments on Proposed MO Standards.docx](#)

Hello,

Here are some comments from the team at the Institute for School Partnership.

Best,
Rachel

--

Rachel Ruggirello, Ph.D.
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Institute for School Partnership
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Comments on Proposed MO Standards:

General Comments

1. Missouri should adopt the complete NGSS package, including critical aspects such as 3-dimensional learning. Crosscutting Concepts, Science and Engineering Practices, and Disciplinary Core Ideas work together to support authentic science learning and provide a structure for achieving the standards (Performance Expectations) themselves.
2. If Missouri fails to adopt the full NGSS, then Missouri should re-organize their numbering system so as not to provide confusion with the actual NGSS standards. For example, 6-8-LS1-6 in the Missouri Standards is 6-8-LS1-5 in the NGSS standards. Because NGSS is an already-adopted program, it is up to Missouri to distinguish their numbering system from NGSS in some meaningful way. Massachusetts has done this by putting (MA) next to their additions to the NGSS so it is clear when it is a Massachusetts specific standard.
3. Glad to see the Engineering, Technology, and Application of Science Section restored in this version. Please keep! Note, some of the numbering of these standards in the 6-12 section is inconsistent (ETS and ESTS are both used; sometimes there is a number and sometimes there isn't).

K-5 Science

We wonder if the committee is aware of the major science Curriculum companies that schools use? For example, National Geographic, PLTW, Pearson, Discovery Ed, Houghton Mifflin Harcourt, and Delta have all aligned their materials to the NGSS.

Picking and choosing from the NGSS does not work, especially if we leave out much of the pieces of the performance expectations that further explains them, eliminating the opportunity for three-dimensional learning and integration of science content with science practices.

The proposed standards do not address the Cross Cutting Concepts or the Science and Engineering Practices anywhere. In addition, they took out the old GLE scientific inquiry strand, so there is no guidance for teachers on how to teach the practice of science.

Specific Comments (K-5)

PS1-A

First grade is quite early to expect students to differentiate between mass and weight. What is the purpose/rationale at this grade level?

6-12 Science

The numbering of the standards is confusing for middle/high school due to repetition of standards in multiple concepts. For example, look at ESS3 (Page 20 of the 6-12 science standards). 9-12-ESS3-1 appears in both Concept A and Concept B. So, will this standard

be referred to as 9-12-ESS3-1A or 9-12-ESS3-1B, or both? What is the difference between the two appearances of this standard?

Specific Comments (6-12)

LS3-A and B: All inheritance and variation of traits moved to high school.

For 6-8, we have added back in the Engineering, Technology, and Application of science, but then deleted content standards that are related. For example, this version of the standards does not include MS-PS4-3 on digitized signals. Since computer science is becoming a greater focus nationally, the deletion of this standard is concerning because it does not give students the foundation for studying this subject later on.

NGSS LS1-7 has been deleted. This standard shows the interdisciplinary nature of science by connecting physical science (chemistry) to life science (photosynthesis). This is a key performance expectation that should be left in at middle school to provide the foundation necessary for studying both biology and chemistry in high school and beyond.

From: [Brodersen, Lisa](#)
To: [1490Comments](#)
Subject: K-5 Science Grade Level Expectations
Date: Friday, March 04, 2016 4:54:58 PM

I am gravely concerned with the lack of foundational content and fragmented construction of the proposed K-5th grade Science Grade Level Expectations. As an educator of 20 years, I have come to expect any curriculum and all curriculum to meet a certain level of sound understanding of how to build a system of knowledge base and application for students. I recently received the draft and found it to be woefully deficient as a set of instructional guidelines.

Lisa Brodersen
Fourth Grade Teacher

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From: [Sara Watson](#)
To: [Vitt. Aaron: 1490Comments](#)
Subject: Re: MLS
Date: Friday, March 04, 2016 8:04:27 PM

That was supposed to say in a different spot

On Mar 4, 2016 3:03 PM, "Sara Watson" <swatson@paris.k12.mo.us> wrote:

I do not necessarily like the structure of the headings for concepts and "themes"--I feel like it needs to be better laid out.

I do not like how standards for one subject like "World History 9-12" fit with "American Government" as well but "American Government" will be left blank---only to then find that standard for American Government in the same spot---feel like these should be more consistent.

From: [Sarah Spilman](#)
To: [1490Comments](#); [Henningsen, Blaine](#); [Vandeven, Margie](#)
Subject: Proposed Science Standards
Date: Friday, March 04, 2016 9:15:11 PM

Thank you for allowing educators the opportunity to review the standards and provide feedback on them.

Currently the science standards are designated to individual grade levels and or courses. The new standards are not organized in this manner. While I agree that we are in great need of new standards, I think that not having clear cut standards for each grade level would make a for a confusing system. For example, Student A goes to District B for 6th and 7th grade. District B chooses which standards they teach for said grade levels. After 7th grade, Student A's family decides to move to another district, District C, 30 miles away. District C covers the content that they chose for 8th grade which overlaps with things that District B taught in 7th grade. Student A is now lacking topics that they needed to receive in 8th grade that District C taught in 7th grade.

I realize that all school districts teach their grade level standards in their own manner. This issue is one that I think about a lot because we have a highly transient population in Kingsville. I see a good amount of this already when students move from one district to another and miss small areas of the content.

Not designating grade levels (and course levels) for these standards could be detrimental to smaller districts that do see these high levels of transient families. We would see these issues within standardized test scores which schools are held accountable for. More specifically teachers are now being held more accountable to these scores. I think we, as teachers and school districts, need to be accountable for those scores somehow, but, again, I see many issues with it. I currently have 4 new students in 8th grade that will be required to take the Science MAP test with less than 3 weeks to prepare them. If any of those students were lacking any areas, I would have very little time to diagnose their issues and "treat" them with the needed content which they will likely not retain.

I am very passionate about my job and the small district that I serve. I hope that my response was clear and conveyed the message I feel strongly about. Thank you for all you do to help students and teachers be successful.

Sincerely,
Mrs. Sarah Spilman

Sarah Spilman

Science Teacher
Kingsville High School
101 E. Adriatic
Kingsville, MO 64061
(816)597-3422 x231

“Education is the most powerful weapon which you can use to change the world.” --Nelson Mandela

From: [Susan German](#)
To: [1490Comments](#)
Subject: A bit more feedback regarding science standards
Date: Friday, March 04, 2016 9:45:33 PM

Hello,

Tonight I heard the disturbing information that the standards were not reviewed by educational experts. Instead, the standards that were turned into the state board were reviewed by a few people at DESE. The starting document that the 1490 workgroup used was written by actual, nationally recognized leaders and science education researchers. While we changed some things, we kept to the idea of three dimensional learning and the principles of good science education. What DESE did feels like deception to me.

The document the workgroup turned in should be used, with clarification statements, assessment boundaries, and foundation boxes. It is fine to include the engineering standards and the movement of photosynthesis to MS.

Thank you,

Susan

On Monday, February 29, 2016, Susan German <sgerman@hallsville.org> wrote:

Hello,

1. Why did you remove the boundaries, explanations, and foundation boxes? That was designed to help teachers know how far the the standard would be tested, plus provide a one stop shop for knowing the background information. Now, teachers will have to go to other documents in order to have an idea of what they are to teach.
2. While I do not mind the addition of the Engineering standards, do you not think that it will be treated as Inquiry was treated years ago? A unit to never be seen again. Or, worse yet, as a stand alone class and not integrated into the curriculum?

I may have more.

Susan German