

26. Math Department Guidelines

26.1. General Principles. Mathematics is a subject that requires more sequential consistency from year to year than most subjects. In overall emphasis, math is second only to reading (language arts) in terms of subject matter emphasis at American Heritage School. For example, Math is the only subject other than reading for which the School has adopted a specific school-wide homework policy, namely, that homework in math should be assigned on a daily basis. A comprehensive K-12 mathematics program is consistently applied from year to year that is intended to provide not only a firm math foundation in preparation for college, but more importantly an appreciation for and competency with mathematics that will bless students for the rest of their lives.

26.2. Math Curriculum. Currently, Saxon Math is the approved curriculum for all grades, with supplementary curriculum and teaching tools as approved by administration.

26.3. Math Instructors. Mathematics is taught by the core-classroom instructors in grades K through 6 and by math specialists in grades 7 through 12.

26.4. Short Division. Because students tend to make a large number of mistakes with this method, short division should not be taught. Long division is preferred because it inherently causes students to “check” their computational steps. If Saxon includes lessons or problem sets on short division, either skip those lessons/problems or instruct students to use long division instead.

26.5. Neatness. Require neatness! If it’s unreadable, it’s wrong.

26.6. Showing Work. Students in fourth and subsequent grades are required to write the problem and show their work. In grades K through 3 students use worksheets. In all grades, the first weeks of school are critical for establishing these procedures. Remember, the correct process is as important as the correct answer! Habits are formed early and become difficult to change as time goes on. Particularly in math as the subject matter becomes increasingly complicated, good habits facilitate success.

26.7. Grading and Correcting. Teachers should grade individual assignments, quizzes, and exams frequently enough to be comfortable with the strengths and weaknesses of each student. Although parent- and student-graded reduces the workload of the teacher, concerns (such as cheating and tracking missed concepts) can be avoided if the teacher does a sufficient amount of the grading. Students should never grade other students’ exams. When student or parent assistance is used for grading math assignments, teachers should review the work regularly.

26.8. General Parent Involvement. Parents should be informed of and involved with student math fact mastery. Parents should know the standard for each grade, as specified below, and should be committed to helping their child achieve that standard. Parents should purchase a set of flash cards for daily home drills.

26.9. Math Facts. We recommend strongly that by the fifth grade, all students know their math facts thoroughly and completely. Ideally, math facts should be mastered according to the following schedule:

- First grade, addition
- Second grade, subtraction
- Third grade, multiplication through 10x10
- Fourth grade, multiplication and division through 12x12
- Fifth grade, review and mastery of all math facts; regular written drills, with home practice assigned based on individual scores

26.10. Placement Tests. Administration will work with core-classroom instructors and math specialists to administer math placement tests at the end of each year; these are separate from the standardized Iowa Test of Basic Skills and will help determine seating and appropriate math level placement of students for the upcoming year.

26.11. Advanced Placement. We have seen many problems with students who are prematurely advanced beyond their grade-level book; the most serious of these is a loss of confidence and excitement for mathematics when the student struggles or fails in the higher-level book. As a result, the general School policy is that students are not moved beyond their grade-level math book. Parents who believe an exception should be made must present a convincing reason. Ultimately, the decision will largely rest with the parents. In considering advanced placement:

- The student must have maintained solid, consistent A's in both independently done daily homework and tests for the grade-level book at American Heritage School. Work done at home or at another school will not generally be sufficient.
- The student must maintain a score of 90% or higher on both tests and daily work from the higher-level book.
- When possible, advanced placement students will physically attend a classroom where the appropriate level of mathematics is being taught. The teacher will administer tests and grade assignments as for the other students in the class. The parent should understand that the main responsibility for teaching an advanced-placement student rests on the parent.

26.12. Remedial Placement. Students submitting work and tests with scores consistently below 70% should generally be moved to the next lower book. Saxon indicates that test scores below 80% show that students are not prepared to move forward.

26.13. Grades K through 3: Structure. Students should be given plenty of time for counting, learning math facts, understanding the lesson, and completing the guided class practice. Time for the “math meeting” may need to be adjusted to accommodate this. Teachers should work with students on problems they missed on their homework as often as possible. We believe it is important to work individually with students. (NOTE: Math meeting concepts can be covered adequately even if not done every day. Teachers can assess to determine which concepts need more time, and can spend math meeting time on those concepts for a few days. Since most of the math meeting concepts are readily understood by older students, those who miss concepts from the math meeting will learn these concepts later.)

26.14. Grades 1 through 6: Flash Card Drills. Wrap-ups and triangles seem to be less effective than flash cards for learning math facts. Frequent math fact drills with flash cards should be done as a class. For each “family” of facts, first use flash cards with the answers on them so that the students can repeatedly see, hear, and say the correct patterns and answers, then switch to cards without the answers. Weekly timed written assessments can be administered to assess and record individual progress.

26.15. (Reserved)

26.16. Grades 4 through 12: Grading Homework. Homework should be graded—for example, “22 out of 25 correct”—and homework grades should be part of the overall math grade.

28.17. Cheating. Cheating and dishonesty are very serious infractions at the School, and students are held to a higher, less lenient standard than “three strikes, you’re out.” Cheating on math (and other) assignments should be dealt with by the teacher according to the specific facts and circumstances and as the Spirit directs, but a general recommended approach is as follows:

- Be careful not to draw premature conclusions. If a teacher suspects cheating, the teacher should carefully review the student’s work and/or observe the student to avoid error in judgment.

- Teachers will notify an administrator and then speak with the student privately. If the student (1) admits cheating, (2) is apologetic, and (3) is willing to comply with whatever consequences the teacher recommends, further action with parents and administration may be unnecessary. As always, a teacher has the discretion to initiate the formal discipline process (give a formal strike, etc.).
- If any of the above three conditions are not met, especially if the student resists consequences or tries to redirect responsibility, the teacher should speak with administration immediately. In most cases, administration will recommend that the teacher communicate directly with the parents to determine the proper course of action.
- Be aware that according to American Heritage School's formal discipline policy, dishonesty and cheating are offenses that may result in automatic suspension (three formal strikes are not required if, upon consideration, the teacher and administration deem suspension to be the appropriate action). Consideration will be given in primary grades for natural tendencies in younger children to view neighboring students' work – but instruction on this point will begin early.

26.18. Proper Care of Books. Math books at American Heritage School are retained for class use from year to year and, as such, they are not personal property of the students. Thus, proper care of the books is essential. Any misuse of math books beyond normal wear-and-tear will be cause for disciplinary action, reimbursement to the school, or both. Writing and drawing on the original book covers is not permitted.