

MARCH 2012 OHIO GRADUATION TESTS

STATISTICAL SUMMARY

This document is a summary of the March 2012 administration of the Ohio Graduation Tests (OGT). Students attempt the tests for the first time in the spring of tenth grade. Students who take the tests at a later time do so because they have not yet achieved proficient score(s) on one or more tests. Because these students are not representative of the population as a whole, only tenth-graders are included in this report.

Tables 1 and 2 summarize the performance of tenth-graders in public and chartered non-public totals. Community school students are included in the public totals. Students who used an alternate form for security purposes are not included in Tables 1 and 2, so the total numbers of students are slightly smaller than those reported in Tables 3 and 4 and in the OGT Highlights.

Table 1. Summary Statistics of the March 2012 OGT Administration for Public Grade 10 Students.

| | Subject | | | | |
|-------------------|---------|-------------|---------|---------|----------------|
| | Reading | Mathematics | Writing | Science | Social Studies |
| No. Tested | 127,736 | 128,310 | 127,609 | 128,558 | 128,207 |
| Max. Raw Score | 48 | 46 | 48 | 48 | 48 |
| Max. Scaled Score | 557 | 565 | 566 | 591 | 579 |
| Min. Scaled Score | 261 | 256 | 268 | 209 | 231 |
| Raw Mean | 29.85 | 29.89 | 32.16 | 28.41 | 30.40 |
| Raw SD | 8.70 | 9.64 | 5.85 | 8.64 | 9.52 |
| Raw SEM | 3.21 | 2.86 | 2.60 | 3.06 | 3.09 |
| Scaled Mean | 427.01 | 434.09 | 423.81 | 422.43 | 428.98 |
| Scaled SD | 23.78 | 33.85 | 21.51 | 31.24 | 31.97 |
| Scaled SEM | 8.76 | 10.04 | 9.54 | 11.06 | 10.37 |
| Reliability | 0.86 | 0.91 | 0.80 | 0.87 | 0.89 |

Note: SD = standard deviation; SEM = standard error of measurement. Students who used an alternate form of the test are not included in these figures.

Table 2. Summary Statistics of the March 2012 OGT Administration for Non-Public Grade 10 Students.

| | Subject | | | | |
|-------------------|---------|-------------|---------|---------|----------------|
| | Reading | Mathematics | Writing | Science | Social Studies |
| No. Tested | 12,376 | 12,378 | 12,365 | 12,369 | 12,337 |
| Max. Raw Score | 48 | 46 | 48 | 48 | 48 |
| Max. Scaled Score | 557 | 565 | 566 | 591 | 579 |
| Min. Scaled Score | 261 | 256 | 268 | 209 | 231 |
| Raw Mean | 33.93 | 33.07 | 35.19 | 31.63 | 33.35 |
| Raw SD | 6.36 | 7.80 | 3.86 | 6.71 | 6.90 |
| Raw SEM | 3.11 | 2.77 | 2.19 | 3.00 | 2.98 |
| Scaled Mean | 437.89 | 444.49 | 435.43 | 433.68 | 437.90 |
| Scaled SD | 17.53 | 29.18 | 16.87 | 24.68 | 23.73 |
| Scaled SEM | 8.56 | 10.38 | 9.55 | 11.04 | 10.24 |
| Reliability | 0.76 | 0.87 | 0.68 | 0.80 | 0.81 |

Note: SD = standard deviation; SEM = standard error of measurement. Students who used an alternate form of the test are not included in these figures.

Tables 3 and 4 present the number and percent of tenth-graders at each of the five performance levels for each test for public and chartered non-public schools, respectively. Community school students are included in the public totals.

Table 3. Number and Percent of Public Grade 10 Students at Each Performance Level.

| Reading | | | | |
|---------------------|-------------|--------|---------|------|
| Performance Level | | Number | Percent | |
| Proficient or Above | Advanced | 24,404 | 19.1 | 86.4 |
| | Accelerated | 45,127 | 35.3 | |
| | Proficient | 40,988 | 32.0 | |
| Below Proficient | Basic | 10,399 | 8.1 | 13.6 |
| | Limited | 6,979 | 5.5 | |

| Mathematics | | | | |
|---------------------|-------------|--------|---------|------|
| Performance Level | | Number | Percent | |
| Proficient or Above | Advanced | 50,660 | 39.5 | 83.2 |
| | Accelerated | 30,491 | 23.7 | |
| | Proficient | 25,739 | 20.0 | |
| Below Proficient | Basic | 11,783 | 9.2 | 16.8 |
| | Limited | 9,737 | 7.6 | |

