

## What Does Your GPA

## Really Mean?

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#### Abstract

The GPA is an important measure of academic achievement. Everyone seems to obsess about the GPA. Parents measure their kids by the number. Students compare their numbers against one another. And colleges use the number in making admissions decisions. These numbers are often calculated to several decimal points, and high schools may use these numbers to award prizes, bestow honors, or designate scholarships.


The GPA is an important number. But what does this number really mean?

## Grades Are Subjective, Not Objective

Before we can jump into the GPA, we have to examine its component parts, which are the individual grades in each of the classes you are taking.

As a former high school teacher and professor, I can tell you that grading is an art, not a science. Grades are generally not normed. In other words, there is no objective "standard" against which your performance is being measured. Instead, teachers are measuring your performance relative to your peers.

Thus, when your teacher is grading that paper on Macbeth, she is not comparing it to the "ideal" high school essay on a Shakespearean play. Rather, she is comparing your paper against the papers turned in by your classmates, and she is doing a rough sorting of the papers on her desk to identify the best and the worst and everything in between.

Sometimes, teachers will try to do a wider comparison. They may have in mind ALL the students they have ever taught, and every Macbeth essay they have ever read. An experienced teacher might therefore determine that none of the papers in your particular class merits an A+. Students tend to hate these teachers: "she's an impossibly tough grader and no one ever gets an A." This is because this teacher is trying to hold her current students to what she perceives as a possible standard of excellence for students of this age. But this standard is borne of her experience, not some objective indicator that is shared by all teachers everywhere.

The problem is that there is no uniform standard for what a paper on Macbeth should be like. And the problem is similar in the sciences. What does a "good" lab report in chemistry look like? How much calculus should a student be able to do in order to get an A?

Then there is the problem of testing: who writes the tests and what is being assessed? In most cases, teachers themselves create the tests administered in their own classrooms; there is no single calculus test for "chapter 3," and different teachers will use different textbooks (so what really is in "chapter 3," anyway?). This differentiation is at the heart of the debate about "core curricula" and standardized testing in the United States.

The fact is that despite continuing efforts in the political arena, there are no solid, clear standards that define what constitutes an $A$ on a paper about Macbeth, or exactly what an ideal chemistry lab report should look like, or how much calculus you should be able to do before you get an A in the class.

Because we lack uniform standards from one high school to the next, from one district to the next, or one state to the next, grades are subjective assessments by teachers based primarily on the relative quality of the work they are grading.

Thus while they might objectively compare one student against another in a pool of 30 students, they are not objective indicators of performance. An A on that Macbeth paper in one classroom in one school may or may not be better than a Macbeth paper written by another student in another school in another state.

Thus your grades-and subsequently, your GPA-are a measure of how well you are doing in relation to your peers at your school. It cannot be used to compare your performance with students in other schools.

## Your GPA

The GPA is an average. And an average is fairly easy to calculate. Just total up the grades and divide by the number of grades.

But first you need to understand how a letter grade corresponds to a number. Before I give you an illustration of how this works, I have to point out that there is not-once again-a uniform, nationwide standard of how letter grades correspond to numbers. Different schools may do it differently.

Your school has its own system. It pays to look up this system. It is probably in your school handbook, or it might be contained in the "School Profile" that the high school shares with colleges when they share your transcript with them. If you don't know how your school converts grades to numbers, walk into your counseling office and ask.

Despite the lack of uniform standards, l'll share with you the most common way that many schools transpose letter grades into numbers.

| A | 4.0 | C+ | 2.3 |
| :--- | :--- | :--- | :--- |
| A- | 3.7 | C | 2.0 |
| B+ | 3.3 | C- | 1.7 |
| B | 3.0 | D+ | 1.3 |
| B- | 2.7 | D | 1 |
|  |  | D- | 0.7 |
|  |  | F | 0 |

Using this system, let's take the example of Susan, who has the following report card for the first semester of 9th grade (the corresponding numbers are also indicated using the above system):

| English 9 | B | 3.0 |
| :--- | :--- | :--- |
| Algebra 1 | B+ | 3.3 |
| US History | A- | 3.7 |
| Physical Science | A- | 3.7 |
| Spanish 1 | A | 4.0 |
| Physical Education | A | 4.0 |
| Choir | A- | 3.7 |
| TOTAL |  | 25.4 |

If we add up the numbers in the right-hand column, we get a total of 25.4. Since Susan is taking 6 classes, we do a simple division problem:

$$
25.4 \div 7=3.6285
$$

Thus Susan's GPA for the semester is 3.6285. We can round this up to a 3.63.

