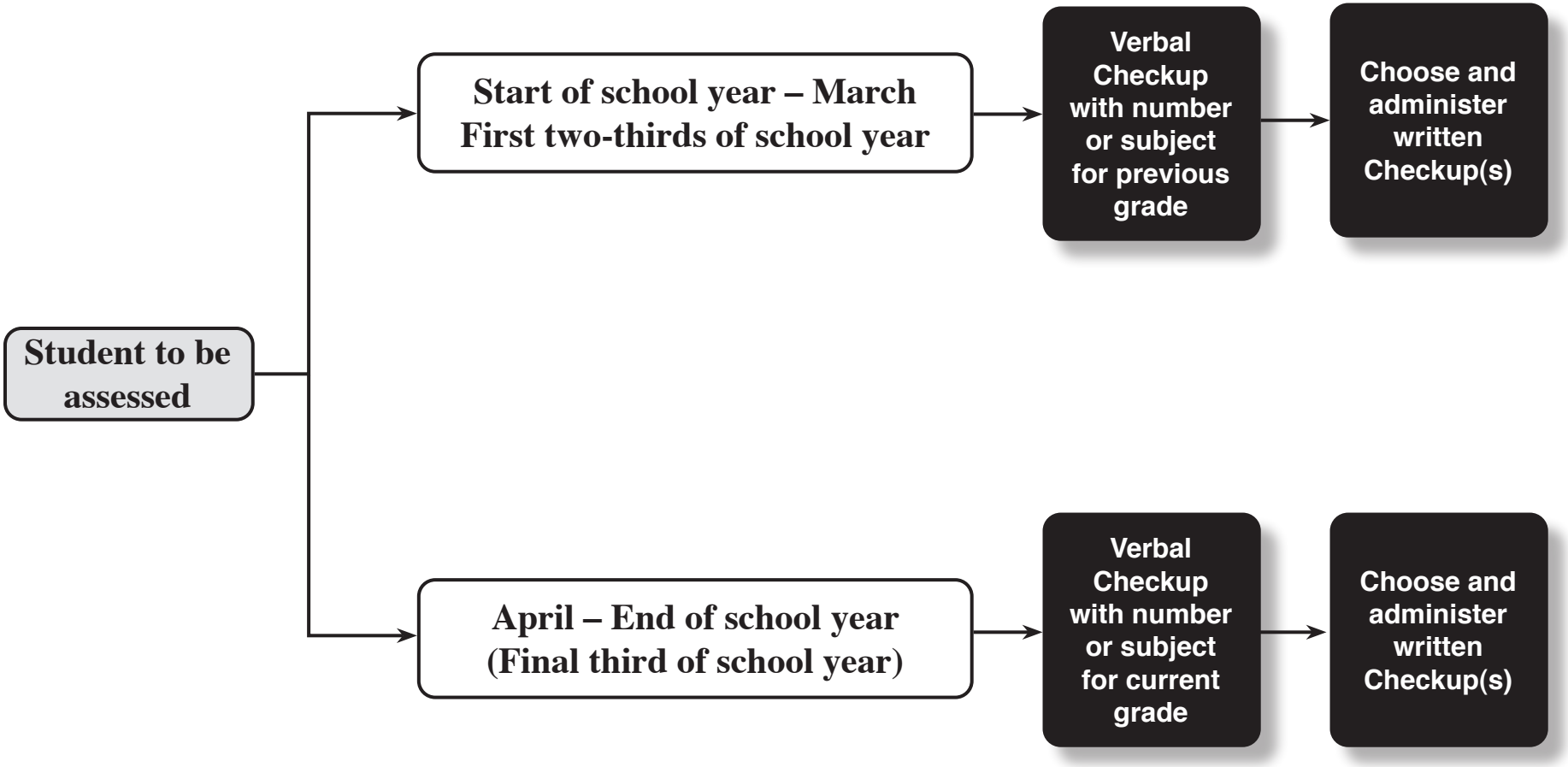
• Mathnasium Assessments •

Verbal Checkups	Level Assessments	High School Assessments	Add-On Assessments	Test Prep Assessments
Verbal Checkup 0	Mathnasium Checkup #0	Algebra Readiness	Numerical Fluency Add/Sub	SAT Basic Skills
Verbal Checkup 1	Mathnasium Checkup #1	Algebra 1A / Algebra 1B	Numerical Fluency Mult/Div	SAT Advanced Skills
Verbal Checkup 2	Mathnasium Checkup #2	Geometry Readiness	Computation	ISEE Middle Level
Verbal Checkup 3	Mathnasium Checkup #3	Geometry/Geometry with Proofs	High School Fundamental Skills	ACT Skills
Verbal Checkup 4	Mathnasium Checkup #4	Algebra 2	**Extension Checkups:**	Mathnasium Checkup ACT WOB 8 Part 1
Verbal Checkup 5	Mathnasium Checkup #5	Precalculus	Extension Checkup #1	Mathnasium Checkup ACT WOB 8 Part 2
Verbal Checkup 6	Mathnasium Checkup #6	HMM Fundamental Skills	Extension Checkup #2	
Verbal Checkup 7	Mathnasium Checkup #7	Higher Math Supplement	Extension Checkup #3	
Verbal Checkup AR		**For students on an Integrated Math track:**	Extension Checkup #4	
Verbal Checkup Algebra 1		Integrated 1 / Integrated 2	Extension Checkup #5	
Verbal Checkup Geometry			Extension Checkup #6	
For Pre-K/Kindergarten:			Extension Checkup #7	
Great Foundations Evaluation			Extension Checkup AR	

• Choosing the Right Initial Assessment: 0 - Geometry •



*See Choosing the Right Assessment: High School Students for more information for Levels beyond Geometry

**See The Great Foundations Facilitator's Guide for more information on how to administer that Evaluation

• Add-on Checkups for a Full Assessment •

Mathnasium Checkups #0 – #3

- Numerical Fluency Addition and Subtraction
- Numerical Fluency Multiplication and Division*

Mathnasium Checkups #5 – #7

- Mathnasium Computation**

High School Assessments Algebra Readiness to Precalculus

- Mathnasium High School Fundamental Skills

***Administering Verbal Checkups will help determine if Numerical Fluency Add/Sub or Mult/Div is most appropriate for the student. Be advised students must demonstrate proficiency with Add/Sub before attempting Mult/Div. Generally, students will begin to the see the foundations of multiplication in late second grade.**
****Students should demonstrate mastery over all four basic operations before attempting Computation.**

• Verbal Checkup Guide •

Introduction

All initial assessments Levels 0 - Geometry should start with a Verbal Checkup. Verbal Checkups are an essential part of the assessment process because it allows you to get the child comfortable, start a math conversation, and then transition to a diagnostic portion where you will confirm (or change) the initial assessment Level you have chosen.

Having a strong verbal Checkup process means more accurate assessments, Learning Plans, increased ability to speak deeply about a student's proficiency, and as a result, better Lead Conversion.

Pre-Assessment Information

The assessment process begins by gathering information from the parent and student. We use that information to help choose an initial assessment Level. In many cases, especially during the first 2/3 of the school year, this Level will correspond to the previous grade or class to ensure the student has acquired all of the key skills we would expect from the year before. Other times, often during the last 1/3 of the school year, this Level will be equivalent to their grade or course. As an example, a student in October of their 4th grade year may have Level 3 as their starting assessment Level. That same student in April may start with Level 4.

