

TECHBOOK

by
Topic

LITERACY

Discovery Education Math Techbook builds students' content knowledge, develops and strengthens their literacy skills, and makes the teacher's role in meeting the needs of diverse learners easier through access to robust resources and lessons that use research-based instruction.

TECHBOOK by Topic

Provides a Wealth and Diverse Array of Informational Texts

Informational text is an essential element of today's literacy classroom. As the demands on reading and writing skills accelerate from grade to grade, students are required to activate and connect multiple mathematical representations in new ways.

Math Techbook provides a variety of instructional texts used to connect multiple representations of mathematical concepts allowing for analysis of textual evidence.

- **Preloaded Math Tools** allow students to analyze text presented in different forms by engaging with geometric diagrams and tabular, graphical, and symbolic text.
- **Speak Text** allows students to hear text orally.
 - **Additional Resources** can be assigned to deepen student understanding of mathematical concepts.

Builds and Develops Academic Language

Academic success in a content area like mathematics depends on understanding not just the definition of a math term, but also the significance of the vocabulary in context. Digital content provides opportunities to represent information in alternative formats, such as images, diagrams, videos, and audio, all of which have a role in strengthening vocabulary acquisition.

- **Interactive glossary** supports the acquisition of domain-specific vocabulary words and math symbols through definitions, images, key context examples, animations, and videos.
 - **Multiple language options** in the interactive glossary and summary section benefit students who are learning a second language.
 - **Hearing text read aloud** can increase vocabulary development and support struggling readers.

Strengthens Disciplinary Literacy

predicting, summarizing, determining what is important to text, monitoring and clarifying are all comprehension strategies that good readers use when they are reading print or digital text. The power of digital, however, is that there are tools and multiple pathways available for all types of learners to deepen comprehension.

Math Techbook provides an extensive collection of tools that support this ability and engage students in the use, practice, and development of disciplinary literacy skills specific to mathematics.

- **Note-taking and highlighting features** support comprehension strategies like "talk to the text" through text annotation and close reading.
 - **Visual designs, images, and animations** that are graphically engaging naturally draw students into reading the text and support visualization as a comprehension strategy.

1.3 Apply and Evaluate Expressions and Equations

Discover Practice Apply Model Lesson

View All Apply 1 Apply 2 Apply 3 Apply 4 Apply 5

Who Should Make the All-NBA First Team?
powered by NBA Data

At the end of each season, sportswriters and broadcasters vote on the season's best players in each position to be honored as the All-NBA First Team. Although the players do not play together, they are selected so that the five players selected could form a team of guards, forwards, and centers.

NBA: Best All League Team

Think about some statistics that NBA sportswriters and broadcasters might consider when deciding which players should make the All-NBA First Team.

Tools: Graphing Calculator, Scientific Calculator, Calculator, Geometry, Construction, Unit Converter, Data Analysis, Whiteboard, Math Solver

10.1 Understand Angle Relationships

Go to Concept >

Angles in Polygons

Through the investigations in this concept, you have explored relationships between angle measures. Architects use angle relationships to create fantastic structures in all shapes and sizes. What angle relationships can you find in triangles, quadrilaterals, and other polygons?

Interactive Glossary

angle

Definition: An angle is formed by two rays that share a common endpoint. Similarly, when two lines or line segments intersect, they form an angle. The Leaning Tower of Pisa is not perfectly vertical; it leans at an angle of about 5.5°.

Key Concept: The uppercase letter L is made up of two line segments that meet at a common endpoint. Similarly, when two lines or line segments intersect, they form an angle. The Leaning Tower of Pisa is not perfectly vertical; it leans at an angle of about 5.5°.

QuickCheck Question: angle. Latin angulus meaning "corner".

Angles in Polygon

Angle Measures of Triangles

- ▣ **Math Tools and interactives** allow students to integrate information presented in different media or formats (e.g., visually, quantitatively, as well as symbolically) to develop a coherent understanding of a topic or issue.
- **Video and multimedia assets** support, complement, and enrich textual understanding and serve as background knowledge builders prior to reading the text.

