Shapes String Game:

The object of the game is to identify the correct labels for each of the two (red and blue) ovals. The labels are the 16 categories in the area above the ovals. Only one label works for each oval. The shapes found below the ovals can only be placed into the appropriate, depending on the identity of the oval. Shapes that correspond to both ovals can only be placed in the middle. Any attempt to place a shape into an incorrect location returns to its original position leaving a shadow behind to indicate that the attempt was unsuccessful.


As more shapes are placed the identity of the two ovals will become clear. In the above game, the identity of the red oval is **Not Circle** and the identity of the blue oval is **Yellow**.

Students will work in small groups to attempt to complete the puzzle within three minutes. The group with the highest score wins. Groups that complete the puzzle receive the score as shown. Groups that do not complete the puzzle subtract 50 from the score shown. There are 18 students in the class, so groups of 3 works well if all students are present.

Tile Game
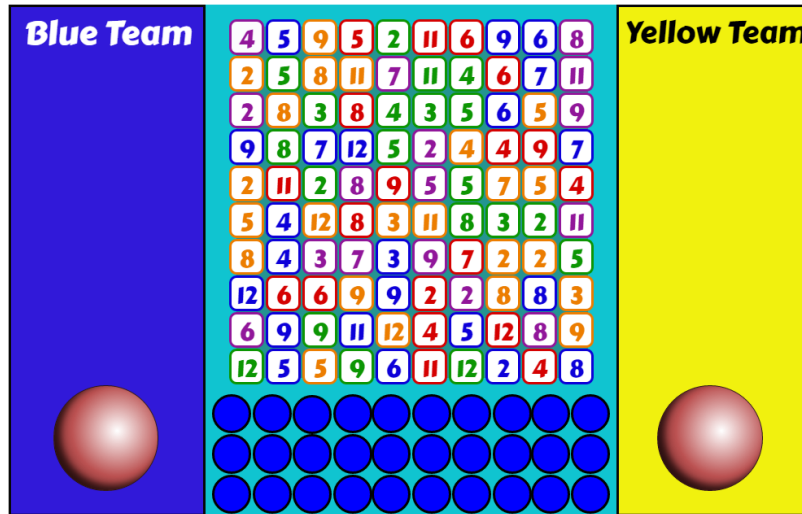
The game consists of 100 randomly arranged playing tiles, with assorted numbers from 2 -12 excluding 10, and 30 target tiles with randomly selected target numbers from -142 to 156. The object of the game is to use three number tiles and two operations to evaluate to the target number. The three tiles must be in a row (vertical, horizontal or diagonal) and in order next to each other.
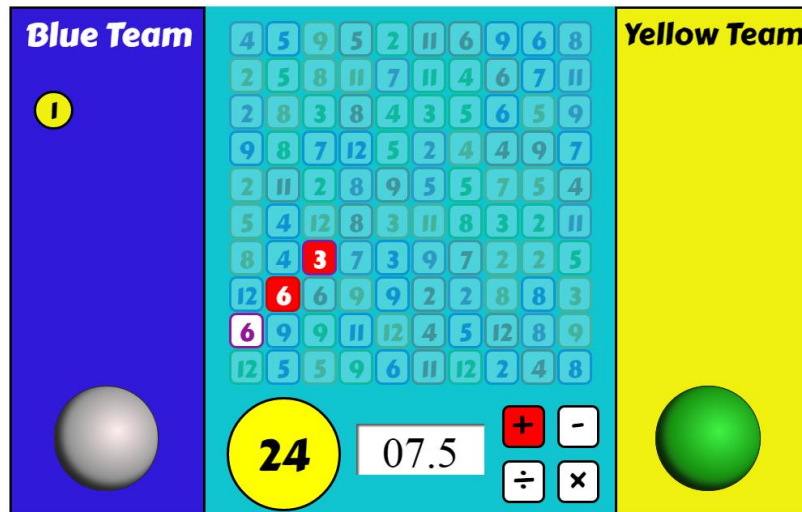
For example, in the game above, the target number chosen is 24. This can be achieved by entering

$$3 \times 6 + 6$$

Order of operation rules apply, so this would be equivalent to entering $6 + 3 \times 6$.

This game can be played with two teams, with pairs of students from each team facing off. The color of the target tiles determines who gets to pick. Both players attempt to find the target, and whoever finds it first should press the red button. They then have 15 second to enter their answer. If time runs out or their attempt is incorrect, play passes to the next player. The first team to 16 correct answers wins. The game can also be played, with no teams and the winner stays.

MatherMind:

