

Johnnie Number Cards

Primary Activities

$10 + 3$
 1 2 4 5 6 7 8 9

$$8 - 3 = 5$$

$$7 - 4 = \square$$

$$6 - 3 = \square$$

Fact Families

The screenshot shows the Johnnie Number Cards interface. On the left is a vertical toolbar with various dice and number cards. The main workspace contains several dice and number cards arranged to form a fact family. For example, a red die with 3 dots, a red die with 4 dots, and a red die with 7 dots are shown, along with a plus sign, an equals sign, and a minus sign. Below this, a blue die with 3 dots, a purple die with 4 dots, and a blue die with 7 dots are shown, along with a minus sign, an equals sign, and a plus sign. At the bottom, there is a toolbar with mathematical symbols: 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, a blank box, +, -, x, ÷, =, >, <, (,), and a calculator icon. The JMP logo is in the bottom right corner.

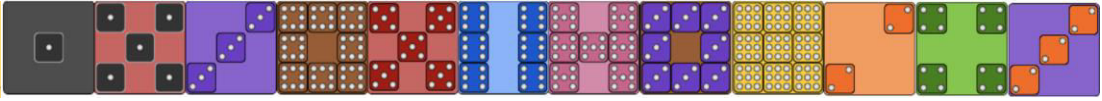
Description:

Set out number cards using the same color dice that make a fact family. Work with students to build number sentences. Use dice on cards to consider how the differences come about.

Variations:

Move number cards to set out both addition statements and both subtraction statements possible from the fact family trio of cards.

Write out these possible statements using number tiles.



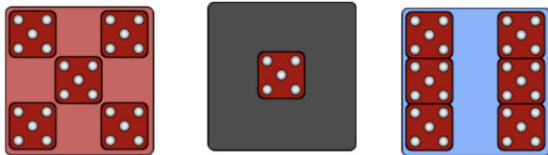
Subtraction Pairs 1

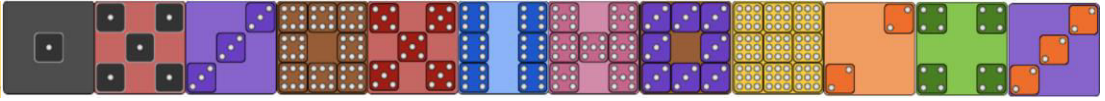
Description:

Set out subtraction pairs using number cards using the same color dice. Work with students to find the differences. Use dots on cards to consider how the differences come about.

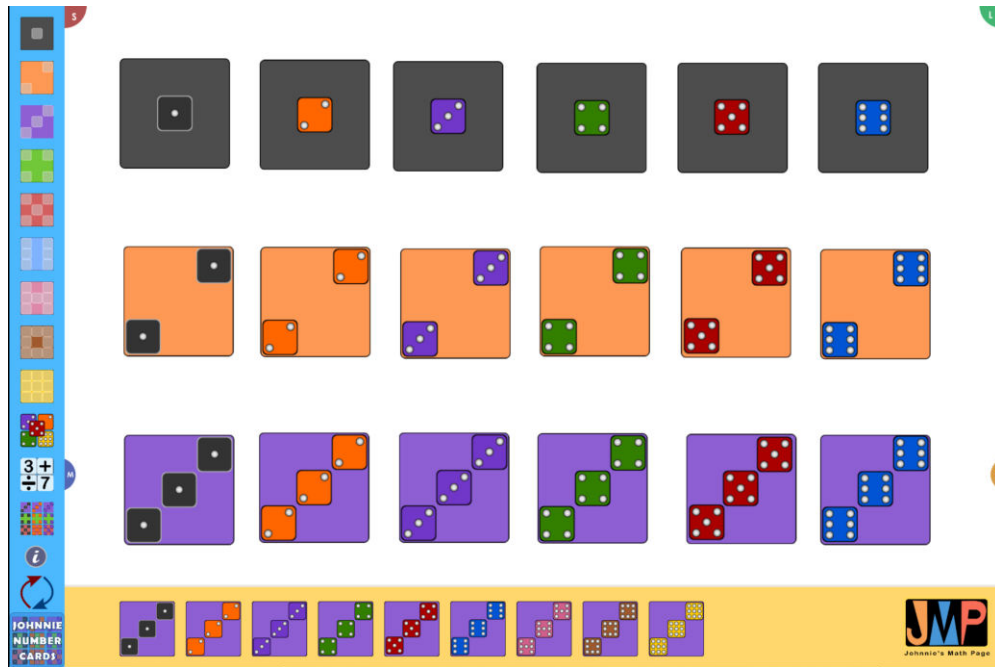
Variations:

Set out number cards in fact families. Make number sentences using the cards.





