

Interpreting and Using SAT Scores

Evaluating Student Performance

Use the tables in this section to compare a student's performance on SAT Program tests with the performance of groups of students. These tables can give you a better idea of what a student's scores and percentile ranks mean by showing who else took the test and how well they did. Information on subgroup performance (such as gender or ethnic groups) can be found in the Education Professionals section at www.collegeboard.com/prof.

SAT National Percentile Ranks

These tables compare the performance of groups of students who took the SAT. The percentile ranks in these tables are based on the most recent scores earned by high school students who are members of the 2004 graduating class and took the SAT any time during high school.

The percentile ranks in the table below can be used for the new SAT critical reading and math sections, whereas the writing percentiles for the new SAT will be available beginning with the fall 2006 administrations.

Verbal and Math Percentile Ranks

Use this table to see how a student's verbal and math scores compare with those of college-bound seniors. The percentile ranks shown are used on SAT score reports in 2004-05. For example, a score of 570 would fall in the 69th percentile for the verbal section and the 66th percentile for the math section. This means that a student who earned a verbal score of 570 did better than 69 percent of students who took the test. Likewise, a student who earned a math score of 570 did better than 66 percent of students who took the test.

SAT Verbal and Math Percentile Ranks

Score	V	M	Score	V	M
800	99+	99	480	39	36
790	99	99	470	35	33
780	99	99	460	32	30
770	99	99	450	29	27
760	99	98	440	26	24
750	98	98	430	23	21
740	98	97	420	21	19
730	97	97	410	18	16
720	97	96	400	15	14
710	96	95	390	13	12
700	95	93	380	11	11
690	94	92	370	10	9
680	93	91	360	8	8
670	92	90	350	7	6
660	90	87	340	6	5
650	89	85	330	5	4
640	87	84	320	4	3
630	85	82	310	3	3
620	83	79	300	3	2
610	81	77	290	2	2
600	78	74	280	2	1
590	76	72	270	2	1
580	73	69	260	1	1
570	69	66	250	1	1
560	67	62	240	1	1
550	64	60	230	1	1
540	60	56	220	1	1-
530	56	53	210	1-	1-
520	53	50	200	—	—
510	49	46	Mean	508	518
500	46	43	SD	112	114
490	43	40			

Composite (V+M) Percentile Ranks

Use this table to see how a student’s composite SAT score (verbal plus math) compares with the scores earned by college-bound seniors. Using the previous example, a student who earned a 570 in both verbal and math would have a composite score of 1140, for a percentile rank of 69. This means that the student’s composite score is higher than that of 69 percent of students who took the test.

SAT Composite (V+M) Percentile Ranks

Score	Percentile	Score	Percentile	Score	Percentile	Score	Percentile
1600	99+	1280	88	960	37	670	4
1590	99+	1270	87	950	36	660	4
1580	99+	1260	86	940	34	650	3
1570	99+	1250	84	930	32	640	3
1560	99+	1240	83	920	30	630	3
1550	99+	1230	82	910	29	620	2
1540	99+	1220	81	900	27	610	2
1530	99	1210	80	890	26	600	2
1520	99	1200	78	880	24	590	2
1510	99	1190	77	870	23	580	1
1500	99	1180	75	860	21	570	1
1490	99	1170	74	850	20	560	1
1480	99	1160	73	840	19	550	1
1470	98	1150	71	830	17	540	1
1460	98	1140	69	820	16	530	1
1450	98	1130	68	810	15	520	1
1440	97	1120	66	800	14	510	1-
1430	97	1110	64	790	13	500	1-
1420	97	1100	63	780	12	490	1-
1410	96	1090	61	770	11	480	1-
1400	96	1080	59	760	10	470	1-
1390	95	1070	58	750	9	460	1-
1380	95	1060	56	740	8	450	1-
1370	94	1050	54	730	8	440	1-
1360	94	1040	52	720	7	430	1-
1350	93	1030	50	710	6	420	1-
1340	93	1020	48	700	6	410	1-
1330	92	1010	46	690	5	400	—
1320	91	1000	45	680	5		
1310	90	990	43			Mean	1026
1300	89	980	41			SD	210
1290	88	970	39				

TIP

The percentile rank shows a student’s scores in relation to the scores of other students planning to attend college. Students with a low percentile rank can still be admitted to many colleges.

Effects of Repeating the SAT

Many students (45 percent) test once, and about 83 percent test either once or twice. The most common pattern is a combination of spring junior-year and fall senior-year testing. However, some students test only in their junior year, and some test only in their senior year. The table that follows shows what effect repeating the SAT has on students' scores.