| Writing | | | | |
|---------------------|-------------|--------|---------|------|
| Performance Level | | Number | Percent | |
| Proficient or Above | Advanced | 1,063 | 0.8 | 87.5 |
| | Accelerated | 51,233 | 40.1 | |
| | Proficient | 59,444 | 46.6 | |
| Below Proficient | Basic | 12,540 | 9.8 | 12.5 |
| | Limited | 3,418 | 2.7 | |

| Science | | | | |
|---------------------|-------------|--------|---------|------|
| Performance Level | | Number | Percent | |
| Proficient or Above | Advanced | 34,281 | 26.6 | 77.0 |
| | Accelerated | 32,060 | 24.9 | |
| | Proficient | 32,751 | 25.5 | |
| Below Proficient | Basic | 21,488 | 16.7 | 23.0 |
| | Limited | 8,068 | 6.3 | |

Table 3 (continued)

| Social Studies | | | | |
|---------------------|-------------|--------|---------|------|
| Performance Level | | Number | Percent | |
| Proficient or Above | Advanced | 42,119 | 32.8 | 82.1 |
| | Accelerated | 27,129 | 21.1 | |
| | Proficient | 36,111 | 28.1 | |
| Below Proficient | Basic | 11,889 | 9.3 | 17.9 |
| | Limited | 11,048 | 8.6 | |

Table 4. Number and Percent of Non-Public Grade 10 Students at Each Performance Level.

| Reading | | | | |
|---------------------|-------------|--------|---------|------|
| Performance Level | | Number | Percent | |
| Proficient or Above | Advanced | 3,757 | 30.2 | 97.2 |
| | Accelerated | 5,623 | 45.2 | |
| | Proficient | 2,707 | 21.8 | |
| Below Proficient | Basic | 253 | 2.0 | 2.8 |
| | Limited | 89 | 0.7 | |

| Mathematics | | | | |
|---------------------|-------------|--------|---------|------|
| Performance Level | | Number | Percent | |
| Proficient or Above | Advanced | 6,318 | 50.8 | 93.4 |
| | Accelerated | 3,293 | 26.5 | |
| | Proficient | 1,998 | 16.1 | |
| Below Proficient | Basic | 554 | 4.5 | 6.6 |
| | Limited | 266 | 2.1 | |

| Writing | | | | |
|---------------------|-------------|--------|---------|------|
| Performance Level | | Number | Percent | |
| Proficient or Above | Advanced | 188 | 1.5 | 97.7 |
| | Accelerated | 7,956 | 64.1 | |
| | Proficient | 3,992 | 32.2 | |
| Below Proficient | Basic | 236 | 1.9 | 2.3 |
| | Limited | 44 | 0.4 | |

Table 4 (continued)

| Science | | | | |
|---------------------|-------------|--------|---------|------|
| Performance Level | | Number | Percent | |
| Proficient or Above | Advanced | 4,438 | 35.7 | 91.7 |
| | Accelerated | 3,914 | 31.5 | |
| | Proficient | 3,035 | 24.4 | |
| Below Proficient | Basic | 893 | 7.2 | 8.3 |
| | Limited | 140 | 1.1 | |

| Social Studies | | | | |
|---------------------|-------------|--------|---------|------|
| Performance Level | | Number | Percent | |
| Proficient or Above | Advanced | 4,774 | 38.5 | 94.6 |
| | Accelerated | 3,566 | 28.8 | |
| | Proficient | 3,382 | 27.3 | |
| Below Proficient | Basic | 454 | 3.7 | 5.4 |
| | Limited | 212 | 1.7 | |

Table 5 provides the raw and scaled scores associated with each performance level on each test for the March 2012 OGT administration. The scaled score required to achieve a certain performance level does not change from administration to administration, but the raw score required to achieve that scaled score may change.

