# ESSP MATH OUTCOME

The Education Sector Strategic Plan (ESSP) is a multi-year (2014–2020), province-wide plan developed collaboratively by the Provincial Leadership Team (PLT), which consists of the Deputy Minister of Education, the Assistant Deputy Ministers, provincial school division directors of education, and First Nation Education Authority representatives. The ESSP includes the following outcome: "By June 2020, 80% of Saskatchewan students will be at grade level or above in reading, writing, and math." A provincial math team, made up of classroom teachers from school divisions and First Nations Education Authorities from around the province, as well as the outcome owner, Don Rempel, and ministry representatives, developed materials related to the ESSP outcome.

## FREQUENTLY ASKED QUESTIONS

### 1. WHAT SUPPORTS ARE AVAILABLE FOR TEACHERS?

The following supports have been developed by provincial working groups:

- Holistic math rubrics for grades 1-9 in English and French;
- Sample math prompts for grades 2, 5, and 8 (these prompts connect the rubric criteria to the number strand outcomes at each grade level)
- A sample, annotated student math solution for a single prompt in each of grades 2, 5, and 8 (to demonstrate how the holistic rubric criteria are connected to student work)
- *Terminology to Support Provincial Math* document
- *Making a Professional Judgement based on the Holistic Math Rubric*
- *Eligible Students for Math Data Collection* document

The math rubrics identify three critical criteria to consider when making a holistic, year-end professional judgement for each student (strategies, application, and expression of understanding). These criteria exist in every outcome within the Number Strand.

The sample math prompts are intended to serve as examples of the kinds of questions a teacher might ask in order to access the depth of skill and understanding required in the holistic rubric (and in the provincial math curriculum). These are not required prompts, nor should they be combined into a year-end assessment; they are simply sample prompts. Teachers are encouraged to generate their own math problems in order to assess degrees of understanding and skill.

The sample, annotated student math solutions are intended to identify examples, within mathematical thinking, where the three holistic criteria might be demonstrated. There are many ways to access strategies, apply these strategies, and express understanding of the

strategies used. In order to build understanding, the sample solutions show one way the rubric criteria might manifest in student work.

The documents listed above can be found in English and in French.

School divisions that have already engaged in or created math assessment and instructional supports locally, may continue this work to support long term learning and achievement by students. However, for the purpose of the ESSP Math data collection, the provincial rubrics must be used to assess and report at year-end.

### 2. WHEN, WHY, AND FOR WHAT GRADES DOES INFORMATION REGARDING "AT GRADE LEVEL" NEED TO BE REPORTED TO THE MINISTRY OF EDUCATION?

The first data collection will occur in June 2019 for all eligible students in Grades 2, 5, and 8.

Math "at grade level" data for the Number Strand will be submitted once each year, at the end of the school year.

For an assessment schedule, please see the 2017-18 ESSP Assessment Plan

The guidelines for student inclusion and for reporting are available in the *Eligible Students for Math Data Collection* document.

This data is being collected so an overall profile of the number of students in Saskatchewan who are "at grade level" in math for the Number Strand can be determined. Based on the information gathered, strategic decisions can be made at both the provincial and divisional level to support increased mathematical proficiency. Classroom decisions are best made with an analytic rubric.

### 3. WHICH LEVELS OF THE RUBRIC DEFINE "AT GRADE LEVEL"?

Level 3 of the holistic rubric defines "at grade level' for math Number Strand and level 4 defines "at grade level" with enriched understanding. The provincial goal is to have 80% of students at or above grade level (Levels 3 and 4).

### 4. WHY IS THE RUBRIC HOLISTIC AND HOW IS THIS DIFFERENT FROM AN ANALYTIC RUBRIC? MAY HOLISTIC RUBRICS BE CHANGED TO ANALYTIC RUBRICS?

Under the direction of the outcome owners, a provincial working group developed 4-level holistic rubrics.

The holistic rubrics should not be converted to analytic rubrics.

When engaging in holistic scoring, multiple aspects of mathematical understanding are considered simultaneously across all outcomes in the Number Strand. Holistic assessment, underpinned by professional judgement, invites teachers to consider curriculum-specific criteria for mathematical thinking to determine the degree of grade level proficiency across multiple work samples. Furthermore, with a holistic assessment, teachers can utilize their observations of and conversations with students while engaged in math, to determine degrees of independence, a key criterion for grade level proficiency. The four levels articulated in the holistic rubrics are discrete and teachers must determine which of the four levels best describes each student's skills and understanding in the Number Strand at year-end.

An analytic rubric is most appropriately used to facilitate instructional decisions and feedback conversations with students. As a result, the analytic rubrics that many school divisions currently use should remain the cornerstone of effective daily practice in a classroom.

