MATH 180
Course I
Software Manual
including
mSkills

For use with MATH 180 Course I version 1.2, Student Achievement Manager version 2.4 or later, and SAM Central

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Overview

*MATH 180* is a math intervention program that addresses the needs of struggling students and prepares them for success. *MATH 180* uses personalized instruction and adaptive technology to present a customized learning experience and motivate students to learn.

*MATH 180* Course I student software consists of nine units, or Blocks, of instruction. Each Block contains Topics and lessons. *MATH 180* Course I also includes anchor videos, assessments, and the learning games of the Brain Arcade. Each element of the student software is designed to build students’ fluency and flexibility with numbers and operations.

Students are guided through the software by Barrett, the host of *MATH 180*. Barrett helps students stay on task and provides guidance and encouragement.

For information on enrolling students in *MATH 180* and customizing the *MATH 180* Course I Program Settings for each student and class, see Using SAM Central with MATH 180 Course I at the MATH 180 Product Support website (page 61).

Instructional Path and Terminology

The *MATH 180* path to mastery contains different elements:

- There are nine units, or Blocks, of instruction.
- Each Block contains three Topics.
- Students work through the Topics in three zones: Explore Zone, Learn Zone, and Success Zone.
- Students work through three lessons in each Topic in the Learn Zone, or may Fast Track through a lesson if they display mastery of the content.
- Each Block includes a Performance Task and an mSkills Assessment.
Student Accessibility

*MATH 180* provides accessibility features that can enable some visually impaired students to use the application. The browser’s contrast setting, for example, will help a student who has trouble reading black text on a white background.

*MATH 180* requires students to view images and videos and use a pointer device. Students who have difficulty with these requirements will need assistance when using the program.

*MATH 180* does not provide textual equivalence to bitmap-rendered content. Students who are dependent on a Braille or text-to-speech device will be unable to use the application. Also, the application does not provide a description of the video, nor does it provide the closed-caption text in text format (it is only available as a display).

Browser-based accessibility features, such as screen and font magnifiers, are not tested by Houghton Mifflin Harcourt and may not be compatible with *MATH 180*. Even in cases when the features may work with the program, the input focus is not set to allow students using screen magnifiers to follow the onscreen changes. Similarly, changing display settings may render the program unusable. Students needing to see larger text should use an external screen magnifier rather than changing display settings or using a feature of the browser program.

Mac OS X and Windows operating systems, as well as Internet Explorer, Firefox, and Safari browsers, offer a range of accessibility features that may enable users with disabilities to, among other things, perform basic navigation with a keyboard instead of a mouse by using the Tab key.
The Software Media Accelerator

The Software Media Accelerator (SMA) is a separate server-based program that speeds up media processing over the server-workstation connection.

Using the SMA with MATH 180 is strongly recommended for optimal performance of the MATH 180 media.

The SMA is installed on a separate district server and provides a more direct link to MATH 180 media, thus giving students and teachers faster media access, even in low-bandwidth environments.

District or school administrators should install the SMA prior to implementing MATH 180. See the HMH SAM Suite System Requirements & Technical Overview for version 2.4, available at the MATH 180 Product Support website (page 61) for SMA Server requirements. Note that SMA requirements for MATH 180 media are different from other SAM Suite programs.

IMPORTANT: SAM Suite media version 2.4 is compatible with SMA software version 2.3.1 or later. Districts using SMA software version 2.3.1 will not need to upgrade their SMA(s) when installing or upgrading programs or media to version 2.4. However, earlier versions of SMA software (2.3 and earlier) must match the version of media on the SAM Server.

For more information on installing and using the Software Media Accelerator, see the Software Media Accelerator Guide at the MATH 180 Product Support website (page 61).
Logging In and Logging Out

Logging In

Students are enrolled in MATH 180 through SAM Central or Student Achievement Manager (SAM). See Using SAM Central With MATH 180 for instructions on enrolling students in MATH 180, and Enrolling and Managing Students in Student Achievement Manager for detailed instructions on enrolling students in SAM.

Once students are enrolled in MATH 180, they may log in to the program through the Student Access Screen on the student workstation. To open the Student Access Screen, open the workstation’s browser program and select the Student Access Screen bookmark.

Click the MATH 180 Course I button to open the MATH 180 Course I Suite Screen.
Click the MATH 180 Course I icon to open the Login Screen.

Log in with a SAM username and password and click Go On to enter the program.

Click the speaker button to turn the audio on or off. Click the question mark button for help. Click the "x" button to close the Login Screen.

Logging Out

To log out of MATH 180 at any point, click Logout at the top of the Student Dashboard (page 9). Students will resume their latest Topic and series when they next log in.
The Student Dashboard

When students log into MATH 180 Course I, they go to their Student Dashboard.