The "2/3 1/3 guideline" can provide a starting place for assessment, but there are many factors that can cause that to change. Information you have learned about the student in the inquiry phase, knowledge of the school curriculum/teacher, grades, and the like can all inform this decision and change the initial assessment Level.

Once you have defined the student's initial assessment Level, gather the associated Verbal Checkup, add-on Checkups, and Level prior to the family attending the initial visit.

Student Information

Verbal Checkups start with a student information section. Here you will learn more about the student from hobbies and interests to how they are feeling about math and as a result, themselves. This section is critically important and it is important to show genuine interest. Many students who visit are going to be reluctant, not confident, and certainly not excited to be taking a math assessment. Centers with strong assessment practices are committed to this type of information gathering. We are obligated from the moment we start the assessment process to make it fun, engaging, and confidence-inspiring.

General Questions

The General Questions are given to begin a "math conversation" with the student. Use these as needed throughout the verbal assessment to boost confidence and build rapport. Many of them are "Flashy Demos" or an opportunity to demonstrate the

General Questions cont.

Mathnasium Method. While you may learn a lot about a student and how they think about math, they are not seen as diagnostic; meaning, unless you uncover significant issues they will not confirm or provide critical information to change initial assessment Level choice. Ask as many of these as appropriate, provided there is no frustration, note the student responses, and move on to the next section.

Evaluate Computation Skills

In these sections you are going to evaluate the student's Computation skills. Starting here, the information you gather can inform the assessment Level.

Checkups 0 - 3:

In these sections you will notice the prompt for "Administer Numerical Fluency Addition/Subtraction." At these Levels, students must start, and you must confirm, their Mastery over addition and subtraction facts. Numerical Fluency Addition/Subtraction is entirely Verbal so it fits in nicely with the Verbal Checkup process. Once you have completed Numerical Fluency with these students you will move on to the Verbal Diagnostic section.

***Note**: significant struggles with Numerical Fluency Addition/Subtraction can indicate the need for a lower initial assessment Level than anticipated. Adjust the Verbal Checkup Level from here, as needed, before proceeding.

Checkup 4:

Verbal Checkup 4 has facts from all four operations. Use the information you have gathered and the prompts on the document to determine if the student needs Numerical Fluency Addition/Subtraction or Numerical Fluency Multiplication/Division.

***Note**: significant struggles with Numerical Fluency Addition/Subtraction can indicate the need for a lower initial assessment Level than anticipated. Adjust the Verbal Checkup Level from here, as needed, before proceeding.

Checkups 5-7:

Verbal Checkups 5-7 have a limited number of facts from all operations and now includes fraction computation from the Computation Checkup. Use the information you have gathered to determine if Numerical Fluency Addition/Subtraction, Numerical Fluency Multiplication/Division, or Computation is needed. Then, move on to the next section.

***Note**: significant struggles with Numerical Fluency Addition/Subtraction and/or Multiplication Fact Fluency can indicate the need for a lower initial assessment Level than anticipated. Adjust the Verbal Checkup Level from here, as needed, before proceeding.

Checkup Algebra Readiness and Algebra:

Verbal Checkups Algebra Readiness and Algebra have a limited number of facts from all operations, fraction computation from the Computation, and mixed critical skills from High School Fundamental Skills. Use the information you have gathered to determine if

Evaluate Computation Skills cont.

Checkup Algebra Readiness and Algebra cont.:

Numerical Fluency Addition/Subtraction, Multiplication Fact Fluency, Computation, and/or High School Fundamental Skills is needed. Then, move on to the next section.

***Note**: significant struggles with Numerical Fluency Addition/Subtraction and/or Numerical Fluency Multiplication/Division can indicate the need for a lower initial assessment Level than anticipated. Adjust the Verbal Checkup Level from here, as needed, before proceeding.

Checkup Geometry:

Verbal Checkup Geometry does not contain diagnostic questions from the add-ons. The evaluation will lead you to Geometry Readiness (Levels 1 and 2) or Geometry (Level 3).

Verbal Diagnostic Questions

A series of level-based questions are organized by categories (ex: A. Number Sense in Base Ten) in the order which they appear on the corresponding Level Checkup. The bold numbers on the left-hand side identify the questions' associated level.

To administer, start with the first category and begin asking questions from two levels below the anticipated Level. In the below example, you would start by asking the student to count by 10s up to 110 (from Level 1). This is done to build them up, increase their confidence by asking them questions they will likely know the answer, but also identify significant issues during the Verbal. If they get the question wrong, have a slow response, or cannot articulate an efficient thought process circle the exercise. Then, move them on to questions from the same Category at the next Level.

The goal will be to ask the student verbally questions from the Checkup you intend to give. In this case, from Level 3. Unless it is a potential enrichment student, once you have reached that Level you can move on to the next Category on the Verbal Checkup.

A. Number Sense in Base Ten	
1	Count by 10s up to 110. What comes next? How much is 5 tens + 3 ones?
2	Count by 9s starting at 0. How many hundreds are there in 823?
3	Count by $\frac{1}{2}$s up to 5 starting at 0. What is 1,374 rounded to the nearest hundred? nearest thousand?
4	Count by 7s starting at 18. **Visual**: How do you say this number? (9.7) Which digit is this? (1.2<u>3</u>)
∞	Double one (1) as many times as possible.

Verbal Diagnostic Questions cont.

We do not advise assessing a student more than one Level or course higher than where they currently are in school. For those students we encourage building out their initial Learning Plan with Workout Books and Focus Ons to enrich before moving them ahead to higher Levels.

You will notice on the Verbal Checkups that there are certain areas where question types may not exist for previous or higher Levels. This is because Categories are not uniform across all Levels so they do not exist. In those instances, simply start at the lowest Level question available.

There are also instances where question types appear next to multiple Levels. This is due to these skills being key for PreAlgebra as a whole.

Visual Pages

Some of the verbal questions say, "**Visual**" or "**Manipulative**" to indicate a visual or manipulative is needed. You may put the "**Visual**" pages in front of the student during administration for reference. When you encounter those questions simply refer the student to the question and let them use the visual as a guide.

We advise you have access to coins when administering the Verbal Checkup and call out places where students should identify and find the value of coins. The "@home" version of the visual page includes graphics to use in place of manipulatives.

The Geometry visuals pages contain proofs.

Interpreting the Result

Other than making the assessment experience engaging, the Verbal Checkup will help you confirm or guide a change to the written Checkup Level. The goal will be to choose a written Checkup where the student scores between 40-70%. Do a quick evaluation across all of the Verbal Checkups you asked to see where the student started to struggle the most. If it was at a lower Level than anticipated, then choose that written Checkup. If it is at the Level you originally thought, proceed with the written Checkup for that Level.

It is possible a student will get roughly 70% of the questions correct on a lower Level Verbal and 40% on a higher Level. Use your best judgement and bear in mind that often starting a student on a lower Level Learning Plan is a good course of action. You will still monitor the student at minimum every 5-10 minutes as they are working on the written Checkup, so you can modify that selection at that point if it is really necessary.