Skip Counting

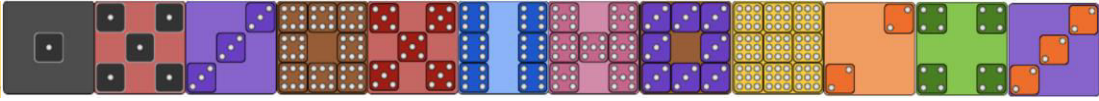


Description:

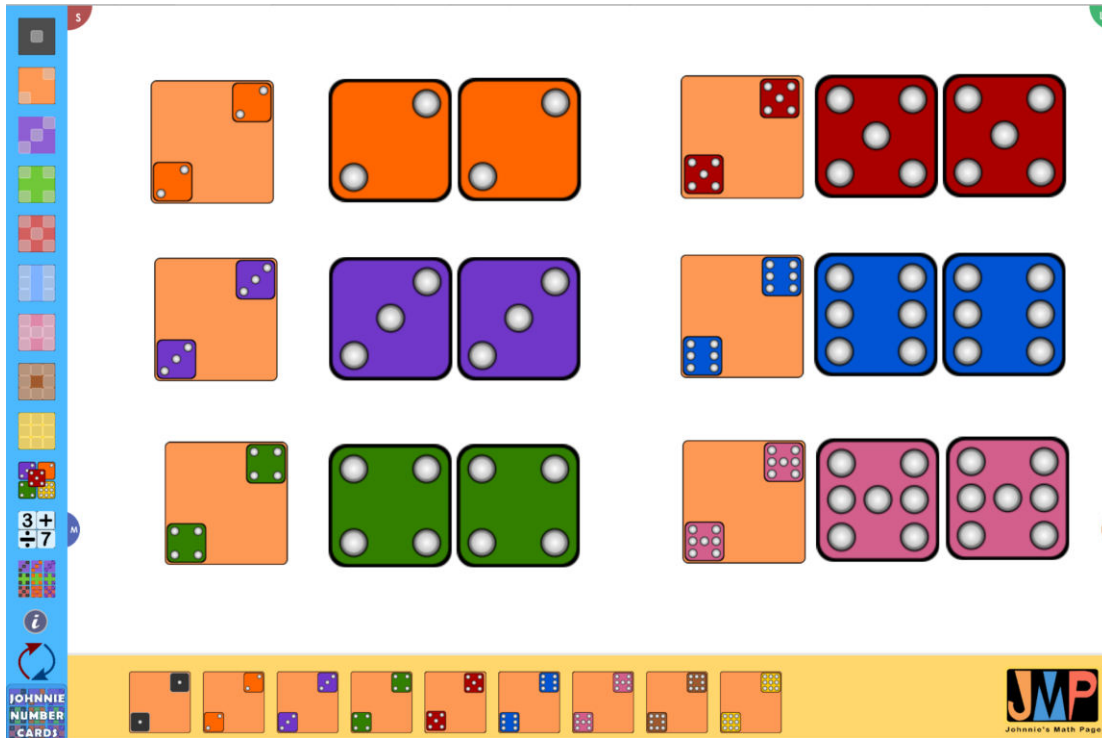
Set out number cards to allow skip counting.

Variations:

Use number tiles to label the number cards. Continue the skip counting using number tiles.



Doubles Explorer

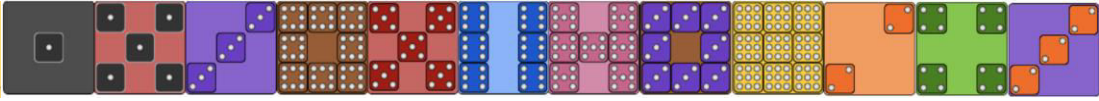


Description:

Set out two numbers cards. Work with students to set out the represented pair using the dice cards.