The Dashboard Home Screen displays the student’s progress through the nine MATH 180 Blocks. It also has a link to the Brain Arcade (page 43) and a News Feed that shows students’ milestones. The Dashboard also consists of three additional screens which students may navigate using the links at the top of the screen:

- **Badges**: The Badge Screen (page 12) shows the badges students earn as they progress through the software.
- **Progress**: The Progress Screen (page 13) displays students’ progress through the current Block and Topic.
- **Media**: The Media Screen (page 17) provides links to student resources.

The Dashboard also contains the following links:

- **Glossary**: Click the Glossary button to open the glossary of math terms in a separate browser window.
- **Audio**: Click the speaker button to turn the MATH 180 audio on or off.
- **Help**: Click the question mark button for help with the student software. Click Ayuda from the pull-down menu to hear the help in Spanish.
Home Screen

The Home Screen on the Dashboard shows the student’s current Block and News Feed, with links to the Brain Arcade.

The Block displays the Zone Menu, which shows the zones of the current Topic. Click a zone link to move to that zone’s activities.

Grayed-out zones are currently unavailable. Students must complete work in the Explore Zone (page 19) before they may move to work in the other zones.
Click the zone button to turn the Block and see the activities for that zone. Click the activities to go to the zone activity. Click the arrow to spin the Block back to the Zone Menu.

Click Brain Arcade or one of the Brain Arcade game icons to open the Brain Arcade Screen (page 43). Click the Home link at the top of the scene to return to the Home Screen.

The News Feed displays students’ milestones as they move through the program.
The Badge Screen shows the badges students collect as they progress through the software, as well as the badges to be earned in the current Topic.

The top of the screen shows badges available in the current Topic, and student progress in attaining them.

*MATH 180* badges allow students to track their progress in the student software as well as mark milestones and set goals. There are 80 total *MATH 180* badges in three categories: Expertise Badges, Expertise Master Badges, and Career Badges. The badges are earned based on performance in the three *MATH 180* Mathematical Practices: accuracy, focus, and perseverance.

The bottom of the screen shows badges students have already earned.
Progress Screen

The Progress Screen measures student progress through the software.

Click **Learning Map** to open an interactive map of MATH 180 Topics. Students’ current Topic is in blue, completed Topics in gray, and Topics to come in white.

Click any Topic to zoom in and see related Topics mapped, with prerequisite Topics listed to the left and follow-on Topics listed to the right. Drag the zoom slider to return to the large map view.
Click **Zone Progress** at the bottom of the screen to see progress through the current Topic's zones.

The top of the screen graphs students' progress through the Topic's zones, and shows how many activities remain. A circle graph at the bottom of the screen shows the time students have spent in all Blocks of the software, broken down by zone and work in the Brain Arcade.

The right side of the screen shows the total number of stars earned in the Topic's zones and Brain Arcade. Students earn stars as they complete activities in the zones.
Click **Usage** to see a graph of student usage of the software and the Brain Arcade for the last week and an average for the school year.

Click **Brain Arcade** to view student progress in the Brain Arcade games. The graph shows the last time students played the game, the stars earned, the percentage of the game completed, and the total time spent in the game.
Click **mSkills** to view the student's *mSkills* Assessment (page 37) results. Results are displayed on a bar graph that tracks student progress on Assessments by Block.
Media Screen

Click Media to open the Media Screen.

The Media Screen provides access to three types of student resources.

Click mVideos to open the MATH 180 video library. Students may look at any video in their current Block or any completed Block (others are grayed out). Click a video link to launch the video in the screen. Click the “x” icon at the bottom of the screen to close the mVideo Screen.
Click **mTools** to open the mTools Screen.

mTools are virtual manipulatives that help build students’ conceptual understanding of math.

Click an mTool to watch a video on how the mTool is used. To return to the Media Screen, click the “x” icon.

Click **Glossary** to open the MATH 180 Glossary.

Click the pull-down menu to view the glossary terms alphabetically or sorted by the Block they appear in.

Click a letter or Block to bring up the corresponding glossary terms list. Click the word link to view the definition of the word and see a mathematical example.

Click the speaker buttons to hear the word or definition read aloud. Click the Spanish translation of the word to hear it in Spanish. Click the word links under Related Glossary Terms to see the glossary entry for the related word.

Students have 5 minutes to begin or continue their work in MATH 180. After 5 minutes of inactivity, students are automatically logged out.
Explore Zone

The Explore Zone is where students begin each new MATH 180 Block. The Explore Zone consists of two parts, the Anchor Video and the Simulation.

Enter the Explore Zone by clicking Explore Zone on the Block on the Dashboard. The Block spins to show the Anchor Video and the Simulation buttons.
Anchor Video

The Anchor Video introduces the Block by emphasizing real context applications and careers. These motivating stories provide a connecting theme across the Block.