Verbal Junior Year Scores	Percentage of Students with Senior Year Score Gain or Loss										Average of Senior Year Score	
	-140 & below	-110 to -130	-80 to -100	-50 to -70	-20 to -40	-10 to +10	+20 to +40	+50 to +70	+80 to +100	+110 to +130		+140 & above
680-720		1	3	10	21	28	20	11	5	1		698
630-670			2	8	19	28	24	12	4	1		655
580-620			2	7	19	28	25	13	5	1		607
530-570			2	7	18	28	25	14	4	1		559
480-520			2	7	17	27	26	15	5	1		512
430-470			2	6	15	26	26	16	6	2		466
380-420			2	5	13	23	26	19	8	2	1	424
330-370	1	1	2	4	10	18	25	21	12	4	2	384
280-320		1	3	4	7	14	20	22	17	8	4	349
Math												
680-720		1	3	10	23	28	22	9	5	1		697
630-670			2	9	20	29	23	12	4	1		654
580-620			2	7	19	27	24	14	5	1		608
530-570			2	7	17	27	25	14	6	1		562
480-520			2	6	16	26	25	16	6	2		515
430-470			2	6	15	25	26	17	7	2	1	469
380-420		1	2	5	13	23	25	19	9	3	1	425
330-370	1	1	2	4	9	18	24	21	12	5	2	384
280-320		1	2	3	8	12	19	22	18	9	5	351

Points to Note

- The left-hand column groups juniors by score ranges. Columns to the right show the percentage of students who gain or lose points when they test again as seniors. The far right column shows a senior-year mean for each original group of juniors.
- Overall, 55 percent of juniors taking the test improve their scores as seniors, 35 percent have score decreases, and 10 percent see no change.
- On average, juniors repeating the SAT as seniors improve their verbal scores by about 14 points and their math scores by about 14 points. About 1 in 25 gains 100 or more points on verbal or math, and about 1 in 100 loses 100 or more points.

TIP

Students planning to test again should work to improve their academic skills.

- *A student who tested while ill or who was not at peak during the test should consider taking the test again.*
- *Getting a lower score won't negate the original (higher) score. Most colleges tend to look at the higher score rather than the lower score.*

Comparing Group Scores on the SAT

Use this table to determine the margin of error in estimating the mean difference in true scores between two groups of students. The computed difference between the group means, plus or minus the margin of error, gives the range of possible differences between the true score means for the two groups.

Average Group Size	Margin of Error	Average Group Size	Margin of Error	Average Group Size	Margin of Error
10	28.2	160	6.6	400	4.2
20	19.2	170	6.4	450	3.9
30	15.5	180	6.2	500	3.7
40	13.4	190	6.1	550	3.5
50	11.9	200	5.9	600	3.4
60	10.8	210	5.8	650	3.3
70	10.0	220	5.6	700	3.1
80	9.4	230	5.5	750	3.0
90	8.8	240	5.4	800	2.9
100	8.4	250	5.3	850	2.9
110	8.0	275	5.0	900	2.8
120	7.6	300	4.8	950	2.7
130	7.3	325	4.6	1000	2.6
140	7.1	350	4.5	1500	2.1
150	6.8	375	4.3	2000	1.9

How to Use This Table

- Use this table when comparing mean scores of similar groups (on either Math or Verbal, but not M+V).
- First, compute the difference in the observed mean scores for the two groups being compared.
- Next, determine the average size of the two groups for which you are comparing scores, and locate that value in the column labeled “Average Group Size.”
- Locate the number to the right of the group size, in the column marked “Margin of Error.” This number shows how much we can expect the computed difference in mean observed scores to differ from the actual difference in mean true scores for two groups. Use this number to create an error band around the computed difference in means. For example, if each of the groups being compared has 750 people in it, then the margin of error (from the table) is 3. So, if the observed mean difference between the groups is 12, then we would expect the true mean difference to be somewhere between 9 and 15 (12 ± 3).

Points to Note

- Use this table when information is available on all (or almost all) of the people in the groups to be compared. If data are available on only a small sample from each group, then the margin of error can be much larger than what is indicated by the table.
- This table is most appropriate for comparing groups of approximately equal size. If the larger group is more than three times the size of the smaller group, it may be advisable to look up the smaller group size instead of the average group size in the table to get a more conservative estimate of the margin of error.
- A score range obtained using the above table gives an idea of how large or small the true score difference between two groups might be. No statistical method can tell whether such a difference is important. Such an interpretation is best made in the context of the actual situation under consideration (for example, what is known about the groups being compared; what would be the practical effect of a difference as large as the estimated one).
- The difference between the two group means is statistically significant if the range computed above does not include a value of zero. However, a statistically significant difference is not necessarily meaningful or important.