Table 5. Score ranges for all subjects and all performance levels.

| Subject | Performance Level | Raw Score | Scaled Score |
|----------------|-------------------|-------------|--------------|
| Reading | Advanced | 38.0 – 48.0 | 448 – 557 |
| | Accelerated | 30.5 – 37.5 | 429 – 447 |
| | Proficient | 19.5 – 30.0 | 400 – 428 |
| | Basic | 13.5 – 19.0 | 383 – 399 |
| | Limited | 0.0 – 13.0 | 261 – 382 |
| Mathematics | Advanced | 34.5 – 46.0 | 444 – 565 |
| | Accelerated | 28.0 – 34.0 | 425 – 443 |
| | Proficient | 19.5 – 27.5 | 400 – 424 |
| | Basic | 14.0 – 19.0 | 384 – 399 |
| | Limited | 0.0 – 13.5 | 256 – 383 |
| Writing | Advanced | 42.0 – 48.0 | 476 – 566 |
| | Accelerated | 34.5 – 41.5 | 430 – 475 |
| | Proficient | 26.0 – 34.0 | 400 – 429 |
| | Basic | 17.5 – 25.5 | 378 – 399 |
| | Limited | 0.0 – 17.0 | 268 – 377 |
| Science | Advanced | 35.0 – 48.0 | 445 – 591 |
| | Accelerated | 29.5 – 34.5 | 425 – 444 |
| | Proficient | 22.0 – 29.0 | 400 – 424 |
| | Basic | 13.5 – 21.5 | 371 – 399 |
| | Limited | 0.0 – 13.0 | 209 – 370 |
| Social Studies | Advanced | 36.5 – 48.0 | 446 – 579 |
| | Accelerated | 31.5 – 36.0 | 429 – 445 |
| | Proficient | 21.0 – 31.0 | 400 – 428 |
| | Basic | 15.0 – 20.5 | 382 – 399 |
| | Limited | 0.0 – 14.5 | 231 – 381 |

Performance levels for each content standard (subscale) on each of the five tests are presented in Table 6. A “near proficient” score represents the performance typical of a minimally proficient student. These data are provided for descriptive purposes only; students do not “pass” or “fail” standards.

Table 6. Raw score bands for content standards.

| Subject | Content Standard | Below Prof. | Near Prof. | Above Prof. | Total Points |
|----------------|---|-------------|------------|-------------|--------------|
| Reading | Acquisition of Vocabulary | 0.0-4.5 | 5.0-6.0 | 6.5-8.0 | 8 |
| | Reading Process | 0.0-5.0 | 5.5-7.0 | 7.5-12.0 | 12 |
| | Informational, Technical, and Persuasive Text | 0.0-4.5 | 5.0-7.0 | 7.5-14.0 | 14 |
| | Literary Text | 0.0-3.5 | 4.0-6.0 | 6.5-14.0 | 14 |
| Mathematics | Number, Number Sense, and Operations | 0.0-3.5 | 4.0-5.5 | 6.0-9.0 | 9 |
| | Measurement | 0.0-2.5 | 3.0-4.5 | 5.0-8.0 | 8 |
| | Geometry and Spatial Sense | 0.0-3.0 | 3.5-5.0 | 5.5-8.0 | 8 |
| | Patterns, Functions, and Algebra | 0.0-5.0 | 5.5-7.0 | 7.5-10.0 | 10 |
| | Data Analysis and Probability | 0.0-3.0 | 3.5-5.0 | 5.5-11.0 | 11 |
| Writing | Writing Processes | 0.0-6.0 | 6.5-8.5 | 9.0-12.0 | 12 |
| | Writing Applications | 0.0-10.0 | 10.5-12.5 | 13.0-24.0 | 24 |
| | Writing Conventions | 0.0-8.5 | 9.0-10.5 | 11.0-12.0 | 12 |
| Science | Scientific Processes | 0.0-5.0 | 5.5-7.0 | 7.5-12.0 | 12 |
| | Earth and Space Sciences | 0.0-5.5 | 6.0-8.0 | 8.5-12.0 | 12 |
| | Life Sciences | 0.0-4.0 | 4.5-6.5 | 7.0-12.0 | 12 |
| | Physical Sciences | 0.0-5.5 | 6.0-8.0 | 8.5-12.0 | 12 |
| Social Studies | History | 0.0-4.0 | 4.5-6.5 | 7.0-14.0 | 14 |
| | People in Societies and Geography | 0.0-6.0 | 6.5-8.5 | 9.0-12.0 | 12 |
| | Economics, Government, and Citizenship | 0.0-4.5 | 5.0-7.0 | 7.5-13.0 | 13 |
| | Social Studies Skills and Methods | 0.0-4.5 | 5.0-6.5 | 7.0-9.0 | 9 |

Equating and Scaling: The Conversion of Raw Scores to Scaled Scores

Ohio uses the Rasch model (a one-parameter logistic model) for computing item difficulties and student abilities. This model is used because of its widespread acceptance, its relative simplicity, and the commercial availability of software for implementing it. The model measures each student's ability and each item's difficulty, and places all students and items on the same scale. Both ability and difficulty are measured in log-odds units, or logits. When student ability and item difficulty are equal, the probability of a correct response is 50%.