Click the Anchor Video button from the Block to open the video.

When the Anchor Video Screen opens, a preview of the video begins. To switch the preview to Spanish, click Avance (to switch back to English, click Preview). Click the Play button to begin the video.

Use the Play/Pause button to pause the video. The button toggles between Pause and Play, so click the button a second time to continue the video. Use the speaker button to adjust the volume. Click the arrow button to view the video full screen.

When the video is finished, click Go On to return to the Dashboard and access the simulation.

Students must view the Anchor Video at the beginning of their work in the Block. The video is available to be viewed again at any time in the same Block.
Simulation

Simulations are interactive math experiences that allow students to explore the mathematical concepts of the Block in a real context. Students answer questions and set goals, then review their results. Students enter the Simulation by clicking the preview from the Block.

Students may use the Simulation up to five times to meet their set goals, and may return to the Simulation at any point. Students must complete the Simulation at least two times to complete their work in the Block.

Each time students run the Simulation, they see a Results Screen showing them the results of the choices they made in the Simulation. Students may either go through the Simulation again by clicking Start Over, or may accept the Simulation results by clicking Lock Plan.

Students must attempt the Simulation to unlock the Learn Zone and must complete the Simulation at least twice per Block to advance to the next Block.

If students choose Lock Plan, the Explain Your Choices screen opens. This screen has three questions the students must answer before they submit their results. Here, students can also see the choices they made in the Simulation. After they complete the Simulations, students can see the data and results of their Simulation, as well as any stars and badges earned. This data will also be reflected on the Progress Screen of their Dashboards.
Fast Track

After finishing work in the Explore Zone, students move to the three Topics in the Block. When students start working on a Topic, the Fast Track and Learn Zone buttons are enabled. Students have the option of moving to the Learn Zone or choosing to Fast Track through the lesson.

Fast Track allows students to demonstrate mastery of a lesson or parts of the lesson. Click Fast Track on the Block to open the Fast Track assessment. Students see up to three questions on the lesson’s objective. Students who complete three problems correctly advance to the next Learn Zone lesson. Students who complete two problems correctly advance to the Master portion of the Learn Zone (page 24), accelerating through the Think, Try and Practice portions. Students who complete one problem correctly advance to Practice. Students with no correct answers start the lesson at the beginning with Think and Try.

Begin Fast Track by filling in the required fields in the expression. To see an example of the method, click Example (this button is enabled if students finished the Try step of the Learn Zone prior to beginning Fast Track). When all the fields in the step are filled, click Go On. To go back and correct a field, click the field. The steps will reverse to that point, and the answers may be changed. Click Go On to move forward with the corrected response. To clear all fields, click Reset. After finishing the last step, click Check It for feedback.
Some activities use an mTool, such as the Array Model. Activities that use an mTool have a link to the mTool Instructional Video. Click the mTool link (such as Array Model in the lower left corner) to open the video.

Click Learn Zone to leave Fast Track at any point and move to the Learn Zone. To view an instructional video on the math concept of the lesson, click the television icon button.

At the end of the Fast Track assessment, students see their time and the number of correct answers. This data is also recorded on their Dashboard. Click Go On to continue with the lesson in Learn Zone.

Students who successfully finish the Fast Track go directly to the Master step of the Learn Zone (page 24), thus skipping the other steps in the lesson’s Learn Zone. Students who do not successfully finish Fast Track go to the beginning of the lesson or return to the last work completed in the Learn Zone if they started the lesson before going to Fast Track.
Learn Zone

In the Learn Zone, students work through the three lessons of the Topic. Students may go through all three lessons in the Learn Zone, or may choose to Fast Track (page 22) through a lesson. Students must complete all the lessons in a Topic to move to the Success Zone. The Learn Zone button on the Block on the Dashboard shows which lesson students are currently working on. Learn Zone activities adapt to meet individual student needs.

There are four steps in the Learn Zone: Think, Try, Practice, and Master.

Think

The Think step shows a two to three minute animated instructional video that introduces the lesson in a real context. Play the video by clicking the Play or Watch Now button. The button toggles between Play and Pause, so click the button a second time to pause the video. Use the speaker button to adjust the volume. Click the arrow button to view the video full screen. To switch to Fast Track for this lesson, click Fast Track. When the video is finished, click Go On to move to the next part of the lesson. Students may opt out of viewing the video at the beginning of the Learn Zone and watch at a later time by clicking Try a Problem.
Try

In the Try step, students complete multiple problems using the lesson’s procedures and the model introduced in Think.

Begin the problem by completing the first step. To enter a numerical answer, scroll over and click the field, then type the numerical answer in the field. Click Check It to check the answer, or Reset to clear the fields and try again.