SAT One-Year Mean Changes

This table shows the percentage of high schools where verbal and math mean scores fluctuate from one year to the next.

Verbal				
Mean Change of at Least	Schools with 50–99 Test-Takers	Schools with 100–299 Test-Takers	Schools with 300+ Test-Takers	All Schools
10	60%	44%	26%	48%
20	30%	12%	3%	17%
30	12%	3%	1%	6%
40	3%	1%	0%	1%
50	1%	0%	0%	0%

Math				
Mean Change of at Least	Schools with 50–99 Test-Takers	Schools with 100–299 Test-Takers	Schools with 300+ Test-Takers	All Schools
10	60%	46%	28%	49%
20	30%	13%	4%	18%
30	12%	3%	1%	6%
40	4%	1%	0%	2%
50	1%	0%	0%	0%

TIP

Year-to-year changes in average verbal and math scores are more likely to occur in schools with a small number of test-takers. Many changes are not statistically significant. In general, about half of all schools experience changes of at least 10 points in their school means each year. In schools with a small number of SAT test-takers, the high or low scores of just a few students can affect the school's average scores.

Subject Test Percentile Ranks

Use the table that follows to see how a student's performance on a Subject Test compares with that of other students who took the same test. These percentile rankings appear on score reports for the 2004-05 test administrations.

Percentile ranks should not be compared across Subject Tests because different groups of students—with varying skills and abilities—take different Subject Tests. For instance, some Subject Tests tend to have many test-takers who excel in that subject. That means that a ranking that seems mediocre may in fact be very good.

For example, students who take the Math Level 2 Test often have taken several higher-level math courses, such as precalculus or calculus, while students who take Math Level 1 have a much more varied math background. A score of, say, 610 will likely result in a higher percentile rank for Math 1 than for Math 2, indicating that a greater percentage of students scored higher on the Math Level 2 Test. A student should not expect to get as high a percentile ranking on the Math 2 Test as on the Math 1 for an identical scaled score.

Similarly, the Language Tests include scores from students who are native speakers and would be expected to score high. Consequently, the percentile rankings for the scores on these tests tend to be lower than for other tests. See the Education Professionals section at www.collegeboard.com for a table that excludes scores of native speakers and those students who had additional language exposure or experience outside of high school.

