

ATOS™ Readability Formula—AT A GLANCE

What is ATOS?

ATOS is a readability formula that estimates the difficulty of books and other texts. ATOS is more accurate than Lexile because it uses four factors to determine the readability of a text.

ATOS Factors = Average Sentence Length + Average Word Length + Vocabulary Grade Level + The Number of Words in a Book

What is Lexile™?

Lexile is also a readability formula that estimates the difficulty of books. However, it is not as accurate as ATOS since it only uses two factors when determining the readability of a text.

Lexile Factors = Sentence Length + Word Frequency

Why is ATOS better than Lexile?

1. The ATOS recommended book-reading ranges are based on empirical evidence and appropriate to support independent reading.

ATOS	Lexile
Evidence: The ATOS comprehension recommendation of 85% and above was developed & confirmed using data from tens of thousands of students.	No Evidence: Lexile has no published empirical evidence to support its recommendation of 75% comprehension.
High Comprehension: The ATOS comprehension recommendation of 85% and above is consistent with leading reading research of comprehension levels for independent reading.	Low Comprehension: The Lexile recommended reading ranges of -100L to +50L of their Lexile score translates to 63-80% comprehension. This is an instructional reading level, not an independent reading level.

2. **ATOS is more accurate than Lexile.** ATOS works especially well for emergent-reader books while other formulas overstate the difficulty. For example, *Five Little Kittens* (Geller, 1999) is a 32-page picture book that the publisher labels appropriate for grades K-3, ages 5-8. The ATOS level for *Five Little Kittens* is 2.6. This book has a Lexile level of 970 which equates to grades 6-7!
3. **ATOS is parent-friendly** since it uses a grade level scale easily understood by parents. For example, a reading level of 5.4 translates to “fifth year, fourth month.” The Lexile Framework uses a 2,000-point scale which is confusing and holds little meaning for parents.



How can I use Accelerated Reader (AR) with Lexile-leveled books?

- When printing AR book labels, the ATOS readability formula is set as the default. Teachers can include an alternate book readability level on AR book labels by choosing alternate book level 2, which converts ATOS to a 2,000-point scale similar to the Lexile scale.
- Renaissance Learning also has prepared a detailed chart that converts ATOS to a 2,000-point scale comparable to the Lexile scale. Turn this page over to see chart.

ATOS™ Conversion Chart to 2,000-Point Scale* (Detailed)

ATOS Grade Level Scale	2,000-Point Scale										
0.1	15	3.0	440	5.9	910	8.8	1188	11.7	1413	14.6	1617
0.2	19	3.1	459	6.0	921	8.9	1192	11.8	1420	14.7	1624
0.3	23	3.2	479	6.1	931	9.0	1201	11.9	1427	14.8	1631
0.4	27	3.3	491	6.2	941	9.1	1211	12.0	1434	14.9	1638
0.5	31	3.4	511	6.3	951	9.2	1222	12.1	1441	15.0	1645
0.6	35	3.5	530	6.4	969	9.3	1237	12.2	1448	15.1	1652
0.7	39	3.6	549	6.5	979	9.4	1242	12.3	1455	15.2	1659
0.8	43	3.7	561	6.6	989	9.5	1258	12.4	1462	15.3	1666
0.9	47	3.8	580	6.7	999	9.6	1265	12.5	1469	15.4	1673
1.0	51	3.9	600	6.8	1009	9.7	1272	12.6	1476	15.5	1680
1.1	71	4.0	619	6.9	1019	9.8	1279	12.7	1483	15.6	1687
1.2	92	4.1	631	7.0	1029	9.9	1286	12.8	1490	15.7	1694
1.3	120	4.2	650	7.1	1040	10.0	1293	12.9	1497	15.8	1701
1.4	140	4.3	669	7.2	1052	10.1	1300	13.0	1504	15.9	1708
1.5	157	4.4	681	7.3	1061	10.2	1307	13.1	1511	16.0	1715
1.6	170	4.5	701	7.4	1070	10.3	1314	13.2	1518	16.1	1722
1.7	190	4.6	720	7.5	1080	10.4	1321	13.3	1525	16.2	1730
1.8	202	4.7	731	7.6	1088	10.5	1328	13.4	1532	16.3	1737
1.9	221	4.8	750	7.7	1098	10.6	1335	13.5	1539	16.4	1744
2.0	241	4.9	769	7.8	1109	10.7	1342	13.6	1547	16.5	1751
2.1	261	5.0	781	7.9	1117	10.8	1349	13.7	1554	16.6	1758
2.2	289	5.1	800	8.0	1121	10.9	1356	13.8	1561	16.7	1765
2.3	301	5.2	811	8.1	1130	11.0	1364	13.9	1568	16.8	1772
2.4	329	5.3	829	8.2	1140	11.1	1371	14.0	1575	16.9	1779
2.5	348	5.4	841	8.3	1149	11.2	1378	14.1	1582		
2.6	361	5.5	860	8.4	1152	11.3	1385	14.2	1589		
2.7	381	5.6	870	8.5	1161	11.4	1392	14.3	1596		
2.8	401	5.7	888	8.6	1170	11.5	1399	14.4	1603		
2.9	420	5.8	899	8.7	1178	11.6	1406	14.5	1610		

* The 2000-point scale Renaissance Learning has created above is a transformation of a book's ATOS level to a scale that is similar—but not identical—to the Lexile scale. The transformation was derived by analyzing ATOS and Lexile data on more than 19,000 books. ATOS measures are based on four characteristics of the book (average sentence length, average word length, vocabulary grade level, and the number of words in the book), while Lexile measures are based on two (sentence length and word frequency).

Because Lexile uses fewer characteristics to estimate the reading difficulty level of a book, Renaissance Learning would expect Lexile to be somewhat less accurate than ATOS. The 2000-point scale information should be useful to anyone who is accustomed to using Lexiles, because its values will be reasonable approximations in most cases. Lexile and the Lexile Framework are registered trademarks of MetaMetrics, Inc.