Students that click Check It and have an incorrect response see and hear corrective feedback. To hear instructions read aloud, click the speaker icon.
Some activities use an mTool, such as the Array Model. Activities that use an mTool have a link to the mTool instructional video. Click the mTool link (such as Array Model) to open the video.

To switch to Fast Track for this lesson, click Fast Track. To view the Instructional Video again, click the television button. To see an example of the concept, click Example (this button is enabled when students finish the first problem in the Try section). When the question is finished, click Go On to move to the next part of the lesson.

When students finish the multi-step activities in the Try section of the lesson, they go on to Practice. Click Go On to move on.
Practice

In the Practice step, students practice the concepts and skills taught in the lesson with scaffolded support and corrective feedback. Students practice and develop flexibility with the math concept by working on an adaptive set of between three and ten scaffolded problems. Students solve these guided problems using the strategy taught in this lesson. Students must correctly answer three consecutive questions or four out of five questions to move on to the Master step of the lesson (page 28). Students who do not correctly answer the required number of questions see more Practice questions until they correctly answer the required number of questions.

Practice questions contain four to five steps. Click Check It after finishing a step to see if the responses are correct. Correct responses move students to the next step; incorrect responses prompt feedback on the step, allowing students to try again. To switch to Fast Track for this lesson, click Fast Track. To view the Instructional Video again, click the television button. To see an example of the concept, click Example.

Begin a problem by completing the first step. To enter a numerical answer, scroll over and click the field, then type the answer in the field. Click Check It to check the answer, or Reset to clear the fields and try again. The ThinkTracker at the bottom of the screen scores each step of a problem from 0 to 4 depending on how many attempts the student makes to enter the correct answer. The goal at the end of each problem is not to let the ThinkTracker drop below the indicator. At the end of each problem, click Go On to continue to the next Practice problem or to move on to the next section.
Master

Every student must complete Master to finish the lesson. In Master, students are presented with an adaptive set of math problems to solve and prove they have mastered the concepts and strategies. Students may also see problems from previous lessons based on related objectives to ensure ongoing understanding.

Master questions contain 25 steps. Click Go On after finishing a step to go on to the next step.

To view the Instructional Video again, click the television button. To see an example of the concept, click Example.

At the end of the problem, click Check It to see if the problem is correct and to move to the next problem in the set.

Students who correctly answer the required number of questions finish the lesson and see their lesson results as well as any stars earned. This data is also recorded on their Dashboards.
Students also earn badges for finishing the lesson, depending on the number of correct answers in the Master step and the skills they have shown (speed, accuracy, etc.) in completing the lesson. Badges are also recorded on students’ Dashboards.

Click Go On to continue to the next lesson or to the Success Zone if all three lessons in the topic are completed.
Success Zone

Students move to the Success Zone after completing the three lessons in the Topic. The Success Zone is the last step to completing the Topic.

Students begin their work in the Success Zone by clicking the Success Zone button on the Block on the Dashboard. Clicking the link spins the Block to the Success Zone Video. Click the video to bring up the video screen.

G.K., the Success Zone host, congratulates students on their hard work reaching the end of the Topic and introduces them to the different games they will see in the Success Zone.

Use the Play/Pause button to pause the video. The button toggles between Pause and Play, so click the button a second time to continue the video. Use the speaker button to adjust the volume. Click the arrow button to view the video full screen.

When the video is finished, students return to the Block. Click Go On to enter the Success Zone.
The Success Zone board shows nine games. Students may earn up to three stars in the Success Zone work at the end of the Topic, depending on how many games they choose to play and how well they do in each game.

Students decide which games they want to play and when to exit the Success Zone. Each game lists its point value on the Success Zone board. The more games they play, the more points they will earn. The more difficult games have the higher point values.

Students choose a game by clicking the game button to launch the game.

The Wild Card is the most difficult game on the board. Clicking Wild Card launches a game of the software’s choosing.

After playing one game, students may click Go On at any time to leave the Success Zone.

There are seven different types of Success Zone games.

Students may log out before finishing in the Success Zone and resume at their next login.
Compare and Order

In Compare and Order, students see tiles representing different expressions. Drag the tiles to order them from lowest to highest value. To hear the instructions read aloud, click the speaker button.

When finished, click Done. G.K. will announce the score and provide corrective feedback, if necessary. Students will then return to the Success Zone board.

The point value for the game is at the top right corner of the screen.

Complete It

In Complete It, students drag tiles to spaces in the mathematical expression to successfully complete it. To hear the instructions read aloud, click the speaker button. When finished, click Done. After hearing from G.K. how they did in the game, students return to the Success Zone board.
Find or Fix

In Find or Fix, students are presented with an expression that contains an error. Highlight the error by scrolling over and clicking it, then completing the expression to arrive at the correct answer. Click Done when finished and hear from G.K. if the error was correctly identified and fixed.

