Individual State Agency Fiscal Note

Bill Number: 2327 S HB	Title: Math & science instruction	Agency: 350-Supt of Public Instruction

Part I: Estimates

☐ **No Fiscal Impact**

Estimated Cash Receipts to:

FUND					
Total $					

Estimated Expenditures from:

Non-zero but indeterminate cost. Please see discussion.

The cash receipts and expenditure estimates on this page represent the most likely fiscal impact. Factors impacting the precision of these estimates, and alternate ranges (if appropriate), are explained in Part II.

Check applicable boxes and follow corresponding instructions:

☒ If fiscal impact is greater than $50,000 per fiscal year in the current biennium or in subsequent biennia, complete entire fiscal note form Parts I-V.

☐ If fiscal impact is less than $50,000 per fiscal year in the current biennium or in subsequent biennia, complete this page only (Part I).

☐ Capital budget impact, complete Part IV.

☐ Requires new rule making, complete Part V.

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Part II: Narrative Explanation

II. A - Brief Description Of What The Measure Does That Has Fiscal Impact

Briefly describe, by section number, the significant provisions of the bill, and any related workload or policy assumptions, that have revenue or expenditure impact on the responding agency.

The State Board of Education is directed by the legislature, in collaboration with the Office of Superintendent of Public Instruction (OSPI) to select and implement end of course assessments.

Meeting standards for science is changed from 2010 to 2013.

Section 4
The classes of 2008, 2009, and 2010 may graduate from high school with out earning a certificate of academic achievement if they:
1. Have not successfully met the math standard on the Washington Assessment of Student Learning (WASL) or an approved objective assessment, or an alternative assessment developed for eligible special education students;
2. Have successfully met state standard in other content areas required for the certificate;
3. Have met all other state and school district requirements for graduation;
4. (a) For the graduating class of 2008, successfully earn one additional high school mathematics credit after the student's eleventh grade year;
(b) For the graduating classes of 2009 and 2010 successfully earn two additional mathematics credits after the student's tenth grade year.

Section 5
The SBE shall adopt assessments only for the content areas of mathematics and science at the high school level.

Section 6
(1) The SBE, in consultation with OSPI, shall select statewide end of course assessments for science and mathematics in high school. The assessments shall rely on multiple choice questions.
(2) The legislature's intent is that students recieve instruction through credited high school courses. School districts shall be responsible for designing and implementing the courses.
(3) The end of course assessments in high school mathematics shall cover algebra 1 and geometry. OSPI shall make the mathematics assessments available, and school districts shall implement them beginning in the 2008-2009 school year. The end of course assessment in algebra 1 shall be the Washington Assessment of Student Learning for the class of 2011 and the end of course assessments for algebra 1 and geometry shall be the Washington Assessment of Student Learning for the class of 2012.
(4) The end of course assessment for science is biology and shall be the Washington Assessment of Student Learning and be available in the 2009-2010 school year.

Section 7
Beginning September 1, 2007 OSPI shall make diagnostic assessments available in reading, writing, mathematics, and science in elementary and middle school. OSPI shall provide funding for administration of the diagnostic assessments to school districts. OSPI shall offer training at statewide and regional staff development activies in interpreting the diagnostic assessments and application of instructional strategies.

Section 8
SBE and OSPI, beginning in 2007, shall report annually on December 1st to the education commititees of the legisture on the status and progress of implementing this act.

Section 9
Sections 2-4 of the act take effect immediately.

II. B - Cash receipts Impact

Briefly describe and quantify the cash receipts impact of the legislation on the responding agency, identifying the cash receipts provisions by section number and when appropriate the detail of the revenue sources. Briefly describe the factual basis of the assumptions and the method by which the cash receipts impact is derived. Explain how workload assumptions translate into estimates. Distinguish between one time and ongoing functions.