## Your Cumulative GPA

The above example applies to a single semester or marking period. How about if we wanted to calculate Susan's GPA for multiple semesters?

The same principle applies in calculating a cumulative average. Just translate grades to numbers, total up the numbers, and divide by the number of grades Susan received.

| 9th grade Semester 1 | 9 th grade semester 2 |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- |
| English 9 | B | 3.0 | English 9 | B+ | 3.3 |
| Algebra 1 | B+ | 3.3 | Algebra 1 | B+ | 3.3 |
| US History | A- | 3.7 | US History | A | 4.0 |
| Physical Science | A- | 3.7 | Physical Science | B | 3.0 |
| Spanish 1 | A | 4.0 | Spanish 1 | A | 4.0 |
| Physical Education | A | 4.0 | Physical Education | A | 4.0 |
| Choir | A- | 3.7 | Choir | A | 4.0 |
| TOTAL |  | 25.4 | TOTAL |  | 25.6 |
| Semester GPA |  | 3.6285 or 3.63 | Semester GPA |  | 3.657 or 3.66 |

## 10th grade semester 1

| English 10 | B | 3.3 | English 10 | B | 3.0 |
| :--- | :--- | :--- | :--- | :--- | :--- |
| Geometry | B+ | 3.3 | Geometry | B+ | 3.3 |
| World History | A | 4.0 | World History | A | 4.0 |
| Biology | C | 2.0 | Biology | C+ | 2.3 |
| Spanish 2 | A- | 3.7 | Spanish 2 | B+ | 3.3 |
| Graphic Design | B | 3.0 | Ceramics | A | 4.0 |
| Choir | A | 4.0 | Choir | A | 4.0 |
| TOTAL |  | 23.3 | TOTAL |  | 23.9 |
| Semester GPA |  | 3.3285 or 3.33 | Semester GPA |  | 3.4142 or 3.41 |

With four semesters of grades, we can calculate the cumulative average. We total up ALL the semester grades Susan has received (98.2) and divide by the total number of semester grades she received ( $7 \times 4=28$ ).

$$
98.2 \div 28=3.5071 \text { (or 3.51) }
$$

Before we move on, I just want to note that Susan's grades in $10^{\text {th }}$ grade are lower than her grades in $9^{\text {th }}$ grade. This trend is the reverse of what colleges generally want to see. They prefer to see grades improving (or at least remaining steady) from one year to the next.

## Weighted vs. Unweighted GPA

Certain high school courses grant additional "weight" to courses that are particularly difficult. These rigorous courses can include honors level courses, Advanced Placement (AP) courses, dual enrollment courses, or International Baccalaureate (IB) courses. The "weight" appears as an additional numerical value in the calculation of the GPA.

For example, a "weighted" A might receive 5 points instead of 4. A "weighted" B might receive 4 points instead of 3 . And so on.
Why do schools do this?
Because not all high school courses are created equal. Some are harder than others. The extra weight is a sort of reward in the calculation of your GPA for taking courses that are more academically challenging. If schools did not provide the added weights for difficult courses, then students who chose to take easy courses in high school might receive a perfect GPA, while those who challenged themselves and mastered more complex material might look less perfect even if he received a couple of grades of A-minus. Weights are designed to reward academic challenge and risk. How does this work?

Let's take look at a different student, Leo, with four semesters of course work-similar to our example of Susan, above. Unlike Susan, however, Leo is taking more honors classes, and even took two Advanced Placement (AP) courses in the 10th grade. If the policy at his school is to give an extra one point of "weight" for every grade he earns in courses designated either honors or AP, then his GPA would reflect this. Here are his 9th and 10th grade grades. I have calculated both the weighted and unweighted GPA.