Match

In Match, students are asked to match two expressions with the same value. Click a color, then click the two expressions with the same value. Click a different color to select two different expressions. To clear all selections, click Clear.

Click Done when finished to hear results and return to the Success Zone board.

Math Talk

In Math Talk, students select the best term for a process or number to effectively communicate math reasoning. Click Done when finished to hear results and return to the Success Zone board.
Who’s Right?

In Who’s Right?, students see a real-world math question and are presented with four possible solutions. Click the checkboxes to select which possible solutions are correct. To hear the problem read aloud, click the speaker button.

Click Done when finished to hear G.K. read out results and return to the Success Zone board.

Word Play

In Word Play, students apply math skills to contextual problems with various levels of scaffolding.

To hear the problem read aloud, click the speaker button.

Click Done when finished to hear G.K. read out results and return to the Success Zone board.
Topic and Block Completion

Finishing a Topic

Students finish a Topic when their work in the Success Zone is completed.

Depending on the amount of work done in the Success Zone, students collect their Success Zone points and stars, then click Go On to see their results and badges.

Students see their Success Zone Complete Screen with the number of points recorded and other data. This data is also recorded on their Dashboards.

Students also see any badges they have earned from their work in the Success Zone. Click Go On to see other badges or to return to the Dashboard.

When students return to the Dashboard, the Block now shows the links for the next Topic in the Block.
Finishing a Block

Students finish a Block when they complete all three Topics (including all the lessons in the Topic and the Topic’s Success Zone) and go through the Simulation twice.

After finishing in the Success Zone for the last Topic and viewing all their accumulated stars and badges, students see the Block filled on their Dashboards.

Click **Go On** to move to the next Block. The finished Block returns to the tray, and the next Block appears.

Click **Go On** to begin work in the next Block.
mSkills

mSkills is the assessment program of MATH 180. Teachers assign mSkills Assessments to classes, students, or groups through SAM Central. When students are assigned an assessment, they see the mSkills Assessment Welcome Screen when they first log in.

For more information on assigning mSkills Assessments, see Using SAM Central With MATH 180 at the MATH 180 Product Support website (page 61).

Students may skip questions in mSkills, but all questions must be answered before the Assessment is submitted, and students can view their results and return to their Dashboards.

Click Go On to begin the assessment.
When the question appears, students hear the instructions read aloud. To turn the audio instructions off, click the speaker icon.

Follow the directors to answer the question correctly, then click Go On to move to the next question unanswered question. For multi-answer questions, students must provide all correct answers to have the answer count as correct; there is no partial credit in mSkills Assessments.

At the bottom of the screen is a Progress Bar. The Progress Bar shows answered questions in blue and skipped questions in yellow. Questions not answered yet are grayed out. Students may move through the questions by clicking the question number or skip the question by clicking Skip, but may not move ahead to questions that are grayed out in the Progress Bar. Clicking Skip takes students to the next unanswered question.

Students must answer all questions before submitting the Assessment.
The first twenty questions on an mSkills Assessment are Computer-Scored Questions; they are scored by the software, and those scores are recorded in SAM Central.

The last two questions are Constructed Response Questions. Students read the question and type out answers in the field provided. These answers are sent to the Student Digital Portfolio in SAM Central for teacher assessment using a rubric. For more information on the Student Digital Portfolio, see Using SAM Central With MATH 180 Course I at the MATH 180 Product Support website (page 61).

When all questions are answered, the Done button appears. Click it to move to the last steps of the Assessment.
After clicking **Done**, the Check It Screen appears. Students may go back through the Assessment and check their answers by clicking the blue numbered buttons in the Progress Bar. Students may check, and if necessary change, their answers or click Submit to send their Assessment to their teacher. Once the Assessment is submitted, answers cannot be changed.

After checking answers, click **Submit**. A confirmation window opens. Click **Yes** to submit the Assessment for scoring, or **No** to return to the Assessment to further check answers.
When the Assessment is submitted, the Results Screen appears with the results. Results are displayed on a bar graph that tracks student progress on Assessments by Block. Correct answers appear green in the Progress Bar, incorrect responses appear in gray. Click the buttons to review responses.

Click the buttons at the top right of the screen to toggle between student answers and correct answers. Only the Computer Scored Questions are scored in the Results Screen. Constructed Response Questions are scored by the teacher in the Student Digital Portfolio.
Click **Exit** to leave **mSkills** and return to the Dashboard. To exit the program completely, click **Logout** at the top of the screen.