Incorporates the Writing Process, Including a Focus on Argumentation

The writing of arguments to support claims calls for evidence from a variety of sources that often require students to read across several texts, some of which include charts, tables, graphs, diagrams, dynamic tools, interactives, and hands-on activities. The constructed-response items within Math Techbook serve as a catalyst for the integration of the writing process into all mathematical concepts.

- **The Discover phase**, during the process of structured inquiry, allows students to make claims based on observable evidence and clarify their claims with justification of evidence. They trace and evaluate specific claims from the text and distinguish statements supported by logical reasoning from those that are not. Additionally, they focus on communicating mathematically and precisely by writing explanatory texts using math symbols, vocabulary, and appropriate units of measure.

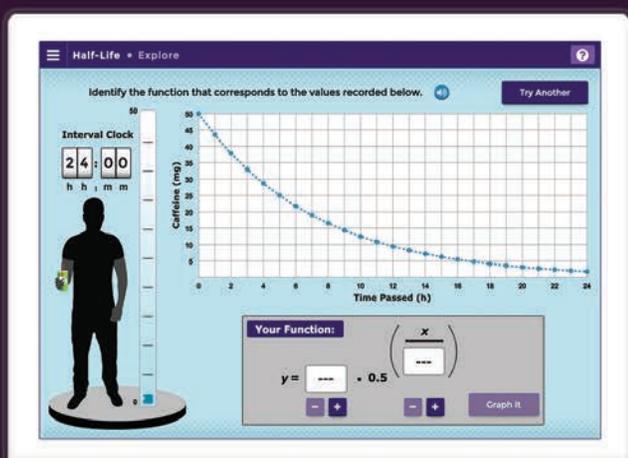
- **The Notebook feature** provides the opportunity for students to write in a variety of ways, including citing or clarifying evidence and summarizing.
- **The Extension and Apply tabs** support standards that require students to conduct short research projects through the gathering and integration of relevant information.

Integrates Speaking and Listening Standards Meaningfully and Authentically

Often, the concept of literacy connotes reading and writing. However, speaking and listening also comprise an integral part of the literacy framework. College and career readiness standards require students to acquire knowledge across multiple disciplines through speaking and listening. The speaking and listening standards expect students to participate in “rich, structured conversations,” in which they are building on the ideas of others and speaking in complete sentences.

Math Techbook allows students to develop a range of broadly useful oral communication and interpersonal skills by working together, expressing and listening carefully to the ideas of others, integrating information, and critiquing the reasoning of others.

- ▣ **The Board Builder** provides opportunities for students to demonstrate learning through multiple modalities.



The screenshot displays the Discovery Education Math Techbook interface. At the top, there is a search bar and navigation links for 'Max Brooks', 'Help', and 'Logout'. Below this, a navigation menu includes 'MATH TECHBOOK', 'My Content', 'Builder Tools', 'Classroom Manager', 'Professional Learning', 'DEN', and 'My Notebook'. The main content area is titled '11.1 Investigate Circles' and includes sub-sections for 'Discover', 'Practice', and 'Apply'. A sidebar on the right contains various interactive tools: Graphing Calculator, Scientific Calculator, Calculator, Geometry, Construction, Unit Converter, Data Analysis, Whiteboard, and Matrix Solver. The main text area is titled 'Exploring Circles' and discusses the circular patterns found in Stonehenge. A yellow sticky note is overlaid on the text, and a toolbar below it offers 'Speak Text', 'Highlight', 'Take Notes', 'Close', and 'Drag' options. At the bottom, a 'LANGUAGE AND READING LEVEL' dropdown menu is set to 'English'. Below the text are three image cards: 'Tree Rings', 'Water Ripples', and 'Crop Circles', each with a brief description of the circular pattern.

Key Literacy Features

- Read-Aloud Text
- Note-Taking & Highlighting
- Language & Reading Levels
- Interactive Tools
- Video & Multimedia
- Reference Library
- Notebook Feature

“The real-life problems in Math Techbook are crucial. They force students to apply what they’ve learned.”

Julie Owens

Middle School Teacher

Wicomico County Public Schools, MD

DiscoveryEducation.com/Math

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