9th grade Semester 1

| English 9 Honors | B+ | $3.3+1$ |
| :---: | :---: | :---: |
|  |  | $=4.3$ |
| Algebra 1 Honors | B+ | $3.3+1$ |
|  |  | $=4.3$ |
| US History Honors | B | $3.0+1$ |
|  |  | $=4.0$ |
| Physical Science Hons A- |  | $3.7+1$ |
|  |  | $=4.7$ |
| Spanish 1 | A | 4.0 |
| Physical Education | B | 3.0 |
| Choir | B+ | 3.3 |
| TOTAL |  | 27.6 |
| Semester GPA (Weighted) |  | or 3.94 |
| Semester GPA (Unwe | ghted) | or 3.37 |

## 10th grade semester 1

| English 10 Honors | B |  | $3.3+1$ | English 10 Honors | B | $3.0+1$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | $=4.3$ |  |  | $=4.0$ |
| Geometry Honors | B+ |  | $3.3+1$ | Geometry Honors | B+ | $3.3+1$ |
|  |  |  | $=4.3$ |  |  | $=4.3$ |
| AP World History | A |  | $4.0+1$ | AP World History | A | $4.0+1$ |
|  |  |  | $=5.0$ |  |  | $=5.0$ |
| Biology Honors | C |  | $2.0+1$ | Biology Honors | C+ | $2.3+1$ |
|  |  |  | $=3.0$ |  |  | $=3.3$ |
| Spanish 2 | A- |  | 3.7 | Spanish 2 | $B+$ | 3.3 |
| Graphic Design | B |  | 3.0 | Ceramics | A | 4.0 |
| Choir | A |  | 4.0 | Choir | A | 4.0 |
| TOTAL |  |  | 27.3 | TOTAL |  | 27.9 |
| Semester GPA (Weighted) |  | 3.90 |  | Semester GPA (W | hted) | 3.9857 or 3.99 |
| Semester GPA (Unweighted) |  | 3.328 | or 3.33 | Semester GPA (Un | ghted) | 3.4142 or 3.41 |

Thanks to the weights, Leo's weighted GPA is much higher than Susan's. This is true even though Susan and Leo earned the same grades throughout 10th grade. Because Leo took more difficult courses and did reasonably well, his weighted GPA is higher.

Therefore, since we are comparing the performance of Leo and Susan, we can say that Leo is a better student. He took harder courses and did well. So when it comes time to consider both Susan and Leo for schoolwide awards, Leo is going to do better. He is more likely to be on the honor roll (perhaps even the "high honor roll," if his school has such a thing). And he is going to have an easier time getting into college.

Before moving on, I must address the most common misconception about weights. Often when students see that a B grade is the equivalent of a 4.0, they lull themselves into thinking something like this: "well, since a B is a 4.0, if I get a B in this course it's like getting an A in another course." Mathematically, this is correct. But a B is still a B, and you are still losing ground-in a comparative sense-with your peers who are getting an A in the same weighted (honors, AP, IB) class. The student receives a sort of mathematical credit for taking the challenging course, but a $B$ is never equal to an A.

## Translating Percentages Into (and Out of) the 4.0 Scale

Some schools do not use letter grades; rather they measure performance based on the percentage of "points possible." Instead of receiving grades of A or C+ on an exam, they receive the more precise percentage of the points possible on the exam or that Macbeth paper.

The concept is simple. The implementation, however, remains unscientific. How many points is that Macbeth paper worth? What portion of the points are allocated to your correct use of grammatical mechanics, and what portion of the points are allocated to the strength of your argument or the clarity of your sentence structure? Different teachers will make different decisions, meaning that your awesome Macbeth paper cannot be compared with a paper on the same topic grade by a teacher in the next state over. You might get $95 \%$ from your teacher, but that nasty teacher down the hall who is such a tough grader might give it an $84 \%$.

Similarly, on that math test, does the teacher give "partial points" for showing your work? If you got the concept but messed up a calculation, will the teacher mark off the whole question? And what about the weighting of this concept versus another? For example, are solutions to geometric proofs as important as application of the geographic formulas? Different teachers make different decisions that will affect your performance in the course and therefore your grade in the course-and ultimately your cumulative GPA.

Thus, even percentages are only a rough guide to your overall academic performance and remain useful only insofar as they compare your performance against others taking the same class.