Results are also recorded in the students’ Dashboards (*page 16*). Click **mSkills** to see Assessments by Block.
Brain Arcade

The Brain Arcade is a personalized playlist of games that build computational and strategic fluency.

When students first log in to MATH 180, they have five minutes to use in the Brain Arcade before they have to move on to their work for the day. After completing this work, they have unlimited time in the Brain Arcade. They may also log in to the Brain Arcade from their home computer.

Accessing the Brain Arcade

Access the Brain Arcade from the Dashboard by clicking Brain Arcade. This opens the Brain Arcade Screen.

The Brain Arcade Screen shows a featured game at the top, with two games on either side. These games are recommended for students based on their current and just-completed work in the program. The featured game shows the students’ high scores and total stars earned for that game. Other games are shown in the scroll bar below the featured game. Use the arrows at the bottom of the screen to scroll through the different Brain Arcade games.

Click Play Now from the featured game, or click a game icon to launch a game.

District administrators may use the District Profile settings in SAM to control access to the Brain Arcade. See Editing a District Profile in Getting Started with SAM Achievement Manager on the MATH 180 Product Support website (page 61) for more information.
Playing the Games

Games are arranged by chapters, which students unlock as they move through the software. Each chapter has different levels, which students attain as they play the game.

Students also earn stars, which measure their progress to the next level of the game. Stars are recorded on their Brain Arcade Screens and on their Dashboards.

When students first log in to MATH 180, they have five minutes to play games in the Brain Arcade. This time limit is seen at the top of the Brain Arcade Screen when they first log in. At the end of the five minutes, Barrett tells students that their time in the Brain Arcade is up until they finish the day’s lesson.

Students who spend 15 minutes in the zone activities in a day may move to the Brain Arcade with no time limit for the rest of that day.
Tutorials

Each Brain Arcade game features an interactive tutorial to help students learn to play the game. Access the tutorial from the game’s level screen by clicking Tutorial.

In each tutorial, students are shown the first screen of the game, along with instructions for starting and playing the game. After completing the first steps of the game, students are shown additional steps. They may play the tutorial for as long as they wish, however their time in the tutorial is not recorded.

As students move through the tutorial, they will also see tips and strategies for playing.

Pausing the Games

Each game has a Pause button. Clicking the Pause button displays a menu of functions. Click Help for help with the game. Click Music to toggle the game’s music on or off. Click Chapter to see the Chapter Screen to check progress. Click Replay to play the game from the beginning, or click Resume to resume the game.
You’re Toast!

In You’re Toast!, students scroll over the toast slices (as the butter spreader) to connect the numbers in ascending order. Release the cursor, and the toast slices fall and are replaced by new slices with new numbers. The timer at the right shows how much time is left in the game.

At the end of the game, students see their scores. Click Chapter to return to the Chapter Screen. Click Replay to play the game again at the same level, or click Continue to play the game at the next level (if that level is unlocked).

Click the Brain Arcade logo to move back to the Brain Arcade Screen.
Gnat Zapper

In Gnat Zapper, students see a number category on the zapper. Gnats all carry expressions. Use the target, and scroll over to the gnats whose expressions fit the category, and click the bug. Correct clicks make the gnat disappear. Incorrect clicks turn the gnat red and make it fly off. There are also smaller bugs that can be clicked for extra points.

At the end of the game, students see their scores. Click **Chapter** to return to the Chapter Screen. Click **Replay** to play the game again at the same level, or click **Continue** to play the game at the next level (if that level is unlocked).

Click the Brain Arcade logo to move back to the Brain Arcade Screen.
Space Golf

Space Golf is a game of estimation. In Space Golf, students choose a character to enter the game.

Correctly fill in the expression by clicking the digits to form the answer. After answering, click Swing. If the answer is correct, the shot goes in the hole. If the answer is incorrect, it lands somewhere on the course.

If the shot lands on the course, another expression is displayed. Enter the correct answer, and click Swing again. If the answer is correct, the shot goes in the hole.

At the end of the game, students see their scores. Click Chapter to return to the Chapter Screen. Click Replay to play the game again at the same level, or click Continue to play the game at the next level (if that level is unlocked).

Click the Brain Arcade logo to move back to the Brain Arcade Screen.
Decked Out

In Decked Out, students identify different representations of the same value.

Values appear on the tiles in different forms (visual models, equations, words). Click and drag the tiles to place the ones with matching values next to each other on the grid. When three matching tiles are next to each other, they disappear, and the on-screen character gets something new to wear. Students win the game by changing the character’s entire outfit before time runs out. The timer at right shows how much time remains in the game.

At the end of the game, students see their scores. Click Chapter to return to the Chapter Screen. Click Replay to play the game again at the same level, or click Continue to play the game at the next level (if that level is unlocked).

