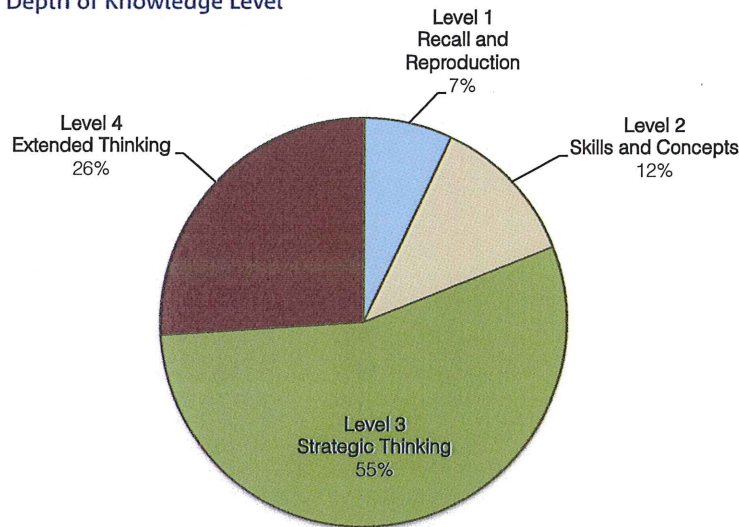


## Chapter 3 | Results for English Language Arts and Literacy

At the standard level, the Common Core standards fall across the full range of the DOK scale, but less frequently at the lower levels of the scale. Overall, only 7% of the standards are at a level 1 (recall and reproduction), 12% are at a level 2 (skills and concepts), 55% are at a level 3 (strategic thinking), and 26% are at level 4 (extended thinking). This summary information is presented graphically in Figure 8. DOK ratings for all standards are provided in Appendix B.

**Figure 8. Percent of Common Core ELA and Literacy Standards at each Depth of Knowledge Level**



### DOK Consistency of Each Comparison Set to the Common Core Standards

DOK Consistency describes the extent to which the ELA and literacy standards that experts matched between the comparison sets and the Common Core are consistent in level of cognitive demand. Meeting this criterion requires more than 75% of the comparison standards matching for the content area to be at or above the level of cognitive demand of the Common Core standards. Consistency is only computed for those content-specific areas for which the Categorical Concurrence criterion is met.

Figure 9 shows, for each comparison set, the percent of standards (averaged across raters; see Appendix A) that fell above, at, and under the cognitive demand level of the Common Core standards. In the figure, a line is drawn at 75%, which is the criterion for the percent of standards falling above or at the cognitive demand level of the Common Core in order to meet the DOK Consistency statistic. Findings for the DOK Consistency statistic are inconsistent across the different comparison sets and different strands. Overall, the Common Core strand for which the DOK criterion is most often met is the Language Standards strand, indicating that the matched comparison standards are at or above the DOK of the Common Core Language Standards. The strands for which the criterion

is met for less than half of the comparison standards sets are the Reading Standards for Informational Texts, the Writing Standards, the Speaking and Listening Standards, the Reading Standards in History/Social Studies, the Reading Standards in Science and Technical Subjects, and the Writing Standards in History/Social Studies, Science, and Technical Subjects. For these strands, there are more comparisons for which the Common Core standards are rated at a higher level in terms of cognitive demand. As Figure 9 shows, some standards sets fall just above or just below 75% for some strands and results would be different if an alternative criterion had been selected.

Looking at DOK Consistency across the comparison sets of standards, the criterion is met most often for the Massachusetts standards (for five out of six strands that fulfill the Categorical Concurrence criterion). This suggests that for ELA and literacy, the cognitive demand of the Massachusetts standards is similar to or more cognitively complex than the Common Core standards. The International Baccalaureate standards meet the criterion for four out of six strands that fulfill the Categorical Concurrence criterion. For the other three sets (California, Texas College and Career Readiness, and Knowledge and Skills for University Success), the criterion is met for two or three of eight strands that fulfill the Categorical Concurrence criterion.

## Depth of Knowledge

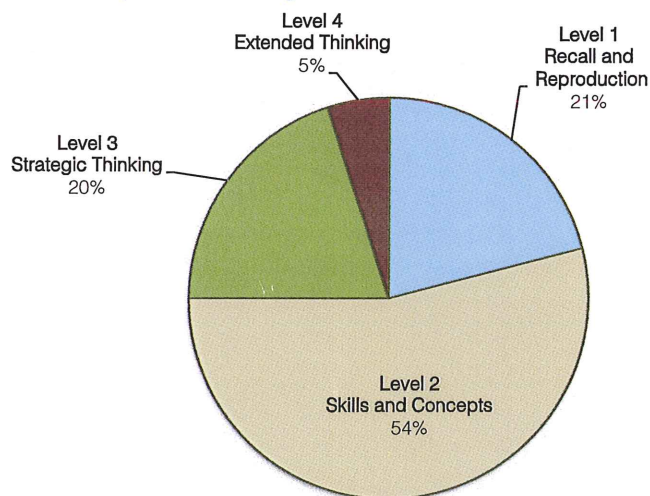
### Ratings for Common Core Standards

Table 12 shows the modal Depth of Knowledge (DOK) rating for each of the Common Core mathematics conceptual categories. Three categories represent the skills and concepts level of cognitive demand (level 2). In the Number and Quantity category, which has a mode of level 1 (recall and reproduction), the standards involve such skills as explaining properties (of irrational exponents, rational and irrational numbers) and performing arithmetic operations (with complex numbers, vectors, and matrices). These skills may be more oriented toward one-step recall or problem solving. In the Geometry category, the standards involve such skills as proving theorems, deriving equations, and using experimentation to verify concepts such as similarity. Such skills may lend themselves more toward strategic and extended thinking, which could explain why the mode rating for that content-specific area was at level 3 (strategic thinking).

**Table 12.** Depth of Knowledge (DOK) Modal Ratings for Mathematics Common Core Conceptual Categories

Common Core mathematics conceptual category	DOK mode
Number and Quantity	1
Algebra	2
Functions	2
Geometry	3
Statistics and Probability	2

**Figure 12.** Percent of Common Core Mathematics Standards at each Depth of Knowledge Level



At the standard level, the Common Core mathematics standards cover a somewhat broader range of cognitive complexity than the ELA and literacy Common Core standards with fewer at the highest level. The majority of the Common Core mathematics standards are rated as skills and concepts (level 2). Overall, 21% are at a level 1 (recall and reproduction), 54% are at a level 2 (skills and concepts), 20% are at a level 3 (strategic thinking), and 5% are at level 4 (extended thinking). Figure 12 summarizes this information. DOK ratings for all standards are provided in Appendix B.