II. C - Expenditures

Briefly describe the agency expenditures necessary to implement this legislation (or savings resulting from this legislation), identifying by section number the provisions of the legislation that result in the expenditures (or savings). Briefly describe the factual basis of the assumptions and the method by which the expenditure impact is derived. Explain how workload assumptions translate into cost estimates. Distinguish between one time and ongoing functions.

Fiscal Impact is: NON-ZERO BUT INDETERMINATE

Section 4
The bill requires that the graduating classes of 2008, 2009, and 2010, may graduate with out obtaining a Certificate of Academic or Individual Achievement if:
1. Students have not met standard on the mathematics portion of the Washington Assessment of Student Learning (WASL) or an approved alternative assessment, or an alternative assessment developed for eligible special education students;
2. Students have met the state standard on other content areas required for the certificate;
3. Students have met all other state and school district graduation requirements;
4. (a) students in the graduating class of 2008 shall earn one additional mathematics credit after the tenth grade year. The mathematics classes are designed to increase the individual student's mathematics proficiency. (b) students in the graduating classes of 2009 and 2010 shall earn 2 additional credits after the tenth grade year.

Fiscal Impacts:
This means that in the 2007-08 school year, schools will need to offer one math course to the class of 2008 12th graders and one math course to the class of 2009 11th graders who have not met standard on the WASL. In the 2008-09 school year, schools will need to offer one math course to class of 2009 12th graders and one math course to the class of 2010 11th graders. Of the students who have not met standard on the math WASL, we have assumed 50% will pursue re-takes of the WASL and 50% will take additional math courses as an alternate route to the Certificate of Academic Achievement. Further we have assumed that after taking a math course as an 11th grader, 50% will pass a WASL re-take and not require math as a 12th grader.

The primary effect of the legislation is to require schools to provide additional math classes. State and school district expenditures impacts are dependent on two factors: 1) How many students who are currently partial FTEs (e.g., attending in their senior year part-time) must add a class in order to meet graduation requirements? 2) How many math classes are added compared to how many elective classes are eliminated to accommodate students who are already full time students?

Part time students:
Many students who would pursue a CAA via additional math courses are currently attending school part-time. For every student who extends their day by one class (.17 FTE), the state would apportion an additional $720 for general apportionment, additional resources for I-728 and possibly Learning Assistance Program and Bilingual Education. Currently we estimate that 6,800 of 12th grade students and 4,445 of 11th grade students attend school a partial day. Assuming that 50 percent of such students are subject to the new requirements of the bill by virtue of not meeting standard on the 10th grade math WASL, 5,623 students would add one class in the 2007-08 school year. It is assumed the state would spend an additional $4,048,560 (5,623 students x $720) school year 2007-08. In order for districts to add the math courses for the partial FTE students covered above, they may expend more than the state will allocate. The amount that districts will expend on these math units and partial FTE students, in excess of state funding formulas is indeterminate.

Part-time costs continued:
The cost for school year 2008-09 would include the new class of 11th graders and class of 2009 12th graders who have not

met standard on WASL re-takes. Assuming 2,223 11th grade students, their cost would be $1,600,200; and assuming 50% of the 12th graders met standard after taking their 11th grade math class and 50% of those students would take an extra math class, 1,700 12th grade students will still need to take a math class and the state cost will be $1,224,000. The total estimated cost for added student FTE would be $2,824,200.

Full time students:
For students currently attending school full time a district could implement the new requirements by offering fewer electives and replacing the electives with math courses or by adding math courses. In either case, there is no fiscal impact to the state through current apportionment formulas. Where a district cannot eliminate electives (due to student demand and graduation requirements for students to take electives) and instead adds math courses and assuming class sizes of 1:25, the district would expend approximately $10,000 for every 25 students. For school year 2007-08, of the 50 percent of students who pursue the CAA via additional math courses and already attend full time, we estimate 18,312 will have to be accommodated in additional math courses for grades 11 and grade 12. Assuming that 75 percent of such students are accommodated in current courses or where created courses are replacements of electives, the remaining 25 percent would require districts to expend $3,658,000 to hire 92 teachers. The state would have to create a new allocation formula to provide school districts with resources for added math courses, as no formula currently exists.