Click the Brain Arcade logo to move back to the Brain Arcade Screen.
Sushi Monster World Tour

In Sushi Monster World Tour, the player clicks sushi pieces to make the number shown on Sushi Monster’s neck. There are five boards on every round. Pick the correct numbers and the Sushi Monster eats the sushi. Pick the incorrect numbers and he swipes the sushi off the table.

Correct responses are seen in the yellow circle at the top; incorrect responses are seen as a broken number. The timer at the right shows how much time is left in the game.

At the end of the game, students see their scores. Click **Chapter** to return to the Chapter Screen. Click **Replay** to play the game again at the same level, or click **Continue** to play the game at the next level (if that level is unlocked).

Click the Brain Arcade logo to move back to the Brain Arcade Screen.
Number Gumbo

In Number Gumbo, students are given digits and must construct expressions that match the sums and order on the board.

Click or drag the digits to the lower field to form numbers, then drag the operation symbol to complete the expression. Click Submit to send the answer to the board. If it fits one of the expressions on the board, that expression lights up in yellow. If it does not fit any of the expressions on the board, the field clears.

Click Clear to clear the field. Click Shuffle to shuffle the digits. The timer on the top right shows how much time remains in the game.

At the end of the game, students see their scores. Click Chapter to return to the Chapter Screen. Click Replay to play the game again at the same level, or click Continue to play the game at the next level (if that level is unlocked).

Click the Brain Arcade logo to move back to the Brain Arcade Screen.
Sea Level

In Sea Level, students see two equal expressions with an addend missing and must select the correct choice.

When the expressions emerge from the submarine, sea creatures with numbers appear. Click, then drag, the sea creature with the correct number that completes the expression to the blank container on the submarine. Correct responses light up the lanterns at the bottom of the screen in green, incorrect answers in red. If a student gets three expressions wrong in the level, the level ends. Each time a question is answered incorrectly one of the windows on the submarine cracks and turns red.

Students see their scores and the time remaining in the game at the bottom right of the screen.

To pause the game, click the Pause button, which toggles between pause and play. Click it again to resume the game.

At the end of the game, students see their scores. Click Chapter to return to the Chapter Screen. Click Replay to play the game again at the same level, or click Continue to play the game at the next level (if that level is unlocked).

Click the Brain Arcade logo to move back to the Brain Arcade Screen.
Jetpack Outback

In Jetpack Outback, students choose a character and create expressions to get their character to the end of the number line.

Drag the tiles to the slots to create the expression that will get the character the closest to the end of the number line, then click Go! Collect any stars the character passes.

To move left, use negative numbers. The timer shows how much time remains in the game.

At the end of the game, students see their scores. Click Chapter to return to the Chapter Screen. Click Replay to play the game again at the same level, or click Continue to play the game at the next level (if that level is unlocked).

Click the Brain Arcade logo to move back to the Brain Arcade Screen.
Circles

In Circles, students see a circle with a command (“Make 30”) and different number circles. Click the two colored number circles that will create the sum shown in the large circle. This expression is seen at right.

To move red number circles around, click two circles that do not add up to the sum. This causes the red circles to switch positions. Switch the positions of the colored circles until two numbers that add up to the sum are adjacent.

The timer at the top right shows how much time remains in the game.

At the end of the game, students see their scores. Click Chapter to return to the Chapter Screen. Click Replay to play the game again at the same level, or click Continue to play the game at the next level (if that level is unlocked).

Click the Brain Arcade logo to move back to the Brain Arcade Screen.
In Sprocket, the robot shows a screen with blank-filled expressions. The pipe produces numbered sprockets. Use the sprockets to fill in the expressions by dragging the correct numbers to the spaces on the screen.

Four or five (depending on level) correct expressions must be filled in before the first sprocket reaches the end of the pipe. Dragging an incorrect sprocket to the expression board results in the sprocket snapping back to the pipe at the point it was dragged.

As students move through the software and earn stars playing the game, they may move up in levels and earn more stars. The stars will be recorded on the Brain Arcade Screen and on their Dashboards.

At the end of the game, students see their scores. Click Chapter to return to the Chapter Screen. Click Replay to play the game again at the same level, or click Continue to play the game at the next level (if that level is unlocked).

Click the Brain Arcade logo to move back to the Brain Arcade Screen.
Jelly Drop

In Jelly Drop, students must add fractions together to equal 1 by lining up the jelly beans with their fractions or decimals in a straight line.

Jelly beans with fractions or decimals emblazoned on them appear on the line at the top of the screen and move from right to left. Drop points are shown as red dots or "hot spots." Students select the drop point for the jelly bean by clicking the red dot. When the line is completed, it disappears and students earn points. If a piece is dropped into a space that is too small for it, the piece explodes and the puzzle rises, allowing less time to make a decision.