• Verbal Checkup Guide •

Check for Reading Ability

For lower-Level Checkups we provide a check for reading ability. After you have made a Level selection, you can have the student read a question or two from that Checkup to see if reading comprehension will be a struggle.

Determine Assessments to Administer

Here you can record the assessments you chose and any other information that is valuable. This is important when you are the one engaging in the Lead Conversion conversation or someone else is the assessor and you need that information to discuss what happened with the family.

Acting on the Result

Verbal Checkups help with both the art and science of assessing a student, but we must be prepared to act upon the information you have been given. Struggles with Numerical Fluency Addition/Subtraction will indicate the necessity of a lower-Level Checkup as if they are struggling with basic facts then future math topics will be a challenge. Similarly, issues with Multiplication/Division Facts will present significant problems on Checkups 4 and above.

As is the case with any Checkup you administer, once you have gathered the information you need you can choose to abbreviate or stop the assessment at any time.

It is also important to recognize you can use the information you have to guide a student through the written Checkup. If you identified in the Verbal Checkup struggles with a particular skill or set of skills, then it is perfectly acceptable to have them skip over those on the written Checkup as necessary. Remember that the primary goal of assessing a student is to put together the Learning Plan. If a student has demonstrated they must work on that topic, you already have the information that you need.

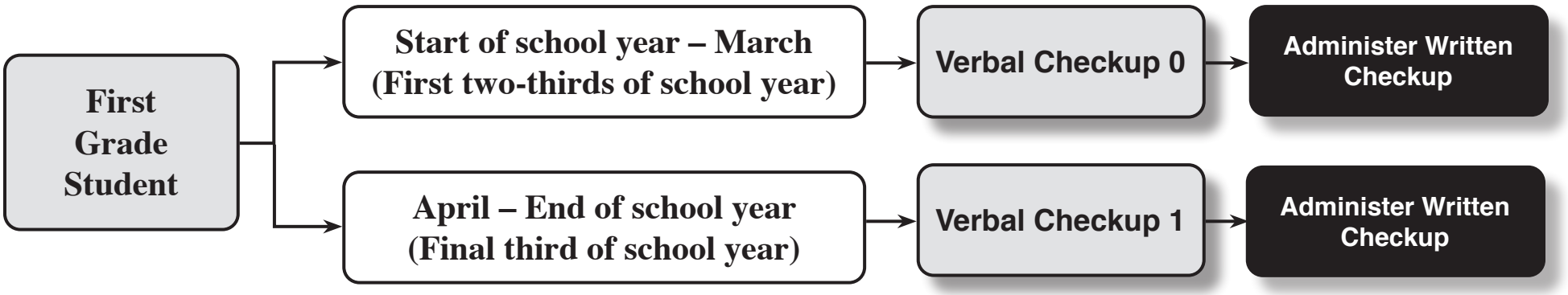
Similarly, if they get something incorrect on the Verbal Checkup but correct on the written Checkup, make an informed judgement as to whether the student needs further remediation on that topic or it can be omitted from the Learning Plan.

When in doubt, assign the topic to the student and have them prove it to you in subsequent sessions by completing the Prescriptive pages and the Mastery Check.

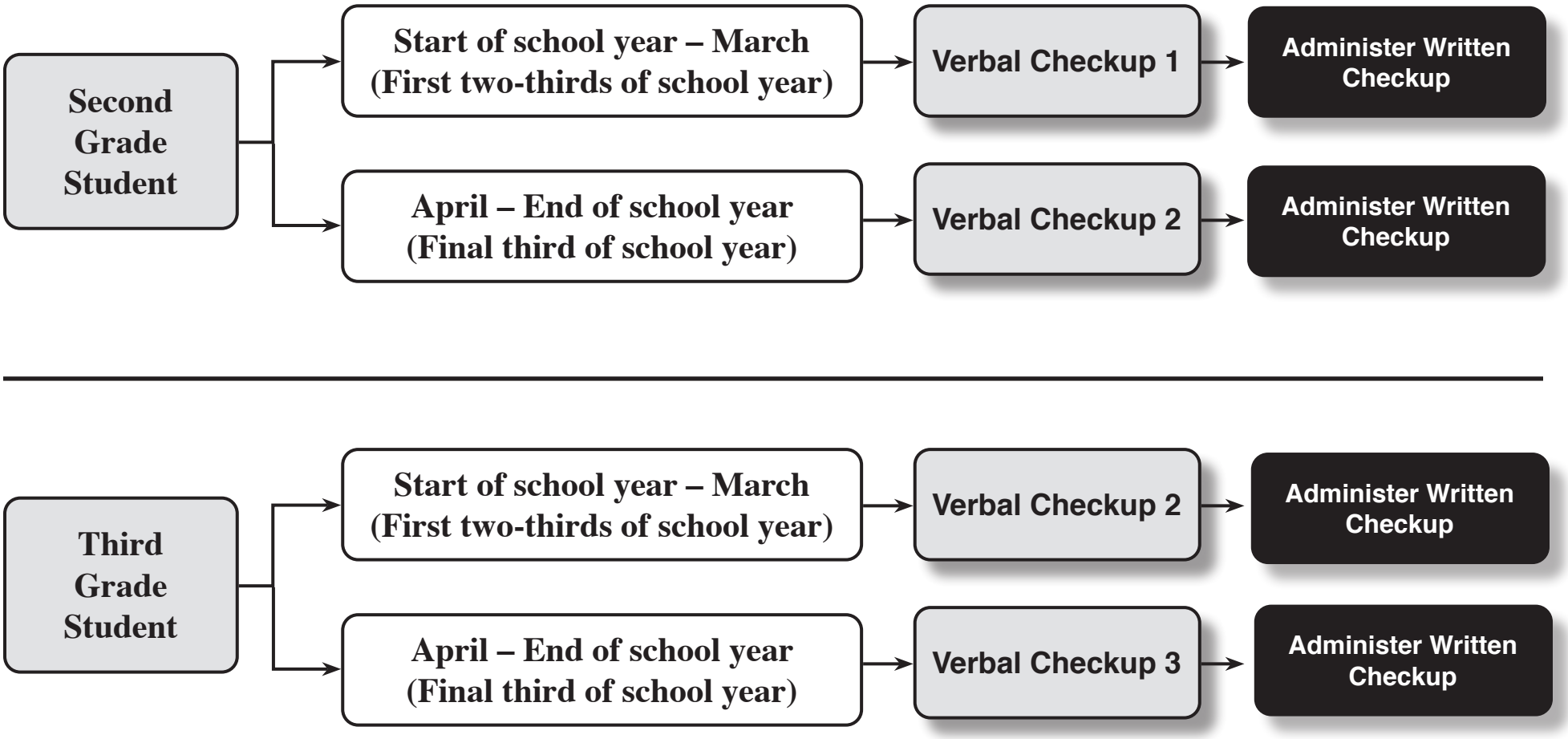
Other Considerations

There is no Radius entry for the Verbal Checkups. We do not recommend Verbal Checkups for ongoing evaluations/students that are continuing in the program and are moving up a Level.

