

## Senato Initial Review

**K-12 Science TEKS input****Kinder- 5<sup>th</sup> grade Input**

Grade Level	TEKS/SE	Considerations/ Suggestions	Rationale
<b><u>Scientific Investigation and ReasoningC</u></b>			
Kinder-5th	K.1.1A/ 1.1.A/2.1.A/3.1.A/4.1.A/5.1.A	Change chemical splash goggles to splash-proof goggles.	The Texas Safety Standards manual lists the goggles in K-5 as splash goggles. Changing the term in the TEKS to splash goggles would align with that is set in the TSS Manual.
Kinder-2nd	K.4.A/ 1.4A/ 2.4.A	Remove safety goggles/chemical splash goggles	It is repetitive as this is already listed in K.1.A/ 1.1.A./ 2.1A
<b><u>Science Concepts</u></b>			
Kinder-5 <sup>th</sup>	Biomes/ habitats	Consider specifying examples of biomes/habitats at each grade level.	The biomes can increase in complexity and biodiversity as the students get older. It also allows them to apply life cycles, structures and adaptations to different locations.
Kinder	K.7.C	Remove soil from K.7C	Soil is not introduced as a concept until 1 <sup>st</sup> grade.
Kinder	K.9B	Add air as basic needs for animals	Plants have air listed as a basic need but animals do not have air listed as a basic need.
1st/2nd	1.7.A/2.7.A	Consider switching these SEs (1.7.A moves to 2 <sup>nd</sup> grade and 2.7.A moves to 1 <sup>st</sup> grade)	Rocks are introduced in Kinder but then there is a jump to introduce soil in 1 <sup>st</sup> grade (1.7A) as opposed to extending

			the rocks SE to include comparison in 1 <sup>st</sup> grade. By adding the comparison of rocks in 1 <sup>st</sup> grade and moving the soil SE to 2 <sup>nd</sup> grade, this would improve the cognitive alignment. Soil would be the next step in 2 <sup>nd</sup> grade and would be more developmentally appropriate in the progression of this SE.
1 <sup>st</sup>	1.8.B/1.8C	Consider flipping these SEs	This order aligns the SEs at subsequent grade levels.
1 <sup>st</sup>	1.9BC	Add to or clarify 1.9B	These examples listed are limited. If examples of habitats are added as a “such as” for each grade level, these could be additional examples. (See first bullet)
1 <sup>st</sup>	1.9C	Consider removing energy transfer.	Not developmentally appropriate. Energy transfer is a complex concept. Consider 1.9C as just introduction to the concept of food chains.
2 <sup>nd</sup>	2.5.A	Consider Including gases as a state of matter to 2 <sup>nd</sup> grade	Gases are introduced in 1 <sup>st</sup> grade in 1.8D when students learn that air is all around us. Including gases as state of matter in 2 <sup>nd</sup> grade would be a reasonable extension of this.
2 <sup>nd</sup>	2.5C	Add freezing after the word melting in 2.5C	Allows for better alignment in 2.5B and

			2.5C SEs. Gives specificity to the SE.
2 <sup>nd</sup>	2.6A	Add freezing at end of the SE.	The SE is for increasing and decreasing amounts of heat but the current SE only talks about adding heat to melt butter.
2 <sup>nd</sup>	2.8.C	Introduce the basic water cycle in 2 <sup>nd</sup> grade (explore the process of the water cycle including evaporation, condensation and precipitation as connected to weather conditions)	A basic introduction to the water cycle in 2 <sup>nd</sup> grade would allow for further extensions that already exist in the 4 <sup>th</sup> & 5 <sup>th</sup> grades (4.8.B; 5.8.B).  Currently, the basic water cycle is not addressed at any grade level.
2 <sup>nd</sup>	2.10.A 2.10.B	Include structure and function as part of physical characteristics (2.10.A observe, record and compare how the structure and function of physical characteristics and behaviors...)	Alignment of the terminology between 2 <sup>nd</sup> -4 <sup>th</sup> grade
3 <sup>rd</sup>	3.8.C	Include water cycle in 3.8C but with the clarification that the Sun is necessary for more than just the water cycle. (Example: Describe and illustrate that the Sun is a star composed of gases that provides light and heat energy for all life on Earth and is	This will allow of extending the SEs in 4 <sup>th</sup> and 5 <sup>th</sup> grade on the water cycle to how the Sun and ocean drive the water cycle.

		necessary for the water cycle).	
2 <sup>nd</sup> /3 <sup>rd</sup>	2.10.C/3.10.B	Revise these SEs or add specificity to include terminology for complete and incomplete metamorphosis.	Complete and incomplete metamorphosis terms or the stages are not in the current TEKS. However, the current SE states “Unique stages”. This implies metamorphosis and incomplete metamorphosis but specifying this in the SE will give clarity and specificity to the SE.
4 <sup>th</sup>	4.5A	Clarify that sink or float is referring to density and not just buoyancy.	Developmentally appropriate extension of the SE from 3 <sup>rd</sup> to 4 <sup>th</sup> grade.
5 <sup>th</sup>	5.6.C	Consider removing how light travels or include vertical connections at lower grades	The first and only time this concept it covered is 5 <sup>th</sup> grade. Vertical connections for this concept do not exist in previous grades.
5 <sup>th</sup>	5.9.D	Consider revising or moving the SE Identify that fossils as evidence of past living organisms.	Concept is an important one but seems like it is just thrown in as an SE. Is there a place for it that will support vertical alignment and content connections?
Kinder-5 <sup>th</sup>	Biomes/ habitats	Consider specifying examples of biomes/habitats at each grade level.	The biomes can increase in complexity and biodiversity as the students get older. It also allows them to apply life cycles, structures and adaptations to different locations.