Subject Test Percentile Ranks

Score	English		History and Social Studies		Math		Science			
	Writing	Literature	U.S. History	World History	Math Level 1	Math Level 2	Ecological Biology	Molecular Biology	Chemistry	Physics
800	97	99	98	98	99+	90	99	98	98	92
790	96	99	97	97	99	87	99	97	96	90
780	95	98	96	96	99	84	98	95	95	88
770	93	96	94	96	99	81	98	94	93	86
760	92	95	92	94	98	78	97	92	90	83
750	90	94	90	93	97	74	95	90	89	80
740	87	91	87	92	95	71	94	87	86	77
730	86	89	85	90	93	69	93	85	84	74
720	83	87	83	89	90	66	91	82	81	70
710	80	84	79	87	88	62	88	79	79	67
700	78	81	76	85	85	58	86	76	76	64
690	75	79	73	83	83	55	84	73	73	60
680	72	75	70	81	80	51	81	69	70	57
670	68	72	66	78	76	48	78	66	67	53
660	66	69	64	75	73	44	75	62	64	50
650	62	66	61	74	69	40	72	58	62	46
640	59	63	58	70	66	36	69	55	58	43
630	56	59	54	67	63	33	65	51	55	38
620	52	56	50	64	59	29	61	47	52	36
610	49	53	48	60	55	26	58	44	48	32
600	45	50	45	56	51	23	53	40	45	29
590	43	47	42	54	47	19	50	36	41	26
580	39	43	40	50	44	16	46	32	37	23
570	36	40	36	46	40	13	42	30	34	21
560	33	38	33	43	37	11	38	26	31	18
550	30	34	31	39	34	9	34	23	28	16
540	27	31	29	35	30	7	31	21	25	14
530	25	28	26	33	27	6	28	19	22	12
520	22	26	23	29	24	5	25	16	19	10
510	20	23	21	26	21	4	21	14	16	9
500	17	21	19	23	19	3	19	12	15	7
490	15	18	17	20	16	2	16	10	12	6
480	13	16	15	17	14	2	14	9	10	5
470	11	14	13	15	13	2	12	8	8	4
460	10	12	11	12	11	1	10	6	7	3
450	8	10	9	10	9	1	8	5	5	2
440	7	8	8	9	7	1	7	4	4	2
430	6	7	7	7	6	1-	6	4	3	1
420	4	6	5	5	5	1-	5	3	2	1
410	4	5	4	4	4	1-	4	2	2	1
400	3	4	3	3	3	1-	3	2	1	1-
390	2	3	3	2	3	1-	2	1	1	1-
380	2	2	2	2	2	1-	2	1	1-	1-
370	1	1	1	1	1	1-	1	1	1-	1-
360	1	1	1	1	1	1-	1	1	1-	1-
350	1	1	1	1-	1	1-	1	1-	1-	1-
340	1-	1-	1-	1-	1-	1-	1-	1-	1-	-
330	1-	1-	1-	1-	1-	1-	1-	1-	-	-
320	1-	1-	1-	1-	1-	1-	1-	1-	-	-
310	1-	1-	1-	1-	1-	-	1-	1-	-	-
300	1-	1-	1-	-	1-	-	1-	1-	-	-
290	1-	1-	1-	-	1-	-	1-	1-	-	-
280	1-	1-	1-	-	1-	-	1-	1-	-	-
270	1-	1-	1-	-	1-	-	1-	-	-	-
260	1-	1-	1-	-	-	-	1-	-	-	-
250	1-	1-	-	-	-	-	1-	-	-	-
240	1-	1-	-	-	-	-	-	-	-	-
230	1-	-	-	-	-	-	-	-	-	-
220	1-	-	-	-	-	-	-	-	-	-
210	-	-	-	-	-	-	-	-	-	-
200	-	-	-	-	-	-	-	-	-	-
Number	232,869	53,709	79,937	15,159	159,183	88,437	33,725	35,460	52,788	26,971
Mean	604	590	603	578	586	669	584	617	612	651
SD	107	106	110	104	98	91	97	99	102	98
SEM	30	40	30	30	30	30	30	30	30	30
SED	50	50	40	40	40	40	40	40	40	40