Variations:

Simply use the dice cards. Set out a dice and build doubles to find sums with students.



Subtraction Pairs 2

5

$5 - 3 = 2$
 $6 - 4 = \square$
 $7 - 5 = \square$

0 1 2 3 4 5 6 7 8 9

+ - × ÷ = > < ()

JOHNNIE NUMBER CARDS

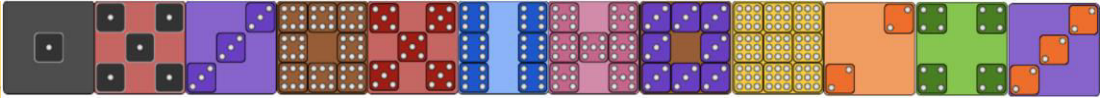
Description:

Set out subtraction pairs using number cards from the same color set. Work with students to find the differences. Use dots on cards to consider how the differences come about.

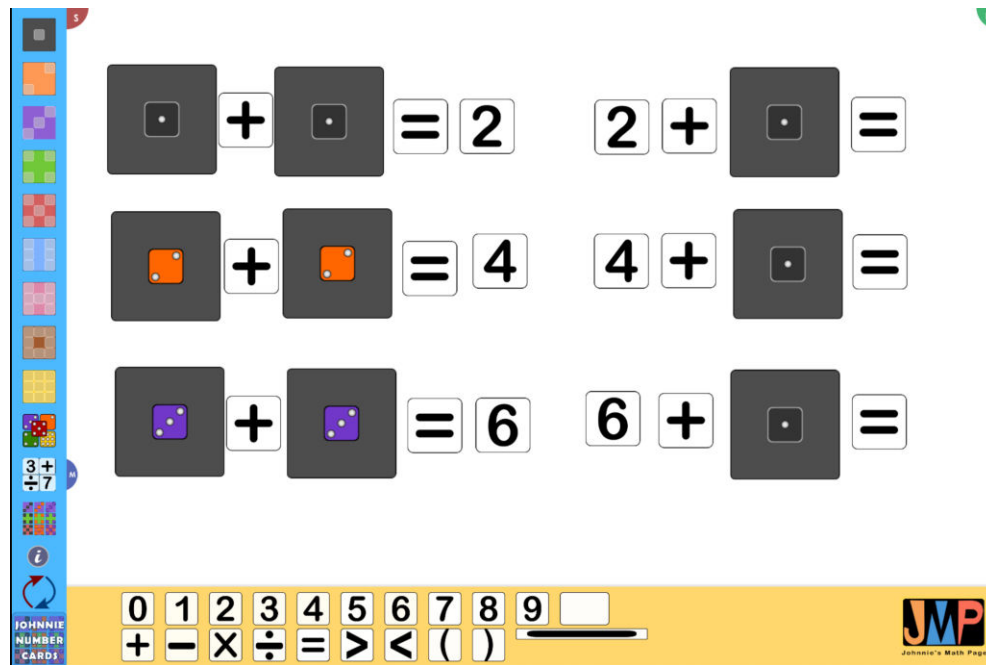
Variations:

Set out subtraction pairs using number cards from different color sets but with the same dice color.

$7 - 4 = \square$



Doubles and Doubles plus One



$1 + 1 = 2$ $2 + 1 =$
 $2 + 2 = 4$ $4 + 1 =$
 $3 + 3 = 6$ $6 + 1 =$

Description:

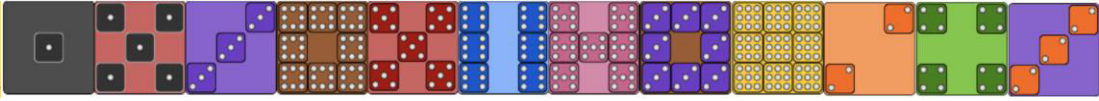
Using the ones cards and the numbers tiles set out pairs of cards to explore doubles and doubles plus one. Students may count the pips to find the doubles and then represent those sums with numerals.