Pre-Equating and Test Form Construction

Equating is a process by which test forms composed of different items are calibrated to the same performance standards. Because each test form is made up of items that have been calibrated, items can be selected so that the new form is approximately equal to previous forms in overall difficulty.

Common Item Post-Equating

Following the administration of the March 2012 OGT, operational item difficulty values were obtained using data from an early return sample of grade 10 students. This sample was selected to be statistically representative of the Ohio student population.

For the reading, mathematics, science, and social studies tests, calibration and equating proceeded through a series of steps. First, the March 2012 operational difficulty values were computed from the early return data and compared to the reference values in the item bank. The mean difference between the operational and bank difficulties of the anchor items is called the equating constant, or EQK. The equating constant was then added to each March 2012 difficulty value so that the mean item difficulties from the March 2012 administration and from the bank were equal. The spring OGT writing tests are not post-equated. The summer and fall OGT administrations are also not post-equated.

Scaling

Ohio's performance standards are expressed as scaled scores. Scaled scores are constant across different forms of the same test, while raw scores may reflect minor differences in the difficulty of different test forms. A scaled score of 430 on the March 2012 administration represents the same level of performance as a scaled score of 430 on any other administration of the same test, but the raw score corresponding to a 430 may vary slightly from administration to administration.

After the equating process was complete, Rasch ability estimates, or theta scores, were computed for each possible raw score. The Rasch ability estimates were then converted to the appropriate scale by a linear transformation. In all cases, the proficient standard is equal to a scaled score of 400. The advanced, accelerated, and basic standards are also constant across different forms of the same test, but are not constant across different tests.

The Ohio Rounding Rule

Raw scores are reported to the half-point, but scaled scores are reported as whole numbers. In general, scaled scores are rounded to the nearest whole number; e.g., 417.848 would be reported as 418. Occasional exceptions must be made at the cut points used to mark the performance standards for each test so that the scaled score associated with each possible raw score is placed in the correct performance level.

Ohio uses a rounding rule to match the raw score closest to the performance standard with the associated scaled cut score for that standard. For example, if a raw score of 21.0 is associated with a scaled score of 399.437, and this is the closest scaled score to the proficient performance standard of 400, the scaled score associated with 21.0 is reported as 400 rather than 399.

If the closest scaled score exceeds the standard, the rounded scaled score is not changed. For example, if a raw score of 22.0 produces a scaled score of 398.126 and a raw score of 22.5 produces a scaled score of 401.246, the raw cut would be 22.5 and the associated scaled score would be reported as 401.

Concordance between Raw Scores and Scaled Scores

Tables 7-11 provide the concordance between raw scores and scaled scores for all five tests administered in March 2012.