For school year 2008-09, of the 50 percent of students in the 11th grade who pursue the CAA via additional math courses and already attend full time, we estimate 18,312 will have to be accommodated in additional math courses. We assume that 50% of the students who took an extra math class in the 11th grade (2007-08) will pass the WASL and will not need to take a math class in the 12th grade (4,578 students), but that 50% of students in the 12th will have to be accommodated in additional math courses (4,578 students). Assuming that 75 percent of 11th and 12th grade students are accommodated in current courses or where created courses replace electives, the remaining 25 percent would require districts to expend $2,257,000 to hire 57 teachers. The state would have to create a new allocation formula to provide school districts with resources for added math courses, as no formula currently exists.

Hiring Teachers:
School districts currently experience difficulty attracting teachers into the teaching positions of secondary mathematics. Incentives may need to be provided to encourage outstanding pre-service students and paraprofessionals to become teachers, encourage current teachers to obtain additional endorsements in math and to teach math. The state can accomplish this by providing wage premiums tied to performance-based certification in math. Enticing new teachers into math through wage premiums can be designed in a variety of ways. Some incentives can be 1) a straight bonus for Secondary Math teachers; 2) a bonus on specific endorsements, degrees or certifications; or 3) the use of a percentage of salary in either of the former 2 options. The budget submitted by the Governor includes funds for loan forgiveness programs and specialized preparation programs for professionals with math and science expertise. Also included is a 10 percent salary increase for teachers who earn certification from the National Board for Professional Teaching Standards, another salary increase for teaching in schools with students needing the most help, and an additional increase if they are certified in math or science.

Section 6
The SBE in consultation with OSPI shall select state wide end of course assessments for high school mathematics and science that measure student achievement to selected standards. To facilitate ease of scoring, the assessments shall rely on multiple choice questions. The assessments shall be able to be administered on line. Districts shall administer the assessments according to a uniform assessment and guidelines adopted by OSPI to ensure appropriate security of the assessment.

Students are also to receive instruction through credited high school courses in the content areas to be assessed and have their knowledge and skills assessed after they complete the course. However, school districts are responsible for designing and implementing the courses.

Fiscal Impact:
The state board of education will develop a Request for Proposal to; select standards based assessments that are multiple choice and able to be administered on line.

Regarding the requirement that school districts review their current math and science courses to align them to new standards: It is assumed that, using a mathematics and science model, the districts would review the current courses and materials in algebra, biology, and geometry in order to make sure that the courses and instructional materials are aligned with the standards. The cost to the districts is indeterminate because it is unknown how many districts would be required to redesign their courses.

Computerized Testing: If the state's goal is to test electronically, based on other state's experience, electronic testing is phased in over time. Therefore, it is assumed that the first few years the will be a pencil and paper test. There may be considerable infrastructure costs associated with electronic testing for the schools and districts - both in the cost of additional test site computers and in the ability of district and school servers to handle the data volume during the testing window. It will be necessary to have a secure central server that runs independently, has high security, and the necessary back up ability. Some schools have computers or labs which would accommodate computerized testing and lower the cost of implementing a computerized assessment system. Another method of lowering cost would be to extend the testing window over a period of months to accommodate the serial use of computers. Depending on policy-maker expectations of testing security, the testing window could be expanded to 6 weeks, for example, so that the need to purchase computers is reduced. However, extending the testing window increases security issues (e.g., there is a higher potential that scores could be invalidated due to security breaches).

Another savings could be associated with a phase in of the computers over time. Virginia, which has phased in over time computerized testing, makes infrastructure grants totaling $50,000,000 each fiscal period. This fiscal note does not attempt to calculate the increase in server connection needed to handle the data. Also, no specific costs associated with the computer purchase have been included in this fiscal note as the possibilities cannot be quantified.