The object of this game is to replicate a hidden code, similar to the game Mastermind. The code is in the form of a mathematical expression consisting of 3 number (from 1-9) and two operations. The code is a unique combination of distinct (non-repeated) numbers and operations in a specific order, and evaluates to the target number shown at the start of the game.
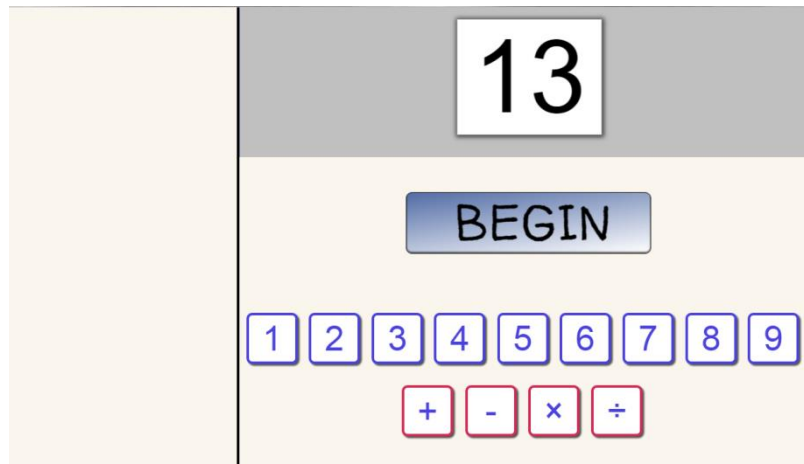
Once the game begins, students have 45 seconds to place combinations of numbers and operations into the appropriate squares in an attempt to discover the code. A correct answer wins the game. Incorrect answers are recorded in the space to the left, along with some clues.
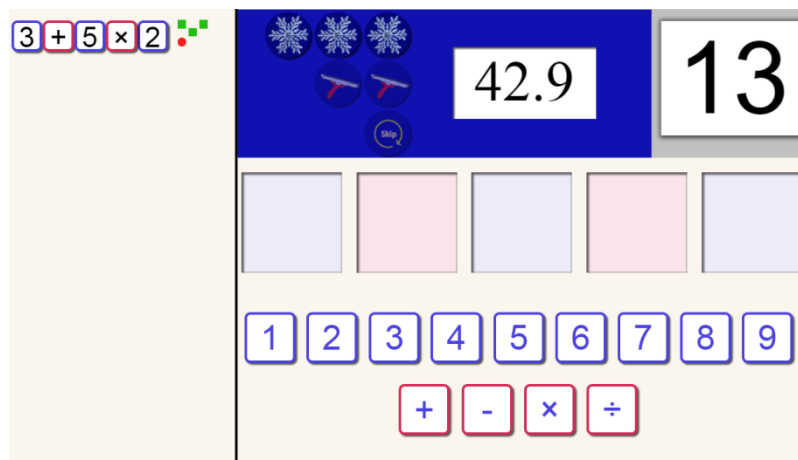
A red circle indicates that one of the tiles (numbers or operations) belongs in the code, but was placed in the wrong spot. A green square indicates that one of the tiles belongs in the code and was placed in the correct spot. In the above game, there are four tiles that belong in the code, three placed in correct spot, and one in the wrong spot.

As the game progresses, students should try to use logic and critical thinking to determine the code. There are three 'power-ups' that can be used during a game.

The first is the ❄ snowflake/freeze button (x3). During the game, only the student who is at the board may decide what tiles to place. There should be no interference/hints from their team. However, if the student presses the snowflake, they get 10 seconds to confer with their team.
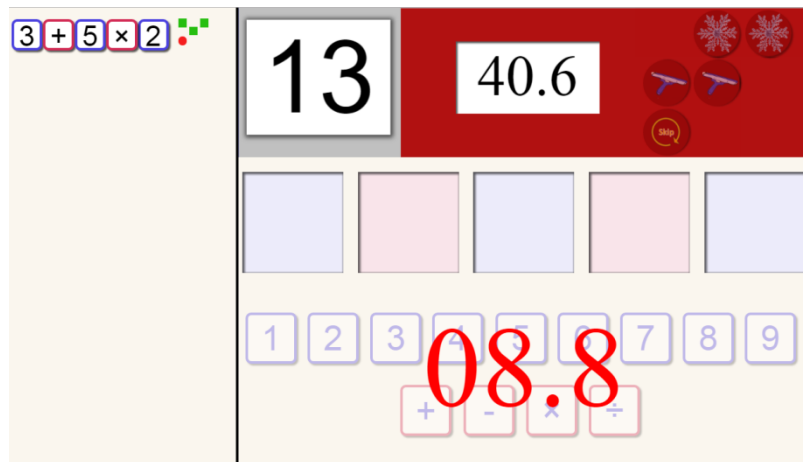
Once the button is pressed, the tiles are greyed out and a 10 second countdown begins. This button may also be used to gain extra time, and if it is pressed when there is less than 10 seconds left on the main clock, the main clock resets to 10 seconds.

The second power-up 🪟 is the squeegee (x2), which erases the history form the left side of the screen.

The final power-up 🔘 is the skip button. The final power-up, and there is only one per team, is the skip button. This button allows another member of the same team to try again, skipping the opposing teams turn. This is especially useful when a team is very close to solving the puzzle.
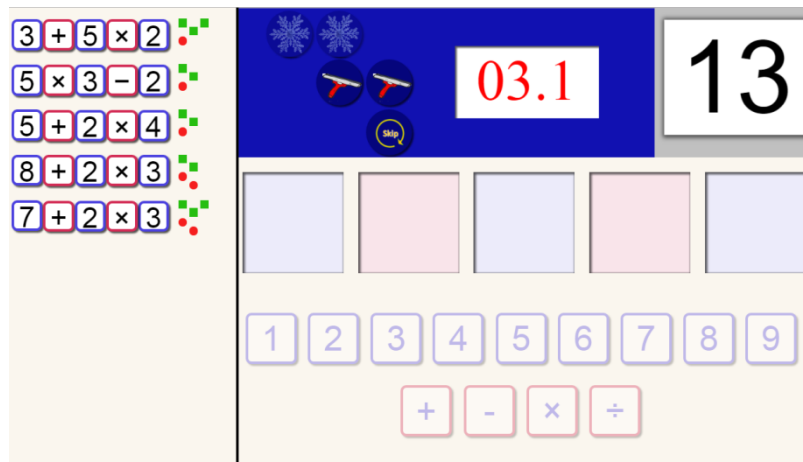
This game can be played with two teams. Teams take turns sending one student to enter their guess. During their turn, each student should be on their own and not be influence by their teammates unless they press the skip button. If a student repeatedly ignores this rule, I ask them to wait outside till they have missed their own turn.