**Table 7. Raw Score to Scaled Score Conversion for Reading,
March 2012 OGT Administration.**

| Raw Score | Scaled Score | Raw Score | Scaled Score | Raw Score | Scaled Score |
|-------------|--------------|-------------|--------------|-------------|--------------|
| 0.0 | 261 | 16.5 | 392 | 33.0 | 435 |
| 0.5 | 289 | 17.0 | 393 | 33.5 | 436 |
| 1.0 | 306 | 17.5 | 395 | 34.0 | 437 |
| 1.5 | 316 | 18.0 | 396 | 34.5 | 438 |
| 2.0 | 324 | 18.5 | 398 | 35.0 | 439 |
| 2.5 | 329 | 19.0 | 399 | 35.5 | 441 |
| 3.0 | 334 | 19.5 | 400 | 36.0 | 442 |
| 3.5 | 339 | 20.0 | 402 | 36.5 | 443 |
| 4.0 | 342 | 20.5 | 403 | 37.0 | 444 |
| 4.5 | 346 | 21.0 | 405 | 37.5 | 446 |
| 5.0 | 349 | 21.5 | 406 | 38.0 | 448 |
| 5.5 | 352 | 22.0 | 407 | 38.5 | 448 |
| 6.0 | 354 | 22.5 | 409 | 39.0 | 450 |
| 6.5 | 357 | 23.0 | 410 | 39.5 | 451 |
| 7.0 | 359 | 23.5 | 411 | 40.0 | 453 |
| 7.5 | 361 | 24.0 | 412 | 40.5 | 455 |
| 8.0 | 364 | 24.5 | 414 | 41.0 | 457 |
| 8.5 | 366 | 25.0 | 415 | 41.5 | 459 |
| 9.0 | 368 | 25.5 | 416 | 42.0 | 461 |
| 9.5 | 370 | 26.0 | 418 | 42.5 | 463 |
| 10.0 | 371 | 26.5 | 419 | 43.0 | 466 |
| 10.5 | 373 | 27.0 | 420 | 43.5 | 469 |
| 11.0 | 375 | 27.5 | 422 | 44.0 | 472 |
| 11.5 | 377 | 28.0 | 423 | 44.5 | 476 |
| 12.0 | 378 | 28.5 | 424 | 45.0 | 480 |
| 12.5 | 380 | 29.0 | 425 | 45.5 | 486 |
| 13.0 | 382 | 29.5 | 426 | 46.0 | 492 |
| 13.5 | 383 | 30.0 | 428 | 46.5 | 499 |
| 14.0 | 385 | 30.5 | 429 | 47.0 | 510 |
| 14.5 | 386 | 31.0 | 430 | 47.5 | 528 |
| 15.0 | 388 | 31.5 | 431 | 48.0 | 557 |
| 15.5 | 389 | 32.0 | 432 | | |
| 16.0 | 391 | 32.5 | 434 | | |

**Table 8. Raw Score to Scaled Score Conversion for Mathematics,
March 2012 OGT Administration.**

| Raw Score | Scaled Score | Raw Score | Scaled Score | Raw Score | Scaled Score |
|-------------|--------------|-------------|--------------|-------------|--------------|
| 0.0 | 256 | 16.5 | 392 | 33.0 | 440 |
| 0.5 | 286 | 17.0 | 394 | 33.5 | 441 |
| 1.0 | 304 | 17.5 | 395 | 34.0 | 443 |
| 1.5 | 315 | 18.0 | 396 | 34.5 | 445 |
| 2.0 | 322 | 18.5 | 398 | 35.0 | 447 |
| 2.5 | 329 | 19.0 | 399 | 35.5 | 448 |
| 3.0 | 334 | 19.5 | 401 | 36.0 | 450 |
| 3.5 | 338 | 20.0 | 402 | 36.5 | 452 |
| 4.0 | 342 | 20.5 | 403 | 37.0 | 454 |
| 4.5 | 345 | 21.0 | 405 | 37.5 | 456 |
| 5.0 | 348 | 21.5 | 406 | 38.0 | 458 |
| 5.5 | 351 | 22.0 | 408 | 38.5 | 461 |
| 6.0 | 354 | 22.5 | 409 | 39.0 | 463 |
| 6.5 | 357 | 23.0 | 410 | 39.5 | 465 |
| 7.0 | 359 | 23.5 | 412 | 40.0 | 468 |
| 7.5 | 361 | 24.0 | 413 | 40.5 | 471 |
| 8.0 | 363 | 24.5 | 415 | 41.0 | 474 |
| 8.5 | 366 | 25.0 | 416 | 41.5 | 477 |
| 9.0 | 368 | 25.5 | 417 | 42.0 | 480 |
| 9.5 | 369 | 26.0 | 419 | 42.5 | 484 |
| 10.0 | 371 | 26.5 | 420 | 43.0 | 488 |
| 10.5 | 373 | 27.0 | 422 | 43.5 | 493 |
| 11.0 | 375 | 27.5 | 423 | 44.0 | 499 |
| 11.5 | 377 | 28.0 | 425 | 44.5 | 506 |
| 12.0 | 378 | 28.5 | 426 | 45.0 | 517 |
| 12.5 | 380 | 29.0 | 427 | 45.5 | 534 |
| 13.0 | 382 | 29.5 | 429 | 46.0 | 565 |
| 13.5 | 383 | 30.0 | 430 | | |
| 14.0 | 385 | 30.5 | 432 | | |
| 14.5 | 386 | 31.0 | 433 | | |
| 15.0 | 388 | 31.5 | 435 | | |
| 15.5 | 389 | 32.0 | 437 | | |
| 16.0 | 391 | 32.5 | 438 | | |