Students see a preview of the next jelly bean at the right of the screen. Students may change the next jelly bean to appear by clicking Swap It. When students place enough pieces correctly they activate Power Fill. Students may then click and drag Power Fill to any row to fill the gaps and clear the row.

To pause the game, click the Pause button, which toggles between pause and play. Click it again to resume the game.

At the end of the game, students see their scores. Click Chapter to return to the Chapter Screen. Click Replay to play the game again at the same level, or click Continue to play the game at the next level (if that level is unlocked). Click the Brain Arcade logo to move to the Brain Arcade Screen.
Ten Garden

In Ten Garden, students must use the number on the garden trowel and the number on the flower to make an equation before the flowers wither and dry up.

Students see a number on the garden trowel. They move the trowel to one of the flowers to scoop it out of the dirt. Numbers appear on the four flower pots. Move the flower to the pot that has the correct sum of the number on the trowel and the number on the flower. The number of correct scoops is seen at the top of the screen, along with the score and the time remaining in the game.

Students must do this before the flowers wither. They see an alert when a flower starts to wither, and a second alert telling them to hurry.

To pause the game, click the Pause button, which toggles between pause and play. Click it again to resume the game.

At the end of the game, students see their scores. Click Chapter to return to the Chapter Screen. Click Replay to play the game again at the same level, or click Continue to play the game at the next level (if that level is unlocked).

Click the Brain Arcade logo to move back to the Brain Arcade Screen.
DJ Why

In DJ Why, an equation is presented with a missing variable, \( y \). Four variable choices for \( y \) are presented on the DJ board. Click a variable choice. This brings the ball of light down onto the choice. If the ball of light changes to green, it is the correct choice. If it changes to red, it is incorrect. Accumulating three consecutive green lights in a column earns bonus points and clears the green lights from the column.

Red lights do not automatically clear from the column. If there are too many red lights in the column to keep students from collecting three green lights, click **Power Beat** when it illuminates to clear the red lights.

To pause the game, click the Pause button, which toggles between pause and play. Click it again to resume the game.

At the end of the game, students see their scores. Click **Chapter** to return to the Chapter Screen. Click **Replay** to play the game again at the same level, or click **Continue** to play the game at the next level (if that level is unlocked).

Click the Brain Arcade logo to move back to the Brain Arcade Screen.
Kick Flipper

In Kick Flipper, students must estimate where a given number or sum should be placed on a number line.

Students click a location on the number line to place where they think the given number or sum should go before the timer runs out. When they choose a spot on the number line, the skateboarder begins his trick run. Depending on how close the placement is to the correct spot, the skateboarder will do a more difficult trick and receive a higher score. A perfect placement earns a score of 10; the closer the chosen spot is to the correct one, the closer the score is to 10. As students progress through the levels, the number line gets progressively curvier. Answers that are far off from the correct spot on the number line cause the skater to crash. To pause the game, click the Pause button, which toggles between pause and play. Click it again to resume.

At the end of the game, students see their scores. Click Chapter to return to the Chapter Screen. Click Replay to play the game again at the same level, or click Continue to play the game at the next level (if that level is unlocked). Click the Brain Arcade logo to move back to the Brain Arcade Screen.
Fair Share

In Fair Share, students are presented with shapes that represent fractions. Students cut the shapes and reassemble them to illustrate the fractions.

The shapes represent parts of a whole. At the bottom of the screen are the fractions to represent. Cut the shapes into smaller shapes by clicking and dragging the pointer across the shapes. Then click and drag the pieces to the fraction spaces to show that fraction (for example, cut the two halves into four pieces, then drag three of the pieces to the $\frac{3}{4}$ space, then drag the last piece to the $\frac{1}{4}$ space). Students may cut pieces as many times as they wish, but they must use all the cut pieces.

To pause the game, click the Pause button, which toggles between pause and play. Click it again to resume the game. To reset the pieces, click Reset.

At the end of the game, students see their scores. Click Chapter to return to the Chapter Screen. Click Replay to play the game again at the same level, or click Continue to play the game at the next level (if that level is unlocked).

Click the Brain Arcade logo to move back to the Brain Arcade Screen.
Technical Support

For questions or other support needs, visit the MATH 180 Product Support website at: hmhco.com/math180/productsupport.

At the site, users will find program documentation, manuals, and guides, as well as Frequently Asked Questions and live chat support.

For specific questions regarding the MATH 180, contact customer service to speak to a Houghton Mifflin Harcourt technical support representative at:

- 1-800-283-5974 (current version of MATH 180)
- 1-800-927-0189 (other versions)

For specific questions about using SAM with MATH 180 programs, click Help in the Quick Links along the top of any screen in SAM.