How do percentages translate into the 4.0 scale? Again, this depends on your school, and you should investigate that policy. While there are many ways to correlate percentages to the 4.0 scale, here are a couple of the most common.

| $90-100 \%$ | A | $93-100 \%$ | A |
| :--- | :--- | :--- | :--- |
| $80-89 \%$ | B | $87-92 \%$ | B |
| $70-79 \%$ | C | $79-86 \%$ | C |
| $60-69 \%$ | D | $72-78 \%$ | D |
| $59 \%$ or lower | F | $71 \%$ or lower | F |

At first glance, one would say that the system on the right is much more rigorous. However, how can we be sure of that when the individual teacher in each class is handing out grades-knowing the scale? If they think the paper is an " $A$ " paper, they'll give it a 95\% or more. If they feel it's a B, then it will get a $90 \%$.

Once again, the fact is that while these scales appear to be mathematically precise, the judgments teachers make about whether to give that Macbeth paper an $86 \%$ or a $87 \%$ (the difference between a B and a C in some schools) are terribly imprecise. Grading is an art, not a science.

## Your GPA and College Admission

Colleges compare your academic performance to that of other students. However, they understand that your GPA cannot be easily compared with a student in another school, another district, or another state. They understand that there are no standards, no norms, no guarantee that an A in 11th grade English in Kalamazoo is the same as an A in 11th grade English in Ketchikan or Kankakee.

They do understand, however, that your A in English indicates that you outperformed the majority of other students in your school in that particular class. And if that class was AP English Literature, then they know you are excellent college material.
(For those who received grade of A in AP English Literature, however, colleges will likely look to see if your score on the AP exam was similarly good. They would expect that your A would translate to a perfect 5 on the AP exam. This is not always the case, however: some students will get an A in the class but fail the exam. And this correlation between grades and AP scores is a different kettle of fish that we won't get into right now. Suffice it to say that AP and International Baccalaureate (IB) classes do, in fact, have national and international norms in the form of the exams students take at the end of these courses. Students who take these exams ARE compared to students from around the country and around the world. Therefore, if you earned an A in AP Literature as well as a 5 on the AP Lit exam, you are a hot commodity in the college application process!)

Colleges use your GPA as a guide. They do not compare the 3.45 presented by an applicant in Denver with the 3.47 presented by an applicant from Dubuque and conclude that the Dubuque student is obviously better because the number is higher. Colleges understand the variety and inconsistency of the American educational landscape.

So if the GPA is not a precise measure of your performance, how do admission officers look at your transcript?

1. Rigor of your curriculum. Admissions officers are looking at whether you took the most challenging courses offered at your school. Therefore, in our scenarios above, they are going to favor Leo over Susan because Leo took a lot of hard courses and he did pretty well. He has demonstrated the ability to push himself to the highest academic heights.
2. The rigor of your school. Some schools are more difficult than others. Some schools institute a rigorous academic curriculum and are filled with academically high-flying students. Other schools have graduation rates that are well below the national average. When admissions officers rate your application, they will assign points to the relative academic rigor of your school. The way that admissions officers learn about your school is primarily through the "School Profile," a document compiled by your school that accompanies your transcript to the admissions office. This document helps define the context of your school by providing a bunch of statistical information about its students and graduates. [To learn more about the school profile, go here: LINK TO A BLOG POST ABOUT IT?]
3. Your relative performance against your peers. If you went to a challenging school and took challenging courses, how well did you do relative to your peers? Some high schools make this easy by ranking students. Many schools no longer rank their students in numerical order. Some schools will provide decile rankings (e.g., top 10\%, top 25\%, etc.).
4. Past relationships with your high school. Even if the high school does not rank its students, colleges can get a pretty good insight into your performance. Again, this can come from the School Profile, or from the personal visits that admissions officers may make to your school. This insight also comes from its past interactions with your school. If the college has had students from your school attend—and perform well—then they will feel comfortable admitting students from your school in the present (like you, for instance!).
5. Your GPA. I know. I said that the GPA is only a relative measure, but it remains an important one. But colleges do not use the GPA - weighted or unweighted—simply as it was provided to them. They make some adjustments to it to make it a more useful measure of your academic performance. The next section explores how they make these adjustments.