**Table 9. Raw Score to Scaled Score Conversion for Writing,
March 2012 OGT Administration.**

| Raw Score | Scaled Score | Raw Score | Scaled Score | Raw Score | Scaled Score |
|-----------|--------------|-------------|--------------|-------------|--------------|
| 0.0 | 268 | 16.5 | 375 | 33.0 | 424 |
| 0.5 | 292 | 17.0 | 376 | 33.5 | 426 |
| 1.0 | 307 | 17.5 | 378 | 34.0 | 428 |
| 1.5 | 315 | 18.0 | 379 | 34.5 | 430 |
| 2.0 | 322 | 18.5 | 380 | 35.0 | 432 |
| 2.5 | 327 | 19.0 | 381 | 35.5 | 435 |
| 3.0 | 331 | 19.5 | 383 | 36.0 | 437 |
| 3.5 | 334 | 20.0 | 384 | 36.5 | 440 |
| 4.0 | 337 | 20.5 | 385 | 37.0 | 442 |
| 4.5 | 340 | 21.0 | 387 | 37.5 | 445 |
| 5.0 | 342 | 21.5 | 388 | 38.0 | 448 |
| 5.5 | 344 | 22.0 | 389 | 38.5 | 451 |
| 6.0 | 346 | 22.5 | 391 | 39.0 | 454 |
| 6.5 | 348 | 23.0 | 392 | 39.5 | 458 |
| 7.0 | 350 | 23.5 | 393 | 40.0 | 461 |
| 7.5 | 352 | 24.0 | 395 | 40.5 | 464 |
| 8.0 | 353 | 24.5 | 396 | 41.0 | 468 |
| 8.5 | 355 | 25.0 | 398 | 41.5 | 472 |
| 9.0 | 356 | 25.5 | 399 | 42.0 | 476 |
| 9.5 | 358 | 26.0 | 401 | 42.5 | 479 |
| 10.0 | 359 | 26.5 | 402 | 43.0 | 483 |
| 10.5 | 360 | 27.0 | 404 | 43.5 | 487 |
| 11.0 | 362 | 27.5 | 405 | 44.0 | 491 |
| 11.5 | 363 | 28.0 | 407 | 44.5 | 495 |
| 12.0 | 364 | 28.5 | 408 | 45.0 | 500 |
| 12.5 | 365 | 29.0 | 410 | 45.5 | 505 |
| 13.0 | 367 | 29.5 | 411 | 46.0 | 510 |
| 13.5 | 368 | 30.0 | 413 | 46.5 | 517 |
| 14.0 | 369 | 30.5 | 415 | 47.0 | 526 |
| 14.5 | 370 | 31.0 | 416 | 47.5 | 541 |
| 15.0 | 372 | 31.5 | 418 | 48.0 | 566 |
| 15.5 | 373 | 32.0 | 420 | | |
| 16.0 | 374 | 32.5 | 422 | | |