<i>Languages—Listening</i>						<i>Languages—Reading</i>						<i>Score</i>
<i>Chinese</i>	<i>French</i>	<i>German</i>	<i>Japanese</i>	<i>Korean</i>	<i>Spanish</i>	<i>French</i>	<i>German</i>	<i>Modern Hebrew</i>	<i>Italian</i>	<i>Latin</i>	<i>Spanish</i>	
56	90	98	80	71	95	93	96	88	92	96	94	800
47	88	98	68	57	92	92	92	87	86	95	92	790
40	86	98	63	50	87	90	88	87	80	94	88	780
34	84	95	55	42	85	88	83	84	78	92	85	770
31	82	92	51	37	81	86	80	84	73	90	82	760
27	79	89	47	33	77	84	78	83	70	88	79	750
24	78	83	45	30	75	81	75	82	67	86	75	740
21	75	79	45	26	69	79	71	80	64	84	73	730
19	74	75	42	24	66	77	68	79	61	81	70	720
17	71	73	39	21	65	74	67	77	56	78	67	710
15	69	68	37	19	62	72	64	76	55	75	65	700
14	66	65	36	17	59	69	63	75	51	72	62	690
13	64	62	34	15	56	67	61	72	49	70	60	680
11	60	60	33	14	54	65	59	70	46	68	57	670
10	59	58	32	13	52	62	56	68	43	64	55	660
9	54	54	31	11	48	60	54	66	40	61	53	650
8	51	53	30	10	46	57	52	64	37	59	50	640
6	49	50	29	9	42	54	49	63	35	56	47	630
5	46	49	28	8	40	52	47	61	33	51	45	620
5	44	46	27	7	38	49	45	57	31	48	43	610
4	40	43	26	6	36	46	44	54	30	45	40	600
4	37	40	26	5	33	43	42	51	28	43	38	590
3	34	38	24	5	31	40	41	48	27	39	36	580
2	32	34	23	4	29	38	37	45	25	37	34	570
2	29	31	22	3	27	35	35	43	23	34	32	560
2	26	29	21	3	25	32	34	41	22	31	30	550
1	23	26	20	2	22	29	32	38	19	28	27	540
1	20	24	18	2	20	27	31	36	18	25	26	530
1	18	22	17	2	19	24	28	31	15	23	23	520
1	16	20	16	1	17	21	25	29	14	20	21	510
1	14	18	15	1	15	19	24	27	12	17	19	500
1	13	16	13	1	13	17	23	25	10	15	17	490
1	11	14	13	1	12	15	22	22	9	12	16	480
1-	9	13	12	1	11	13	18	20	8	10	14	470
1-	7	10	10	1	9	11	16	18	7	8	12	460
1-	6	9	10	1-	8	9	14	17	6	6	11	450
1-	5	8	8	1-	7	8	13	14	6	4	9	440
1-	4	7	7	1-	6	6	11	13	5	3	8	430
1-	4	6	7	1-	5	5	9	11	4	2	6	420
1-	3	5	6	1-	4	4	8	9	4	2	5	410
1-	2	5	5	1-	3	3	6	8	3	1	4	400
1-	1	4	4	1-	3	2	6	6	2	1-	4	390
1-	1	3	3	1-	2	1	4	6	2	1-	3	380
1-	1	2	2	1-	1	1	4	5	1	1-	2	370
-	1-	1	2	-	1	1-	3	4	1	1-	1	360
-	1-	1	2	-	1	1-	2	4	1	-	1	350
-	1-	1	1	-	1	1-	2	3	1	-	1	340
-	1-	1	1	-	1-	1-	2	3	1	-	1	330
-	1-	1	1	-	1-	1-	1	2	1	-	1-	320
-	1-	1	1-	-	1-	1-	1	2	1-	-	1-	310
-	1-	1	1-	-	1-	-	1-	2	1-	-	1-	300
-	-	1-	1-	-	1-	-	1-	1	1-	-	1-	290
-	-	-	1-	-	1-	-	1-	1	1-	-	1-	280
-	-	-	1-	-	1-	-	1-	1-	1-	-	1-	270
-	-	-	1-	-	1-	-	1-	1-	1-	-	1-	260
-	-	-	1-	-	-	-	1-	1-	1-	-	1-	250
-	-	-	1-	-	-	-	1-	1-	1-	-	1-	240
-	-	-	1-	-	-	-	-	1-	1-	-	-	230
-	-	-	1-	-	-	-	-	1-	-	-	-	220
-	-	-	1-	-	-	-	-	1-	-	-	-	210
-	-	-	-	-	-	-	-	-	-	-	-	200
4,917	2,279	751	1,303	2,878	5,428	9,821	777	872	457	2,922	25,442	Number
756	627	612	682	745	635	610	611	586	655	608	622	Mean
67	115	116	138	74	120	118	136	137	121	106	126	SD
20	30	30	30	20	30	30	30	30	30	30	30	SEM
30	40	40	50	40	40	40	40	40	40	50	50	SED

SAT–ACT Score Comparisons

This table compares the combined verbal and math scores on the SAT with composite scores on the ACT Assessment, and vice versa.

SAT to ACT		ACT to SAT	
SAT Score V+M	ACT Composite Score	ACT Composite Score	SAT Score V+M
1600	36	36	1600
1560-1590	35	35	1580
1510-1550	34	34	1520
1460-1500	33	33	1470
1410-1450	32	32	1420
1360-1400	31	31	1380
1320-1350	30	30	1340
1280-1310	29	29	1300
1240-1270	28	28	1260
1210-1230	27	27	1220
1170-1200	26	26	1180
1130-1160	25	25	1140
1090-1120	24	24	1110
1060-1080	23	23	1070
1020-1050	22	22	1030
980-1010	21	21	990
940-970	20	20	950
900-930	19	19	910
860-890	18	18	870
810-850	17	17	830
760-800	16	16	780
710-750	15	15	740
660-700	14	14	680
590-650	13	13	620
520-580	12	12	560
500-510	11	11	500

Points to Note

- Equivalent scores are those with the same percentile ranks for a common group of test-takers.
- Data in this table are based on 103,525 test-takers who took both the SAT and the ACT between October 1994 and December 1996.
- SAT scores do not cover the full range of the ACT scale due to differences in how percentiles are distributed at the bottom of the two scales.

Although the new SAT will have significant changes that will more closely align the test with current instructional practices, the new SAT field trial research has conclusively demonstrated that scores on the new critical reading section will be comparable to scores on the current verbal section, and scores on the new math section will be comparable to scores on the current math section. Therefore, current concordance tables can still be used to compare SAT and ACT scores.