## Your "Real" GPA

In our dissection of the weighted and unweighted GPA above, we included all of your high school courses. However, not all the courses you take in high school are academic in nature. You probably need to take a health class, and some fine arts classes, and physical education.

It's great if you are able to pull an A in your gym class, and everyone is happy if your choir teacher thinks you're awesome. But these are not considered academic classes. Colleges are most interested in your academic performance in the five major curricular areas: math, English, science, social studies, and foreign language.

In addition, if admissions officers are really going to compare one student in one locale with students in other locales, then they need to strip off the weights. After all, just because you get an extra point
for a B in an honors course does not mean that the grade magically becomes an A . It is still a B , as I have explained. No amount of mathematical mumbo jumbo will make a $B$ become an $A$.

Therefore, many colleges have computer applications that scan your transcript and then completely recalculate your GPA based only upon your solid academic courses.

To illustrate, let's take the case of Leo above.

## 9th grade Semester 1

| English 9 Honors | $\mathrm{B}+$ | 3.3 |
| :--- | :---: | :--- |
| Algebra 1 Honors | $\mathrm{B}+$ | 3.3 |
| US History Honors | B | 3.0 |
| Physical Science Hons | $\mathrm{A}-$ | 3.7 |
| Spanish 1 | A | 4.0 |
| Physical Education | B | 3.0 |
| Choir | $\mathrm{B}+$ | 3.3 |
| TOTAL |  | 17.3 |

Semester GPA (Unweighted) 3.3714 or 3.37
REAL GPA
3.46

## 10th grade semester 1

| English 10 Honors | B | 3.3 |
| :--- | :--- | :--- |
| Geometry Honors | $\mathrm{B}+$ | 3.3 |
| AP World History | A | 4.0 |
| Biology Honors | C | 2.0 |
| Spanish 2 | A- | 3.7 |
| Graphic Design | B | 3.0 |
| Choir | A | 4.0 |
| TOTAL | 16.3 |  |
| Semester GPA (Unweighted) | 3.3285 or 3.33 |  |
| REAL GPA | $\mathbf{3 . 2 6}$ |  |

## 9th grade semester 2

| English 9 Honors | $\mathrm{B}+$ | 3.3 |
| :--- | :---: | :---: |
| Algebra 1 Honors | $\mathrm{B}+$ | 3.3 |
| US History Honors | B | 3.0 |
| Physical Science Hons A | 4.0 |  |
| Spanish 1 | A | 4.0 |
| Physical Education | B | 3.0 |
| Choir | $\mathrm{B}+$ | 3.3 |
| TOTAL |  | 17.3 |
| Semester GPA (Unweighted) | 3.4142 or 3.41 |  |
| REAL GPA | $\mathbf{3 . 4 6}$ |  |

## 10th Grade Semester 2

| English 10 Honors | B | 3.0 |
| :--- | :--- | :--- |
| Geometry Honors | $\mathrm{B}+$ | 3.3 |
| AP World History | A | 4.0 |
| Biology Honors | $\mathrm{C}+$ | 2.3 |
| Spanish 2 | $\mathrm{B}+$ | 3.3 |
| Ceramics | A | 4.0 |
| Choir | A | 4.0 |
| TOTAL |  | 15.9 |
| Semester GPA (Unweighted) | 3.4142 or 3.41 |  |
| REAL GPA | $\mathbf{3 . 1 8}$ |  |

Notice than in $9^{\text {th }}$ grade, Leo's "real" GPA is actually higher than his unweighted GPA. This is because his grades in PE and choir are not top marks. When we eliminate those grades from the calculation of the average, his GPA ticks up a notch.

However, in the $10^{\text {th }}$ grade, his "real" GPA declined. His grades of $A$ in art and choir gave his unweighted GPA a boost, and when we eliminate that boost, his GPA takes a mathematical hit.

Why is it important to calculate your "real" GPA? Because all of us engage in wishful thinking when it comes to evaluating our own performance. Sometimes we need to unmask our eyes in order to see things as they really are. In Leo's case, his GPA took a dip from $9^{\text {th }}$ to $10^{\text {th }}$ grade. And when you look at the second semester of $10^{\text {th }}$ grade, the dip was most pronounced when the fluffy, non-academic courses are removed from the equation. Leo will really need to step up his game in $11^{\text {th }}$ grade if he wants to demonstrate to college admissions officers that he is more than a $B$ student.