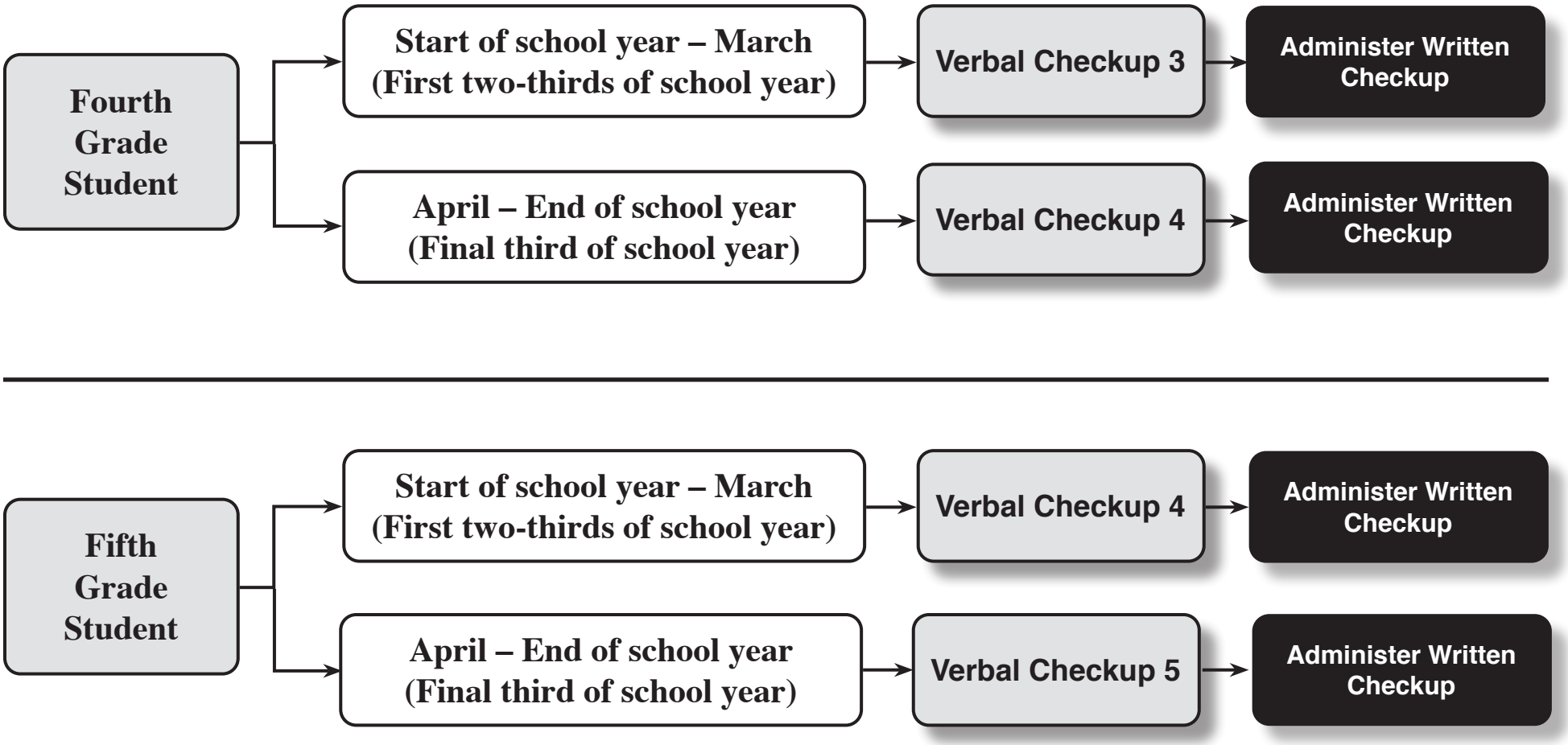
Choosing the Right Assessment: Elementary School – 1st Grade



Choosing the Right Assessment: Elementary School – 2nd and 3rd Grade

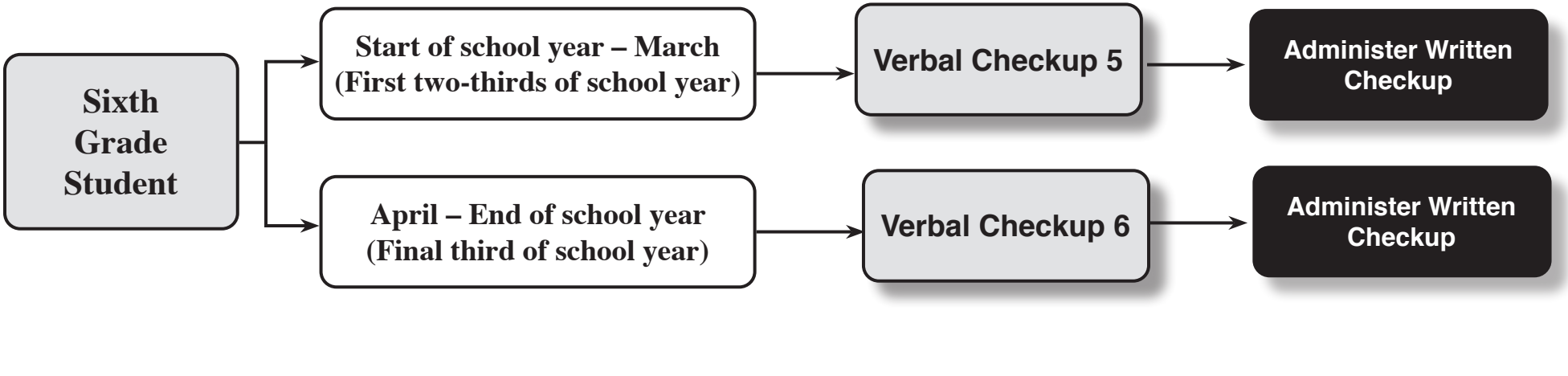


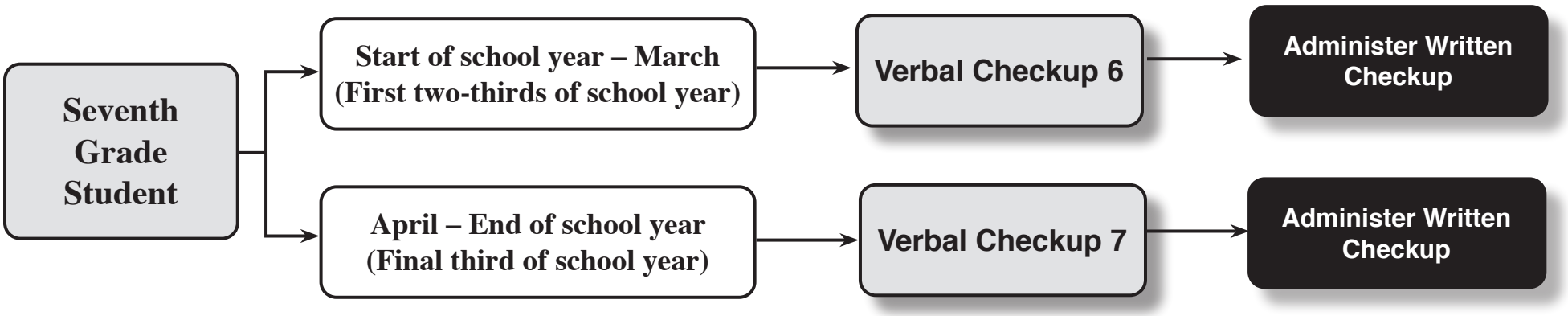
Choosing the Right Assessment: Elementary School – 4th and 5th Grade