Using SAT Scores

Test scores have long been useful in helping admissions staff and other educators better understand and interpret students' preparation and qualifications. SAT Program tests provide information about a student's developed verbal and mathematical reasoning abilities (through the SAT) and mastery of specific subject areas (through the Subject Tests)—all of which are academic skills generally associated with success in college. Because students from more than 27,000 U.S. secondary schools experience vastly different educational models and grading systems, SAT Program test results provide a consistent and objective measure of students' abilities and achievement in these specific areas.

At the same time, there are also major differences among the 3,600 two- and four-year colleges and universities throughout the United States and in the types of admissions decisions they need to make. In some cases, the primary admissions decision is whether or not a student has met certain basic qualifications. In other situations, there may be many highly qualified applicants but not enough space. Many institutions have some programs that may be essentially “open door,” while other programs are highly competitive. At virtually all institutions, “admissions” means much more than simply deciding who will be admitted. Outreach, recruiting, placement, and retention are often integral aspects of admissions work.

Thus, there is not a single approach to admissions and how SAT scores might be used in the process. The following list illustrates some of the ways SAT scores might be used at different colleges and universities:

- Use SAT scores to better understand other information in an applicant's folder, such as grades and courses taken.
- Include SAT scores as one element in an admissions index to determine basic qualifications or preliminary screening.
- Review SAT scores to identify students who might be “at risk” and who might benefit from special advisors, developmental programs, and/or persistence support.
- Recruit students (through the Student Search Service or from among those who have sent scores) who have SAT scores similar to those of accepted or enrolled students at that institution.
- Conduct research on SAT scores and other criteria to identify characteristics used in decision making that predict success in course placement, completion of freshman year, and/or graduation.
- Include information about SAT scores (such as the middle 50 percent) of all applicants, accepted students, or enrolled freshmen in promotional materials so that students and counselors can develop an understanding of how the student might fit in that particular institution.

In all cases, the use should be appropriate in the context of the institution's mission and be based on empirical data and/or a solid rationale. What may be an ideal use of SAT Program data at one institution may be ineffective or inappropriate at another.

How Colleges and Universities Can Best Use New SAT Scores

The math score and the critical reading score (currently the verbal score) on the new SAT will be completely comparable to the existing scores, and longitudinal data will be maintained. The addition of the writing score will be a new indicator. Score recipients will receive a new writing score ranging from 200 to 800, as well as a new writing multiple-choice subscore, ranging from 20 to 80, and an essay subscore, ranging from 2 to 12. The College Board is cognizant of the varied individual policies at different colleges and universities for weighing scores for admissions and knows that each institution will follow its own standards. Especially with the addition of the writing score, we encourage colleges and universities to evaluate the three scores separately.

Please refer to the College Board's *Guidelines on the Uses of College Board Test Scores and Related Data*, which is available without charge from the College Board SAT Program. Included are sections on responsibilities of the College Board and other institutions, agencies, and organizations, as well as guidelines for counseling, recruiting and marketing, admissions (for both institutions and systems), and placement and credit. A special section discusses the use of aggregate scores. Appendices provide lists of uses of test scores and related data that are encouraged and uses that should be avoided.

Below are the nine specific guidelines for admissions use with commentary and suggestions on where to look for further information. Most of these guidelines apply to all admissions staff as well as to faculty, alumni, consultants, and others who have occasion to use or comment on SAT scores in any way.

1. Know enough about tests and test data to ensure that their proper uses and limitations are understood and applied.

Comment: Understand exactly what the SAT measures by reading *Taking the SAT Reasoning Test*, *Taking the SAT Subject Tests*, and other printed material. There is considerable information about all of the tests in the SAT Program at www.collegeboard.com.

In addition, users should be familiar with these basic testing and measurement principles:

- mean, median, and mode
- percentiles
- standard error of measurement (SEM)
- standard error of the difference (SED)
- reliability
- raw scores, scaled scores, and equating
- validity
- correlation and correlation coefficient

At www.collegeboard.com there is a section on statistical definitions as well as tables with percentiles and other data about tests in the SAT Program. The College Board offers workshops and sessions at meetings of many different professional organizations to help train new staff and others who use SAT data.

2. Use SAT scores in conjunction with other indicators, such as the secondary school record (grades and courses), interviews, personal statements, writing samples, portfolios, recommendations, etc., in evaluating the applicant's admissibility at a particular institution.