## How Much Can You Raise Your GPA?

Whether you are trying to raise your weighted, unweighted, or "real" GPA, your ability to raise the GPA depends on two things: your efforts and mathematics.

To state the obvious, if you raise your academic performance, you will raise your grades. And if you raise your grades, you will most certainly raise your GPA.

But the extent to which you can raise it is determined by the mathematics. The biggest problem in raising your GPA is that you cannot wipe away past poor performance. There are no "do-overs" in high school. Once your grade is recorded on your transcript, it is permanent.

Let's demonstrate the impact that a poor $9^{\text {th }}$ grade year can have on a student's ability to raise the GPA. To do so, let's keep it simple and focus on your grades in a single subject. Since we've been talking about Macbeth so much, let's zero in on English.

Let's say you got a D in $9^{\text {th }}$ grade English. We'll chalk it up to temporary insanity. Still, let's say you learned the ugly lesson and you got an A in $10^{\text {th }}$ grade English, and do the math: what is your cumulative English grade after 4 semesters of high school?

$$
\begin{aligned}
& A=4 \\
& D=1 \\
& (1+4) \div 2=2.5
\end{aligned}
$$

Thus, your English grade is a solid $\mathrm{C}+$ at the end of $10^{\text {th }}$ grade (curse that Macbeth paper!).
Inspired and determined, you then get another A in $11^{\text {th }}$ grade English (this time you did better on that Great Gatsby paper!). Let's do more math.

$$
\begin{aligned}
& (D+A+A) \div 3=? \\
& (1+4+4) \div 3=3.0
\end{aligned}
$$

Now, thanks to your hard work, you now have a cumulative grade of B in English. Nice job!

Since you're in the groove, how much can you bring up your English grade by the end of your senior fall-just as your transcript is being submitted to the colleges of your choice?

The math is a bit harder here, because you get only a semester's worth of grades. So we're going to use a denominator of 3.5 (representing $31 / 2$ years of high school). And we'll add only half of that full A to the numerator.

$$
(1+4+4+2) / 3.5=3.1428, \text { rounded down to 3.14. }
$$

That final semester, therefore, cannot raise your GPA by much. That clunker of a D in $9^{\text {th }}$ grade will prevent you from achieving a B+ average in English by the time you submit your college applications-even if you get straight A grades in every subsequent semester.

So what's the lesson? Perhaps there are two.
First, don't slip into temporary insanity in $9^{\text {th }}$ grade if you can possibly help it, because a year's worth of poor performance is mathematically difficult to turn around.

Second, determination and hard work can significantly raise your GPA, even after a stumble. You might not be able to move the needle all the way up, but you'll be able to demonstrate to admissions officers that you learned from your youthful mistakes, and that you are fully ready to tackle the challenges of college.

## Conclusion

Your GPA is an important measure of your academic performance in high school. It is a mathematical expression of your academic abilities.

However, the mathematics rest on a subjective foundation that makes it difficult to compare your numerical result with other students across the country.

Furthermore, colleges will often recalculate your GPA anyway, cutting out the fluffy courses and focusing on your academic core courses.

The bottom line is this: you need to work as hard as you can in high school, taking the most difficult classes you can and performing your very best. No matter how you calculate it, your GPA is a number that indicates your own ability-as well as your persistence and tenacity-to do the work assigned to you throughout your high school career. It's not a totally objective or scientific number. But it's your number, and it has a lot to say about you.

So get to work on that Macbeth paper! Your cumulative GPA (weighted, unweighted, and real) depends upon it!

## About Great College Advice

Since 2006, our company has provided affordable Great College Advice to hundreds of students from across the United States and around the world. Our mission is to provide students and families the highest standard of assistance in the college selection and admissions process. We assist students in finding the college that best fits their abilities, interests, and aspirations. We guide students as they complete their applications, write their essays, and present themselves in the best light throughout the admissions process.

Headquartered in Denver, Colorado, and Westfield, New Jersey, Great College Advice has a national and international reach: fully 25\% of our clients come from beyond these two states, and another 25\% have come from China, Singapore, Taiwan, the UK, Hong Kong, Mexico, Australia, France, Belarus, and Oman.

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