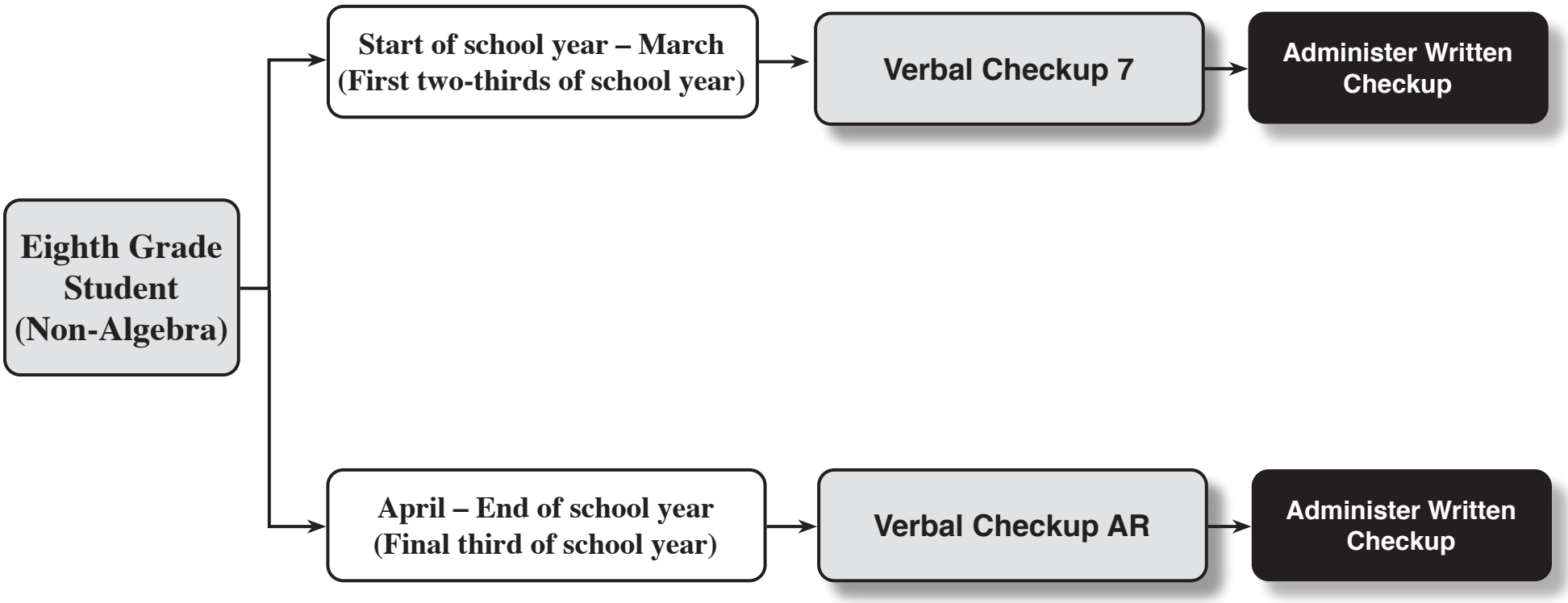
*The Multiplication Fact Fluency Checkup can be added for a student that has mastered/completed the Numerical Fluency Program and is testing at or above their current grade level.

Choosing the Right Assessment: Middle School – 6th and 7th Grade





Choosing the Right Assessment: Middle School – 8th Grade (Non-Algebra)



Choosing the Right Assessment: High School Level Math

High School Assessments are different because they focus more on the subject the student is taking and many do not contain legacy questions to keep assessment length down. Utilize Verbal Checkups to pinpoint the correct assessment and avoid defaulting to simply assessing the course the student is currently in.

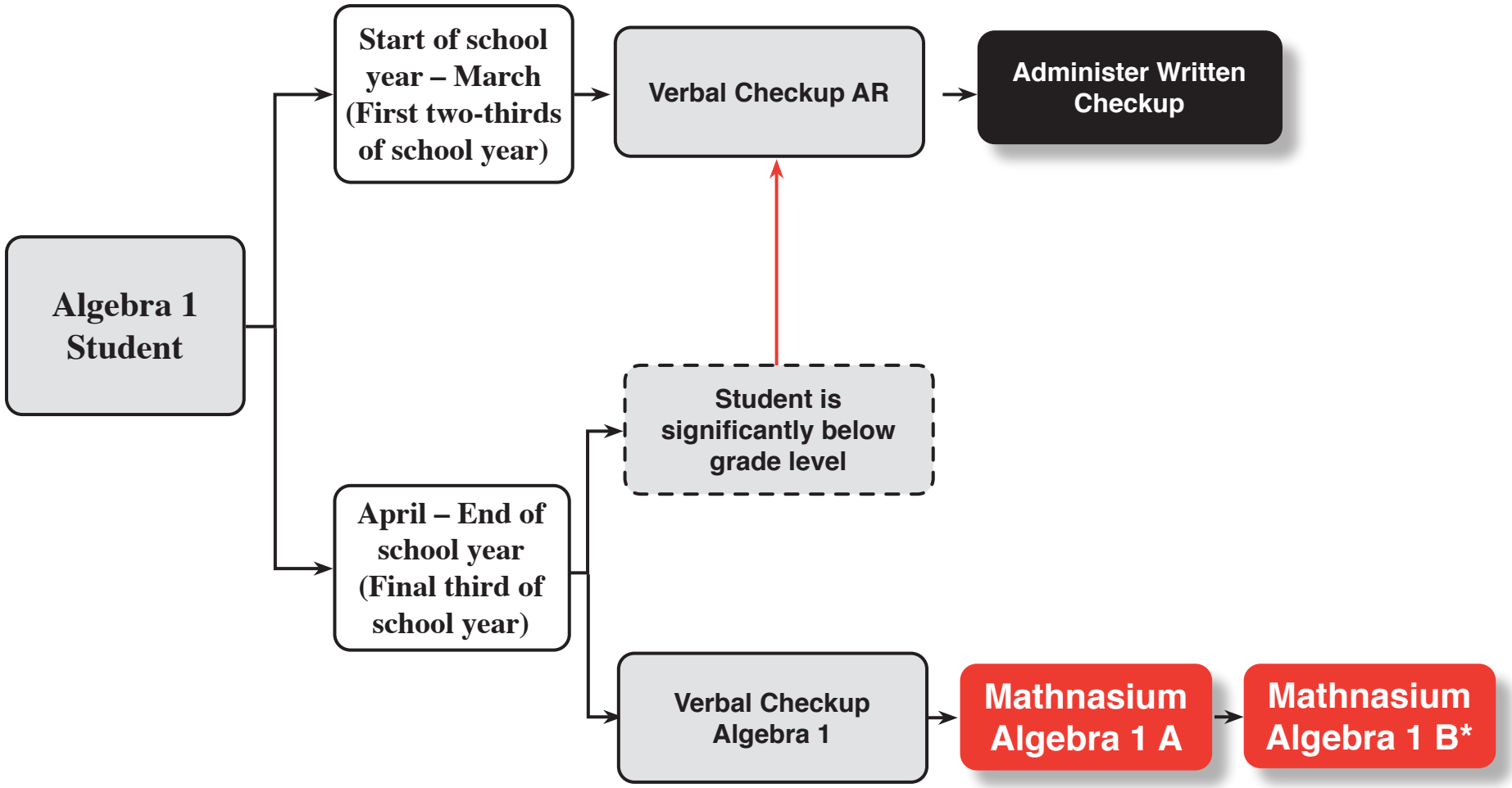
High School students follow two different tracks: traditional or integrated (in limited areas). The traditional high school track generally goes Pre-Algebra, Algebra 1, Geometry, Algebra 2, Trigonometry, and Calculus. The integrated track generally goes Integrated 1, Integrated 2, Integrated 3, and Calculus. There are variations, as some districts put Algebra 2 after Algebra 1. On an integrated math track sometimes Precalculus can follow Integrated 3.