Comment: Research shows that the combination of test scores and the student's high school record (generally GPA or class rank) predicts college success better than either test scores or high school information alone. This is only one reason why admissions decisions should be made on a combination of factors rather than a single measure. Each student has many different strengths and unique characteristics; no one measure can capture all of those elements. In addition, SAT scores are neither immutable nor absolute measures of a student's ability or achievement. As with all tests, there is measurement error in SAT scores and, over time, a student's skills and achievements change.

No matter how well the SAT predicts a student's ultimate performance in college, admissions is often related to more than simply identifying the students who will get high grades in college. Colleges may also wish to enroll students who have other important characteristics that might be more evident through the other criteria outlined in this guideline.

Perhaps most importantly, many institutions want to view student's SAT scores in relation to their own particular backgrounds. If a student has attended a school with relatively few resources or if the student's family does not speak English at home, one might expect lower SAT scores than for a student who has attended a rigorous secondary school and comes from a highly English literate family situation.

3. View admissions test scores as contemporary and approximate indicators rather than as fixed and exact measures of a student's preparation for college-level work.

Comment: SAT scores are a snapshot in time. Both the SAT and the Subject Tests measure developed and acquired skills. Most individuals are constantly learning (and sometimes forgetting) both in and out of school. When students take an SAT more than once, they often do not receive exactly the same score. This is partly because of the measurement error that is characteristic of all assessments.

Measurement error does not mean that a test is flawed or contains mistakes, but rather it is something that is inherent in virtually all assessments and is caused by several factors. The primary cause of measurement error is that the questions included on almost all tests represent only a sampling of all possible questions that might be asked about a particular topic. In addition, the timing and conditions of the actual administration may introduce measurement error. Statisticians can calculate for different tests the standard error of measurement (SEM), which gives users a sense of how “precisely” scores should be interpreted.

For the SAT verbal and math sections, the SEM is about 30 points. In general, about two-thirds of the students who repeat the test will receive scores that are within 30 points (plus or minus) of their original score. For about 95 percent of students who repeat, the two scores will be within 60 points. For students in two recent graduating classes who took the SAT in both their junior and senior years, the average change was a 14-point increase on verbal and a 14-point increase on math. About 55 percent of these students saw their senior-year scores increase, while 35 percent experienced decreases and 10 percent had no change.

Another reason that scores change is that students’ skills and abilities might have changed. Research has shown that the verbal and mathematical reasoning abilities measured by the SAT increase slowly over a student’s school career (and beyond). However, the Subject Tests are much more directly related to course work. For example, the average score on the French Subject Test for students who had studied French for two years was 492. For three years of study, the average increased to 541, and for four years, the average was 580. If the student is taking a Subject Test months or even years after having taken a course in the subject, it is likely that the score will be lower than it might have been if the student had taken the test immediately following the end of the course.

Several tables at www.collegeboard.com provide actual score-change information for all students who took the SAT in recent graduating classes. (See the section on “Repeating the Test.”)

4. Evaluate test results and other information about applicants in the context of their particular background and experience, as well as in the context of the programs they intend to pursue.

Comment: Percentiles are the easiest way to interpret scores in context. In addition to national and state percentiles, www.collegeboard.com includes tables with percentiles for males and females, for each racial/ethnic group, and for younger students (7th and 8th graders) and adults. Since most institutions serve a unique clientele, it is important to develop a sense of how a particular student’s scores might fit in a local context—perhaps in relation to the secondary school the student attends, the entire applicant pool, or students applying to a particular major.

For example, a student with a combined total score of 1050 (450 verbal plus 600 math) scored higher than 54 percent of all students who recently took the SAT when only the total score is considered. You learn more about this student, however, when you look at the verbal and math scores separately. The 450 verbal score is above that of 29 percent of all students nationally, and the 600 math score is above that of 74 percent. If this student is from Texas, the verbal score is above that of 34 percent and the math score is above that of 80 percent in the state. If this student is Mexican American, the verbal score is above that of 50 percent and the math score is above that of 91 percent of all Mexican Americans. If this student is a female, her verbal score is above that of 30 percent and her math is above that of 80 percent of all female SAT takers.

5. Ensure that small differences in test scores are not the basis for rejecting an otherwise qualified applicant.

Comment: As noted in number 3, SAT scores are not absolutely precise. For an individual student, view the scores within the range of the SEM. When comparing two students, use the standard error of the difference, which is 40 points for the SAT. (The reason the SED is larger than the SEM is that it takes into account the variation in both scores being compared.) For two scores to reflect real differences in ability, the two scores must be different by at least 1.5 times the SED (60 points). So if one student has a 450 verbal and another a 500 verbal, these two students likely have the same ability. Rejecting a student on the basis of such a small difference in test scores would be inappropriate and unfair.