### 5. WHY DO THE RUBRICS LOOK SO SIMILAR FROM GRADE LEVEL TO GRADE LEVEL? DOES IT REALLY TELL US WHAT "AT GRADE LEVEL" LOOKS LIKE?

The rubrics look similar across grade levels because strong mathematical skill and understanding share certain criteria, regardless of the grade or context. For example, there is never a time when the selection of strategies or the expression of understanding are not critical in determining "at grade level." What increases the complexity from grade level to grade level are the contexts in which children are applying these skills and understandings. As students progress, they learn to engage in mathematical reasoning in new ways, with diverse strategies, more complex applications, and increasingly complex mathematical language. This is how grade levels are differentiated. Using the rubrics alongside the curricular outcomes helps determine what kinds of math contexts students encounter as they move through our school system. In essence, "at grade level" determination requires consideration of criteria, contexts, and prompt complexity.

### 6. WHY DO WE REPORT AT THE END OF THE YEAR? WOULDN'T IT BE BETTER TO DO IT EARLIER, WHEN WE CAN HELP STUDENTS?

There are two clear purposes for the year-end reporting of math at the provincial level. The first purpose is to collect student data indicating the degree to which students are engaging in math at grade level in grades 2, 5, and 8. The second reason is to provide a catalyst for investigating the best ways to develop strong math students at every grade level by school divisions, schools, and individual teachers. The year-end reporting achieves both these goals and leaves the instructional decision-making where it belongs, with the teachers. The reporting in June should not prevent teachers from supporting students each and every day in their classrooms.

### 7. WHAT TYPE OF MATH SAMPLES SHOULD WE BE USING TO MAKE OUR PROFESSIONAL JUDGEMENT?

The curriculum, sample prompts, and rubrics are excellent guides. The skills and knowledge described in the Number Strand of the curricula alongside the three criteria in the holistic rubrics will help us to determine "at grade level". Math samples that students create closer to the end of the year, on their own, are likely the best indicators of "at grade level". These year-end prompts may, in fact, encompass multiple outcomes. It is important that, when a professional judgement is made, it is based on samples from multiple outcomes in the Number Strand—strong math students are able to navigate multiple math contexts.

### 8. HOW MUCH HELP IS TOO MUCH HELP WHEN DETERMINING "AT GRADE LEVEL"?

Students should be able to choose their own strategies, apply their own processes, and express their own understanding. For example, students may refer to anchor charts, strategy lists, or they may consult with peers about math processes. With this in mind, the student's product should reflect the student's work and be an indication of the student's math abilities. If a teacher provides prescriptive corrections and the student simply recopies the teacher's suggestions, the product may not accurately reflect the student's abilities. Therefore, providing corrections for students to redo is not the same as providing math supports for the students to apply when improving their own math thinking.

### 9. HOW ARE WE MAKING SURE THERE IS CONSISTENCY IN REPORTING 'AT GRADE LEVEL" RESULTS IN THE PROVINCE?

Common provincial rubrics support consistency in assessing student math skill and understanding. The rubrics articulate key grade level criteria across four distinct levels, the outcomes in the Number Strand clarify the development of skills over time, and the sample prompts and the annotated student responses enhance the understanding of grade level math. Further, all supports have been developed in relation to the provincial curricula, which have always served as the standard for learning. It should be noted that simply averaging math grades to determine "at grade level" would not be an appropriate reflection of year-end skills and understanding.

### 10. WILL THIS ASSESSMENT ADD TO MY WORKLOAD?

This professional judgement made at the end of the year captures the efforts that both teachers and students have made throughout the entire year. Responsive teaching will continue as usual; feedback will address student needs and celebrate student strengths; daily formative assessment will support learning. Teacher workload is always connected to the students we serve. Reporting this professional judgement at the end of the year should reflect student learning—it is part of the work teachers already do.

### 11. WILL THERE BE A "SASK MATH" DOCUMENT AND WEBSITE SIMILAR TO SASK READS?

A Sask Math document and website are not planned at this time. That being said, a high percentage of the strategies and environments described within Sask Reads are also best practice when it comes to math instruction. For example, small group discussion, purposeful conferencing, and explicit strategy instruction are all part of a strong math program.

### 12. WHY IS THERE NO COMMON MATH ASSESSMENT FOR SASKATCHEWAN STUDENTS?

Rather than a common assessment, it was decided that, given their understanding of their students and the Saskatchewan curricula, teachers can, by using their professional judgement, determine whether or not students are at grade level in the Number Strand. Engaging students in math that relates to meaningful contexts, in culturally sensitive and developmentally appropriate ways is the best indicator of math skill.