The main factors to consider when choosing the initial Verbal Checkup level are: time of year, school subject, student proficiencies, and the goals for the student. The following pages contain general recommendations. However, truly meeting a student where they are comes from a thorough Verbal Checkup and careful observation.

For students in Algebra 2 or above, HMM Fundamental Skills is a great option, particularly for those students who have struggled significantly with math in the past.

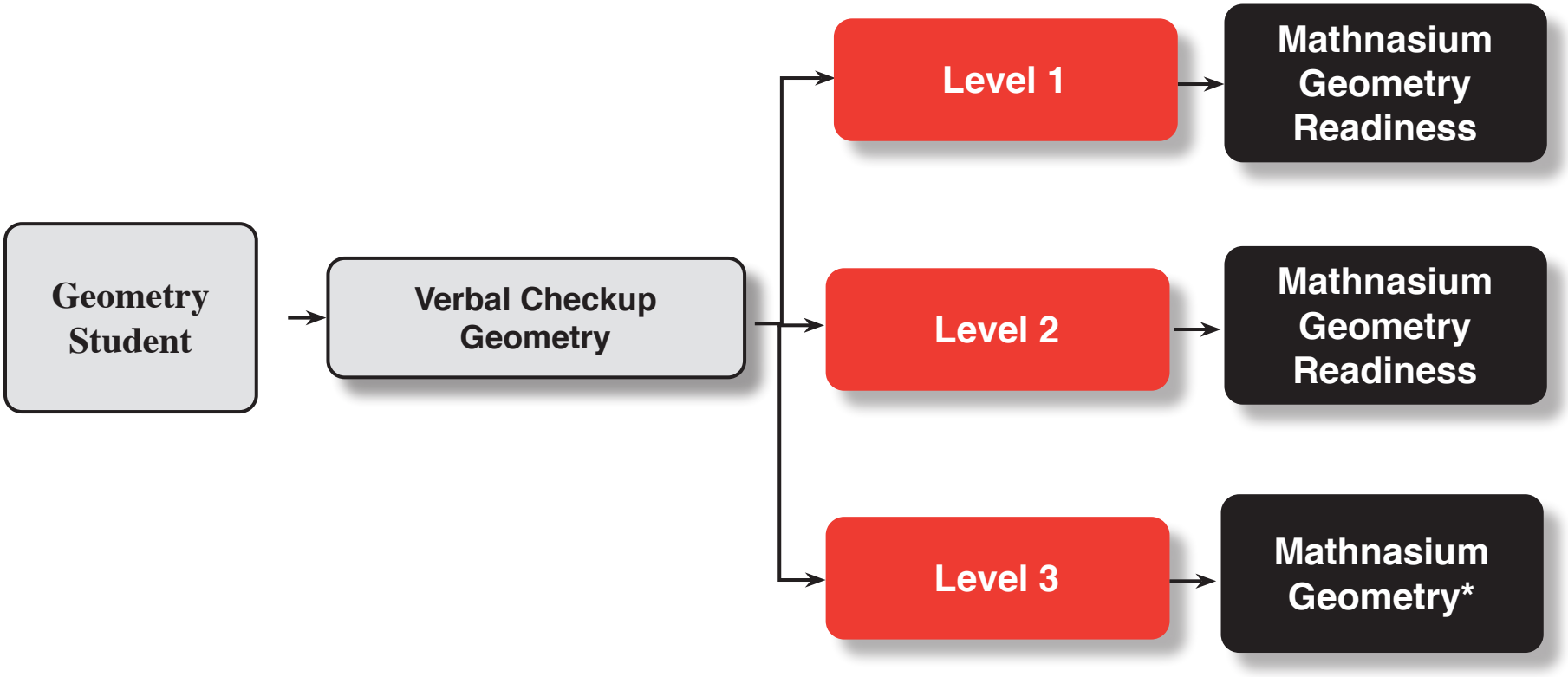
***Note**: Verbal Checkups are not available for Algebra 2 and above.

Choosing the Right Assessment: High School – Algebra 1



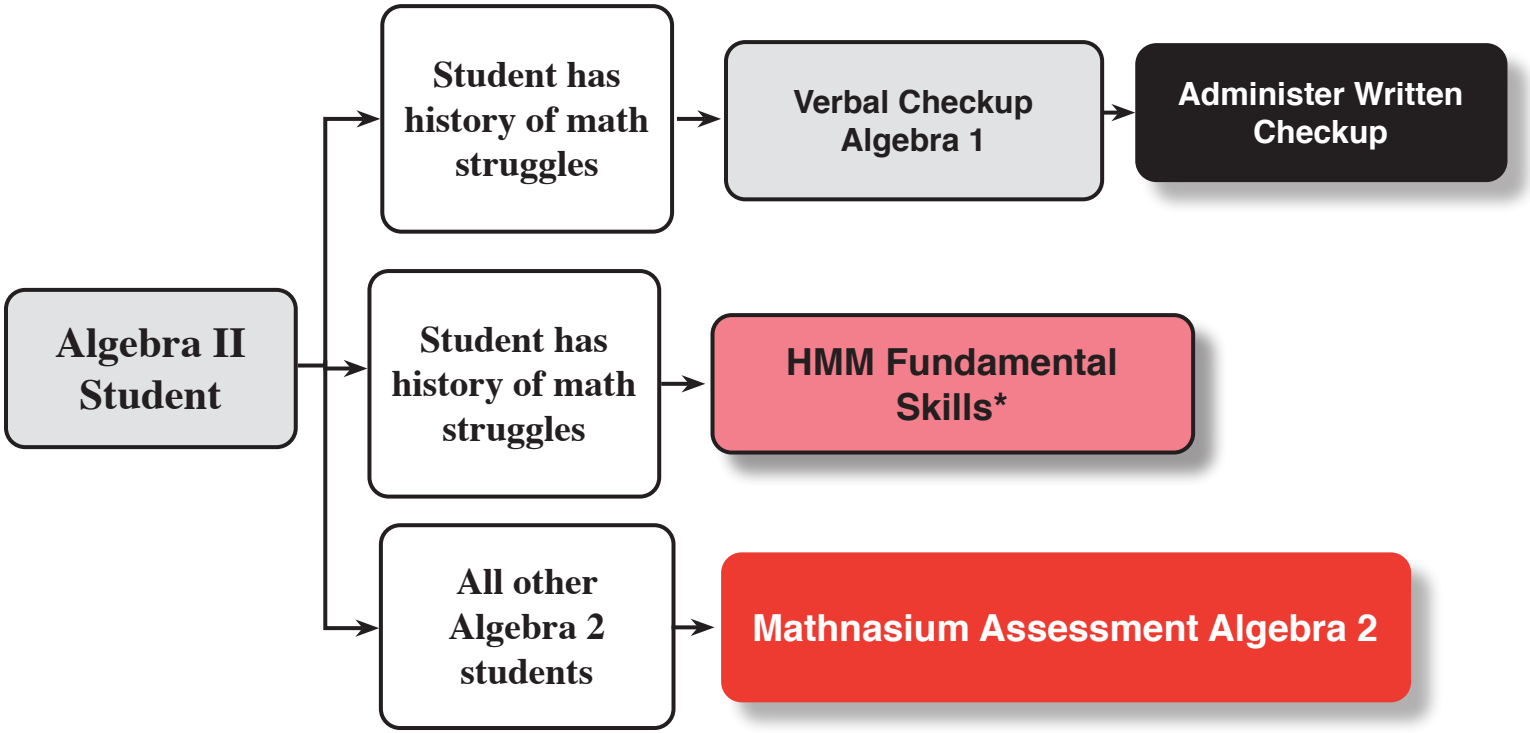
*Students that are in pre-AP or IB programs could take both Algebra 1 A and B as their initial assessment.