Section 7 (Diagnostic Assessments) and Section 6 (3) and (4) (End of course assessments)
In order to calculate the costs associated with providing diagnostic assessments and to calculate the costs associated with end of course assessments, OSPI contacted a vendor.

The estimated cost for both the diagnostic assessments and the end of course exams are estimated to be $25 per student. For both types of assessment the costs include at least the following: alignment studies; item writing sessions; item processing; item calibration; test building and item selection; state department review; sensitivity and bias studies; reliability studies; and field testing studies. Both the end of course assessments and the diagnostic assessments will be multiple choice only and electronically scored. A paper and pencil version of the assessments would be available for schools or districts that cannot technologically support the computerized version.

The diagnostic assessment at $25 per student is the total cost for all content areas, reading, language usage, mathematics, and science. The diagnostic assessments are given in 9 grades, each grade with approximately 77,000 students. Therefore the total cost to provide students in grades 1-9 with a battery of diagnostic assessments each year is $17,325,000. We also assumethat in FY 2008, $1.5 million will be required for additional item piloting (reading, language, math, science; grades 1-9).

The bill language specifically requires reimbursement to school districts for administration of diagnostic assessments. We have estimated a cost of $8.60 per student for which schools administer diagnostic assessments. .Diagnostic assessments are given in grades 1-9, and in grade 10. Assuming 77,000 students per the 10 grades the cost is $6,622,000. The reimbursement covers administrative costs of receiving and distributing assessments, processing assessments for scoring, and reporting results. It does not cover the costs of proctoring the assessment, as we assume that the teacher proctor the assessment as part of classroom instruction.

We anticipate that the diagnostic assessment (and end of course assessments) will not be available until the 2008-09 school year, and therefore have assumed the above costs in the second year of the biennium.

We assume that for grade 10, all districts will participate in the diagnostic assessment system and the cost will be $1,925,000 for the assessments and $1,771,000 for district administration costs. The $25 per student cost associated with

the diagnostic assessment also includes the end of course assessment for algebra, geometry, and science. Again, the assessment is multiple choice only; available in pencil-paper and computerized versions.

Item piloting will begin in FY 2008 and cost approximately $500,000 for math and science. The first end of course mathematics assessments must be available beginning in the 2008-2009 school year (FY 2009). The second mathematics and the science end of course assessments must be available beginning in the 2009-2010 school year (FY 2010).

As stated above, the cost for the diagnostic and end of course assessments for 10th grade students in FY 2009 will be $1,925,000 . This cost is repeated in FY 2010; the additional FY 2010 cost will be to add students above the 77,000 initial estimate for student re-takes. Assuming that 25% students re-take at least one end-of-course assessment, the FY 2010 re-take cost is $2,406,250.

The 2007-08 cost of the mathematics WASL is $13 per 10th grade student and is assumed to be a savings applied towards the total cost above. We assume that the cost associated with the math and science WASL will continue in the 10th grade in order to provide students with two options to achieve graduation standards. If policy makers intend to eliminate the current 10th grade math and science WASL, and replace WASL with end-of-course assessments, both assessments must be administered for a 2-3 year window in order to calibrate the new test and set cut scores. Therefore, in FY 2011, the state would exprience a savings of $2,002,000.

Section 7(5)
The Office of the Superintendent of Public instruction shall offer training at statewide and regional staff development activities in the interpretation of diagnostic assessments and the application of instruction strategies that will increase student learning based on diagnostic assessment data.

Fiscal Impact:
Each ESD will need to provide training for the new requirements. It is estimated each ESD would require $50,000 to accomplish the training. The total estimated cost would be $450,000 which will cover both diagnostic assessments and the end of course assessments. In addition, training will be provided at the Summer Institutes. The estimated cost Summer Institute cost is $100,000 to add new strands to the current institutes.

Part III: Expenditure Detail

Part IV: Capital Budget Impact

Part V: New Rule Making Required

Identify provisions of the measure that require the agency to adopt new administrative rules or repeal/revise existing rules.