Science Advisory Committee Report & Recommendations January 20, 2026

In conformance with Policy B - 3.6.30, PIP B 3.6.30 PIP- 1, and PIP B - 3.6.30 PIP - 2

And in alignment with APS Priorities:

Strategic Priority: Student Academic Growth and Success

Strategic Plan Performance Objective: SOL Proficiency: by 2030, at least 90% of APS students will meet or exceed proficiency on the Virginia Standards of Learning (SOL's) assessments and all reporting groups will meet or exceed APS annual targets to demonstrate increased levels of proficiency and progress toward closing proficiency gaps.

Instructional Strategy: Deliver APS curriculum through rigorous, differentiated, evidence-based, and culturally responsive instruction aligned to the Virginia Standards of Learning, with opportunities to infuse depth and complexity to promote deeper understanding of the content.

And with the unanimous approval of the Science Advisory Committee members

The Science Advisory Committee makes the following two Recommendations

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Recommendation #1: Ensure Consistent Instructional Time for Science

The amount of time specified in PIP 1-6 for the delivery of science instruction is:

- For Grades K-3 elementary school science instruction is recommended to be scheduled in every classroom at least 30 minutes daily or weekly overall for 150 minutes.
- For Grades 4-5 elementary school science instruction is recommended to be scheduled in every classroom at least 45 minutes daily or weekly overall for 225 minutes.

The SAC recommends that science instruction in K-5 conform to that specified in PIP 1-6.

The time to be devoted to science instruction should be indicated as such on each school's master schedule, replacing the term "content."

Conformance with the amount of time specified in PIP 1-6 for the delivery of science instruction provides necessary and sufficient opportunities for the acquisition of the essential knowledge about the natural world, mastery of scientific concepts, building enduring scientific understandings, and development of the essential science skills and practices through hands-on learning, inquiry-based activities, critical thinking exercises and practice in communicating ideas about natural science.

Establishing consistent instructional time is foundational to closing achievement gaps and ensuring equitable science education for all students.

Conformance should be monitored and recorded specifying the SOL Standard delivered, and the date(s) of delivery.

[Budget impact: none]

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Recommendation #1 Rationale

- Observation that Science (and History) are not consistently taught during the time labeled "Content" is affirmed by the Supervisors of both Science and Social Studies.
- Students need instructional time to acquire the knowledge, understandings, and skills that are tested by the Fifth Grade Science SOL Test.
- Students' performance on this test has our lowest overall pass rate for science students; this result and its cause have been the case for several years.
- Providing consistent time for instruction is the most basic and effective improvement.
- Failure to provide this instruction has a disproportionate impact on disadvantaged students.
- Failure to resolve this learning deficit propagates to middle and high school.
- This failure needlessly damages students' confidence in their ability to learn and understand the natural world, and their confidence in themselves generally – leading to a “I can’t do it” mindset – degrading a student’s wellbeing

Recommendation #2: Expand Instructional Support in Science at the Elementary Level

The SAC recommends that APS pilot science intervention services for fourth and fifth grade students at three elementary schools with the greatest need based on SOL pass rates and proficiency gaps for identified subgroups.

Science intervention services include:

- Using recommended assessments (such as Mastery Connect), identify students manifesting difficulties with science concepts, understandings, skills, critical thinking, and communication.
- Provide additional small group instruction using evidence-based strategies targeted to the needs of students manifesting difficulties.
- Collaborate with classroom teachers and CLTs to incorporate effective instructional strategies and coordinate intervention services with classroom teachers' planning.

Budget impact: use of school level “flex allocation” and/or other resources as they become available.

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Recommendation #2 Rationale

- Based on the experience APS has had with Math interventions, a number of students will directly benefit from targeted interventions.
- Teachers who deliver the intervention services will acquire insights into the basic difficulties students have and explore strategies that are effective in addressing those difficulties.
- Teachers who deliver the intervention services will collaborate with classroom teachers and CLTs to incorporate effective instructional strategies and coordinate intervention services with classroom teachers' planning.
- Teachers who deliver the intervention services will provide feedback to the Science Office about strategies that are effective so they can be considered for "best practices."
- Additional research has been done in the educational literature with regard to:
  - The importance of using direct observations to validate statistical analysis
  - The importance of universal design for instruction and the practices of effective instruction for students with disabilities.
  - The importance of the commonalities of basic skills for representation of info.

Specific references will be provided upon request.

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Collaboration:

- Developed in collaboration with Science Supervisor, Dr. Dat Le. He approves Recommendation #1, and a budget neutral #2
- Recommendation #1 has been endorsed by a Vote of the Social Studies Advisory Committee; the SAC voted unanimously their companion #1
- Recommendations #1 & #2 in work with the English Learner Advisory Committee leadership
- Recommendation #2 implementation will be coordinated with the Special Education AC
- Working relationship with the Math Advisory Committee
- ACTL Feedback:
  - Very positive: do #1, some concern w.r.t. #2 budget implications
  - Dialog with PTAs continues

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Findings:

2024-25 Title I School Performance on Grade 5 Science SOL by EL Status			
EL Status	Pass%	Fail%	Students
EL 1-4	21.4%	78.6%	257
EL 6	89.2%	10.8%	120
Proficient	86.7%	13.3%	15
Non EL	73.4%	26.6%	255
Title I Schools Total	55.9%	44.1%	647

2024-25 Title I School Performance on Grade 5 Science SOL by SWD Status			
SWD Status	Pass%	Fail%	Students
SWD	23.6%	76.4%	144
Non SWD	65.1%	34.9%	503
Title I Schools Total	55.9%	44.1%	647

2024-25 Title I School Performance on Grade 5 Science SOL by Race/Ethnicity			
Race/Ethnicity	Pass%	Fail%	Students
Asian	69.0%	31.0%	68
Black	53.5%	46.5%	99
Hispanic	37.9%	62.1%	300
Other	70.2%	29.8%	40
White	85.7%	14.3%	140
Title I Schools Total	55.9%	44.1%	647

2024-25 Title I School Performance on Grade 5 Science SOL by Economic Status			
Economic Status	Pass%	Fail%	Students
Economically Disadvantaged	47.4%	52.6%	272
Non Economically Disadvantaged	62.1%	37.9%	375
Title I Schools Total	55.9%	44.1%	647