Choosing the Right Assessment: High School – Geometry



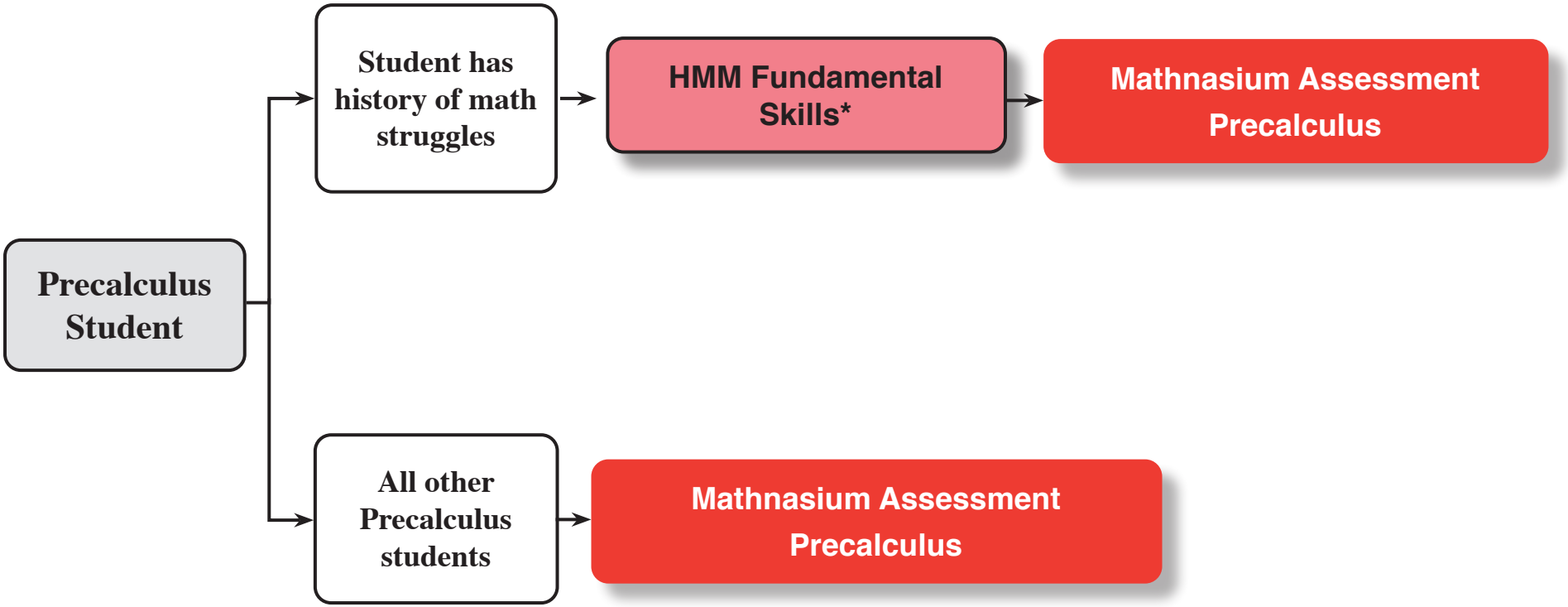
*Mathnasium Geometry can be substituted with Mathnasium Geometry with Proofs for students who are in courses with an emphasis on proofs.

Choosing the Right Assessment: High School – Algebra II



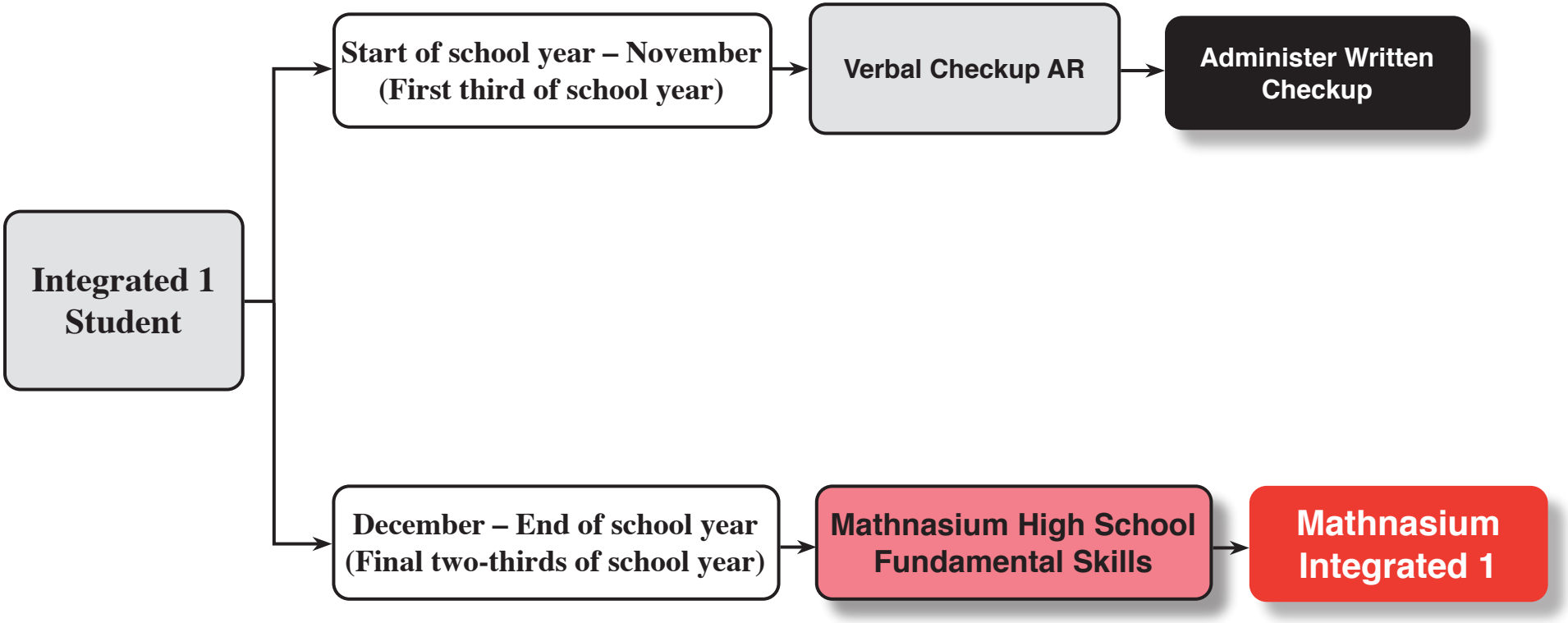
*See Choosing the Right Assessment: HMM Fundamental Skills at the end of the Assessment Selection Guide for more information on that Checkup and how it can be used with your students.