**Table 10. Raw Score to Scaled Score Conversion for Science,
March 2012 OGT Administration.**

| Raw Score | Scaled Score | Raw Score | Scaled Score | Raw Score | Scaled Score |
|-------------|--------------|-------------|--------------|-------------|--------------|
| 0.0 | 209 | 16.5 | 382 | 33.0 | 437 |
| 0.5 | 247 | 17.0 | 384 | 33.5 | 439 |
| 1.0 | 269 | 17.5 | 386 | 34.0 | 440 |
| 1.5 | 283 | 18.0 | 387 | 34.5 | 442 |
| 2.0 | 293 | 18.5 | 389 | 35.0 | 445 |
| 2.5 | 301 | 19.0 | 391 | 35.5 | 446 |
| 3.0 | 307 | 19.5 | 392 | 36.0 | 448 |
| 3.5 | 313 | 20.0 | 394 | 36.5 | 450 |
| 4.0 | 318 | 20.5 | 396 | 37.0 | 452 |
| 4.5 | 322 | 21.0 | 397 | 37.5 | 454 |
| 5.0 | 327 | 21.5 | 399 | 38.0 | 456 |
| 5.5 | 330 | 22.0 | 401 | 38.5 | 459 |
| 6.0 | 334 | 22.5 | 402 | 39.0 | 461 |
| 6.5 | 337 | 23.0 | 404 | 39.5 | 463 |
| 7.0 | 340 | 23.5 | 405 | 40.0 | 466 |
| 7.5 | 343 | 24.0 | 407 | 40.5 | 468 |
| 8.0 | 346 | 24.5 | 409 | 41.0 | 471 |
| 8.5 | 349 | 25.0 | 410 | 41.5 | 474 |
| 9.0 | 351 | 25.5 | 412 | 42.0 | 477 |
| 9.5 | 354 | 26.0 | 413 | 42.5 | 480 |
| 10.0 | 356 | 26.5 | 415 | 43.0 | 484 |
| 10.5 | 359 | 27.0 | 417 | 43.5 | 487 |
| 11.0 | 361 | 27.5 | 418 | 44.0 | 491 |
| 11.5 | 363 | 28.0 | 420 | 44.5 | 496 |
| 12.0 | 365 | 28.5 | 421 | 45.0 | 501 |
| 12.5 | 367 | 29.0 | 423 | 45.5 | 506 |
| 13.0 | 369 | 29.5 | 425 | 46.0 | 513 |
| 13.5 | 371 | 30.0 | 426 | 46.5 | 522 |
| 14.0 | 373 | 30.5 | 428 | 47.0 | 534 |
| 14.5 | 375 | 31.0 | 430 | 47.5 | 555 |
| 15.0 | 377 | 31.5 | 431 | 48.0 | 591 |
| 15.5 | 379 | 32.0 | 433 | | |
| 16.0 | 380 | 32.5 | 435 | | |

**Table 11. Raw Score to Scaled Score Conversion for Social Studies,
March 2012 OGT Administration.**

| Raw Score | Scaled Score | Raw Score | Scaled Score | Raw Score | Scaled Score |
|-------------|--------------|-------------|--------------|-------------|--------------|
| 0.0 | 231 | 16.5 | 386 | 33.0 | 434 |
| 0.5 | 266 | 17.0 | 388 | 33.5 | 436 |
| 1.0 | 286 | 17.5 | 389 | 34.0 | 437 |
| 1.5 | 299 | 18.0 | 391 | 34.5 | 439 |
| 2.0 | 307 | 18.5 | 392 | 35.0 | 441 |
| 2.5 | 315 | 19.0 | 394 | 35.5 | 442 |
| 3.0 | 320 | 19.5 | 395 | 36.0 | 444 |
| 3.5 | 325 | 20.0 | 397 | 36.5 | 446 |
| 4.0 | 330 | 20.5 | 398 | 37.0 | 448 |
| 4.5 | 334 | 21.0 | 400 | 37.5 | 449 |
| 5.0 | 338 | 21.5 | 401 | 38.0 | 451 |
| 5.5 | 341 | 22.0 | 403 | 38.5 | 453 |
| 6.0 | 344 | 22.5 | 404 | 39.0 | 456 |
| 6.5 | 347 | 23.0 | 405 | 39.5 | 458 |
| 7.0 | 350 | 23.5 | 407 | 40.0 | 460 |
| 7.5 | 352 | 24.0 | 408 | 40.5 | 463 |
| 8.0 | 355 | 24.5 | 410 | 41.0 | 465 |
| 8.5 | 357 | 25.0 | 411 | 41.5 | 468 |
| 9.0 | 359 | 25.5 | 413 | 42.0 | 471 |
| 9.5 | 361 | 26.0 | 414 | 42.5 | 474 |
| 10.0 | 364 | 26.5 | 416 | 43.0 | 478 |
| 10.5 | 366 | 27.0 | 417 | 43.5 | 481 |
| 11.0 | 368 | 27.5 | 418 | 44.0 | 485 |
| 11.5 | 369 | 28.0 | 420 | 44.5 | 490 |
| 12.0 | 371 | 28.5 | 421 | 45.0 | 494 |
| 12.5 | 373 | 29.0 | 423 | 45.5 | 500 |
| 13.0 | 375 | 29.5 | 424 | 46.0 | 507 |
| 13.5 | 377 | 30.0 | 426 | 46.5 | 515 |
| 14.0 | 378 | 30.5 | 427 | 47.0 | 526 |
| 14.5 | 380 | 31.0 | 428 | 47.5 | 545 |
| 15.0 | 382 | 31.5 | 430 | 48.0 | 579 |
| 15.5 | 383 | 32.0 | 431 | | |
| 16.0 | 385 | 32.5 | 433 | | |