**6<sup>th</sup>-8<sup>th</sup> grade input**

Grade	TEKS/SE	Consideration/Suggestion	Rationale
<b><u>Science Concepts</u></b>			
6 <sup>th</sup>	6.5C	Consider adding testing for pH; acids/bases	Provide background needed for Biology
6 <sup>th</sup>	6.6B	Add density formula to add specificity and clarify the expectation.	Density calculations need to align with 6 <sup>th</sup> grade math skills.
6 <sup>th</sup>	6.6	Add the physical property of solubility	Dissolving is covered in elementary but then drops off 6 <sup>th</sup> -8 <sup>th</sup> grade TEKS. Solubility would be graded appropriate extension of this concept.
6 <sup>th</sup>	6.8.E	Clarify SE to include all Simple Machines	Allows for stronger connections to KE and PE; allows for alignment to other SEs in that strand.
6 <sup>th</sup>	6.7A	Consider revising/ moving to 5 <sup>th</sup> grade to connect with fossil fuels (5.7A). Explaining how fossil fuels are used and why need to be conserved  Revise 6.7A- Identify alternative energy sources. How do alternative energy sources help with conservation?	Fossil fuel formation and conservation of fossil fuels is developmentally appropriate for 5 <sup>th</sup> grade.  6 <sup>th</sup> grade can extend this concept to focus on alternative energy sources and their role in conservation.
6 <sup>th</sup>	6.11.B	Consider moving SE to 8 <sup>th</sup> grade	Concept is not developmentally appropriate for 6 <sup>th</sup> grade. The concept of gravity as it relates to planets and the solar system is a more abstract concept than
7 <sup>th</sup>	Majority TEKS/SEs	Consider revising or restructuring 7 <sup>th</sup> grade SEs to allow for more vertical alignment and continuity between grades 6 <sup>th</sup> -8 <sup>th</sup> .	The 7 <sup>th</sup> grade SEs lack flow and direction. Vertical alignment to 6 <sup>th</sup> or 8 <sup>th</sup> grade is very limited...almost forced in many cases.

			7 <sup>th</sup> grade SEs are more life science based and making connections/alignment is stretch.
7 <sup>th</sup>	Matter and Energy	Consider moving 8.5.A and 8.5.C to 7 <sup>th</sup> grade to build from where 6 <sup>th</sup> grade left off.	Move Periodic Table basics from 8 <sup>th</sup> grade to 7 <sup>th</sup> grade for stronger alignment from 6 <sup>th</sup> -8 <sup>th</sup> . Compounds and elements in 6 <sup>th</sup> grade but then nothing again until 8 <sup>th</sup> grade. This would bridge that gap.
7 <sup>th</sup>	7.10A	Consider removing this SE	Biomes/habitats covered extensively at K-6 <sup>th</sup>
7 <sup>th</sup> /8 <sup>th</sup>	7.11.ABC	Consider moving 7.11 TEKS to 8 <sup>th</sup> grade.	7.11 would align better with current 8 <sup>th</sup> grade TEKS.
7 <sup>th</sup> /8 <sup>th</sup>		Consider moving 8.7 and 8.8 Space TEKS to 7 <sup>th</sup> grade	Moving 8.7 and 8.8 would for stronger alignment with prior Earth Science skills,

#### GUIDING QUESTIONS

1. Is the current structure or framework of the kindergarten–grade 12 science TEKS appropriate? If not, what recommendations do you have for organizing or structuring the TEKS?
  - a. For the most part in K-5 the current structure is appropriate. Specific TEKS suggestions are included in the above chart.
  - b. 6<sup>th</sup> -8<sup>th</sup> grade TEKS lack continuity between the grade levels. This mainly applies to 7<sup>th</sup> grade. Suggestions again have been made in the above chart.
2. Does each grade level and/or course follow a complete and logical development of science concepts presented within the grade level/course? If not, what improvements are needed?
  - a. For the most part K-5 has logical and complete development. There are some areas for improvement list above. For example if a TEKS is going to be assessed ( like how light travels), then it should have clear vertical connections at the elementary level...Light traveling is not covered in middle school so it looks like it is just thrown out there.



9. Are the student expectations clear and specific? If not, please give examples of how the language might be improved.

Any suggestions made to clarify language is included in the table above.

10. Are there student expectations that are not essential or unnecessarily duplicative and can be eliminated? If so, please identify by grade level/course and student expectation number.