Choosing the Right Assessment: High School – Precalculus



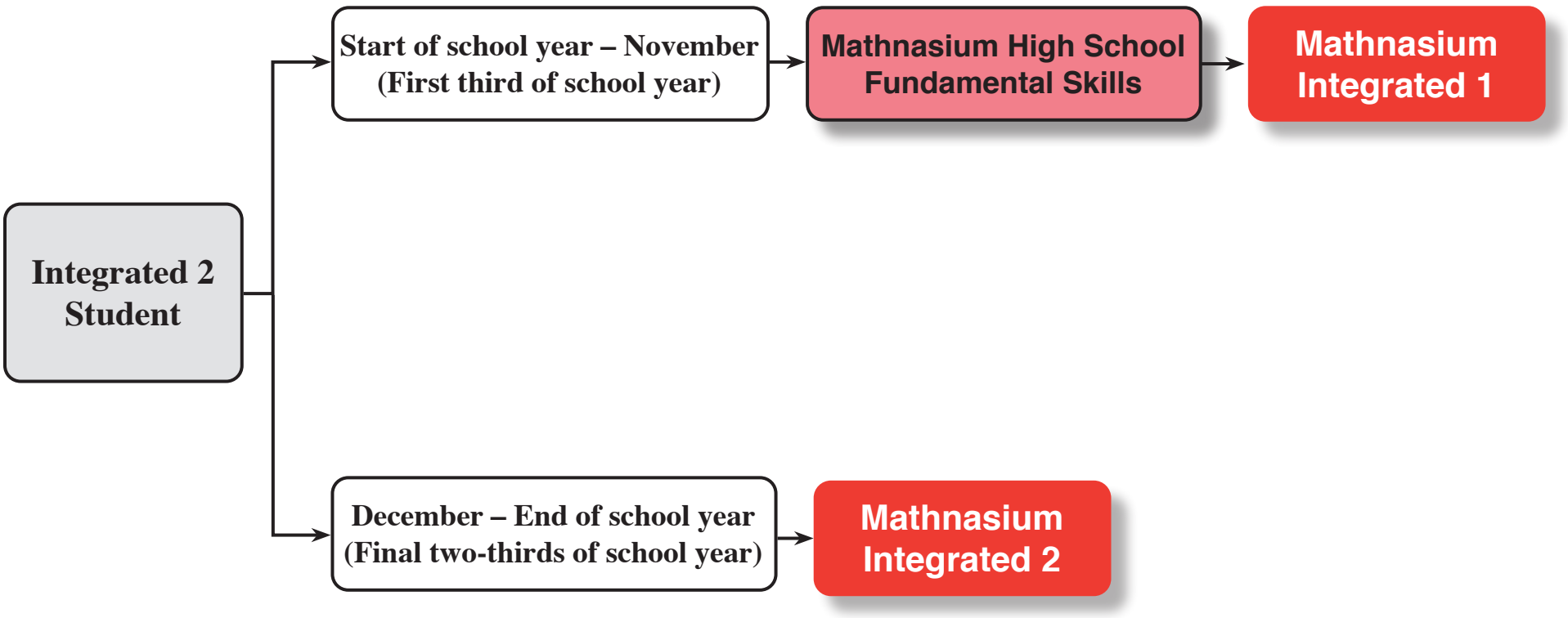
*See Choosing the Right Assessment: HMM Fundamental Skills at the end of the Assessment Selection Guide for more information on that Checkup and how it can be used with your students.

Choosing the Right Assessment: High School – Integrated 1



**Note that this Assessment model is one-third, two-third. If Mathnasium Algebra Readiness is chosen as the written Checkup, also consider the Algebra Readiness Extension to further prepare for the geometry and data/ statistics topics found in an Integrated 1 course.

Choosing the Right Assessment: High School – Integrated 2



**Note that this Assessment model is one-third, two-third.

Choosing the Right Assessment: Great Foundations

Great Foundations is an early childhood program created specifically for the unique needs of children in Pre-Kindergarten and Kindergarten, designed for students who are not quite ready for the standard Mathnasium program.

The Great Foundations program is meant to build an awareness of 10 key elements. At this age Mastery of the 10 key elements is not an expectation. Once they have built this awareness, they can then transition into the Prescriptive-based Mathnasium program (Numerical Fluency Add/Sub and Checkup 0).

The 10 key elements are: attributes, spatial relationships, classificiation, patterning, one-to-one correspondence, ordering, numeration, shapes, half and measurement.

The Great Foundations Evaluation is meant to resemble a trial session. You will gather information as to where the proper starting point is in the program for the child, but you also need to get a sense of how they respond to instruction, their ability to work independently, their behavior, and their reading ability.

The Evaluation should take a maximum of 60 minutes and is a combination of verbal, written, and manipulative-based activities. There is an Evaluation Form as well as student pages.

For centers wanting to offer the Great Foundations program, you must review the full **Facilitator's Guide** found under Business Documents.

*Centers that have been open less than six months should not offer the Great Foundations program.

Choosing the Right Assessment: HMM Fundamental Skills

HMM Fundamental Skills was developed to meet the unique needs of students in a course Algebra 2 or above. For many students, they are nearing the end of high school math and are very grade-driven.

While it is still in a student's best interest to meet them exactly where they are, the timing by which they contacted you may define a more strategic path forward.

HMM Fundamental Skills consists of a series of skills that go all the way to Checkup 4 and up through Trigonometry. These skills are seen as the most critical from every step along that path and are also those that are "table stakes" for helping a student with their homework.

The Checkup has been built with a series of (A+) in the margins to define exit points for the Checkup. The first occurs on page 3 at the end of the "Readiness" section. The questions up until this point come from Checkups 4 - Algebra/Geometry Readiness. Students who are in the 40-70% range to this point, you may choose to exit and build a Learning Plan starting from here. The next is the A++ found on page 9. These questions come from the Algebra 1 A/B and Algebra 2 Checkups. Again, a student who scores in the 40-70% range up through this section may exit here. This is also the most appropriate stopping point for an Algebra 2 student and a student at the beginning of Precalculus. The last section are questions from Geometry and basics of Trigonometry. For a student nearing the end of Precalculus or preparing for Calculus, through the end of the Checkup is a recommendation.

Once the student has completed the Learning Plan associated with the HMM Fundamental Skills Checkup, where to go next is dependent upon the student and their needs. If time is not a factor, they should move on to a standard Level Checkup such as Algebra 1 (after the A+) or Algebra 2/Precalculus (after the A++). If time is a factor and they did not complete the HMM Fundamental Skills Checkup in full, moving them on to the next section and creating a new Learning Plan based upon those Prescriptives is a recommendation.