6. Guard against using minimum test scores unless used in conjunction with other information such as secondary school performance and unless properly validated. An exception to this guideline is that institutions may establish, based on empirical data, specific score levels that reflect desired skill competencies, such as English language proficiency.

Comment: This guideline attempts to balance science and reality. Any minimum test score should be questioned because a student's true score might be 30 or in a few cases 60 points below the reported score. (True score is a theoretical concept of what the student's real ability is. The reported score is what was actually measured, and the SEM describes the range within which the true score probably falls.) This guideline also reflects the College Board's general position that, for most admissions purposes, SAT scores should be used in conjunction with information from the student's secondary school record.

However, in reality, because institutions want to communicate clearly what their expectations are (and in some cases because governing bodies wish to have a clear, objective set of admissions criteria that can be easily explained), institutions may publish information about what combination of scores and grades is generally required for admission. Usually, this information is presented as an index where there is an inverse relationship between SAT scores and grades (or class rank)—that is, students with high grades need a lower score than students with lower grades. For example, students with grades above 3.5 or in the top 10 percent might be eligible or admitted with any score; students with grades of 3.0 or the top 20 percent might be admitted if they have a combined SAT verbal and math score of at least 1100; students with grades of 2.5 or in the top half of the class might need SAT scores of at least 1250; and so forth.

This type of index is best if it is based on research at each individual institution; however, there is considerable published research that supports this approach. Although the numbers vary by institution, average correlations of SAT scores with freshman grades in college are .52. The average correlation of grades with freshman college grades is .54. When SAT scores and high school grades are combined, the correlation increases to .61. Some institutions have even conducted research that shows that students who have certain high school records or who have scored below a certain point have relatively little chance of succeeding at that institution or in particular programs.

This guideline also acknowledges that many institutions have established minimum expectations for English language proficiency (generally a requirement for international applicants) and that this practice is acceptable if the minimums are based on appropriate empirical data. Admissions officers should still take the SEM into account in these situations and consider additional factors if the applicant's score is very close to the minimum and if other information suggests that the student's true score might be higher than the reported score.

7. Regularly validate data used in the selection process to ensure their continuing relevance.

Comment: Every college and university should examine each type of information used in the admissions process to determine whether or not it reflects the abilities and attributes valued by the institution. A great deal of information about the content of both the SAT and the Subject Tests is available for public review. Test Development committees are drawn from the ranks of active admissions officers, faculty, and other educators to assure that the tests remain current, but each institution should also periodically review the tests to assure that the content is valid.

Validity also refers to how well the SAT fulfills its purpose — in most cases, predicting grades or completion of one or more years of study. The College Board offers a free Admitted Class Evaluation Service (ACES) to assist institutions in validating SAT scores and other information used in making admission and placement decisions. Further information about this Internet-based service is provided at www.collegeboard.com and in the *ACES Validity Handbook*.

The frequency of validating admissions criteria depends on each institution's unique situation. If there has been relatively little change in the applicant pool and in the academic expectations of enrolled students, formal validity studies can be conducted infrequently. If, however, there are changes in the characteristics of applicants or if there have been changes at the institution (for example, new freshman-year course requirements), validity studies should be conducted to verify the effectiveness of admissions factors. Validity studies might also be conducted if the faculty has noticed a change in the student body or if the institution is contemplating changes in admissions requirements.

8. Maintain adequate procedures for protecting the confidentiality of test scores and other admissions data.

Comment: Admissions offices should periodically audit their operations from a security perspective, tracing the path of SAT scores and other application materials from the time and place of receipt to their final destination (registrar's office, temporary or permanent records retention, or destruction). Do only those individuals who need to know this information have access? Are there safeguards to be sure that unauthorized individuals are not able to gain access to confidential records? Have all authorized individuals been trained about how to treat confidential information?

9. When introducing or revising admissions policies, allow sufficient lead time and provide adequate notice to schools and students so that they can take the new policies into account when planning school programs and curricular offerings and preparing for admissions tests and other requirements.

Comment: Because students and schools want to do whatever possible to meet an institution's expectations, they need sufficient lead time to make plans for curricular changes or other modifications to reflect any modifications in an institution's requirements. Many changes in a school's program cannot be made quickly, and often curricular modifications need to be introduced in middle school or the first year of high school.