Variations:

Show the sum of doubles using number tiles. Set out the ones cards and have students tell you which number cards are needed to make that sum.

Show the sum of doubles and one using number tiles. Set out the ones cards and have students tell you which number cards are needed to make that sum.

Work with other number cards exploring doubles using twos cards, three cards...



Make Tens

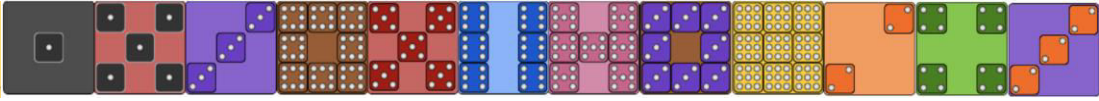
Description:

Randomly set out ones cards- two of each. Set out number tiles to make number 10 (drag to upper right corner to make large). Select a number card and place under the 10. Work with students to find the matching number card that will make a sum of 10. Keep making pairs until all cards are used.

Variations:

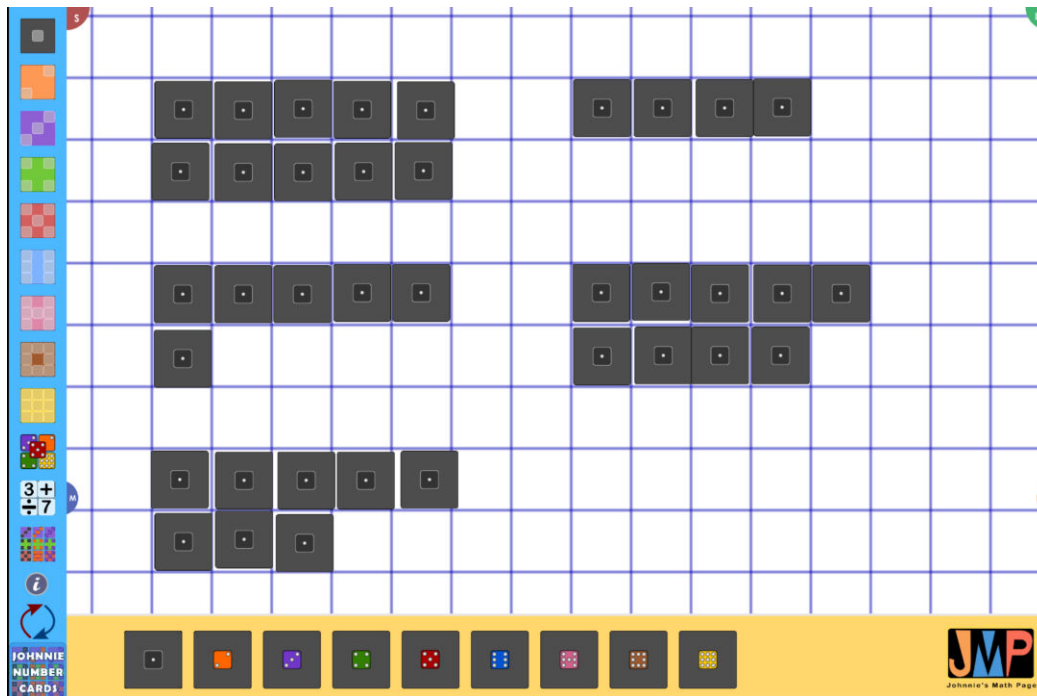
Choose a number other than 10 as the target number

Drag two cards less than the target number and work with students to find the necessary third number to make a sum that matches the target number



Primary Level Activity

Tens Frames



Description:

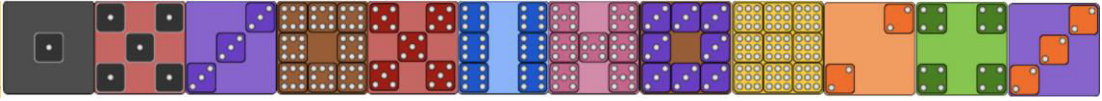
Use the grid background. Set a number of ones cards onto the grid. With mouse cursor above the cards hit the 's' key to make the cards small (you can also drag them to the upper left corner to make the cards small). Set cards in grid in frames of ten. Work with students to build numbers one to ten.

Variations:

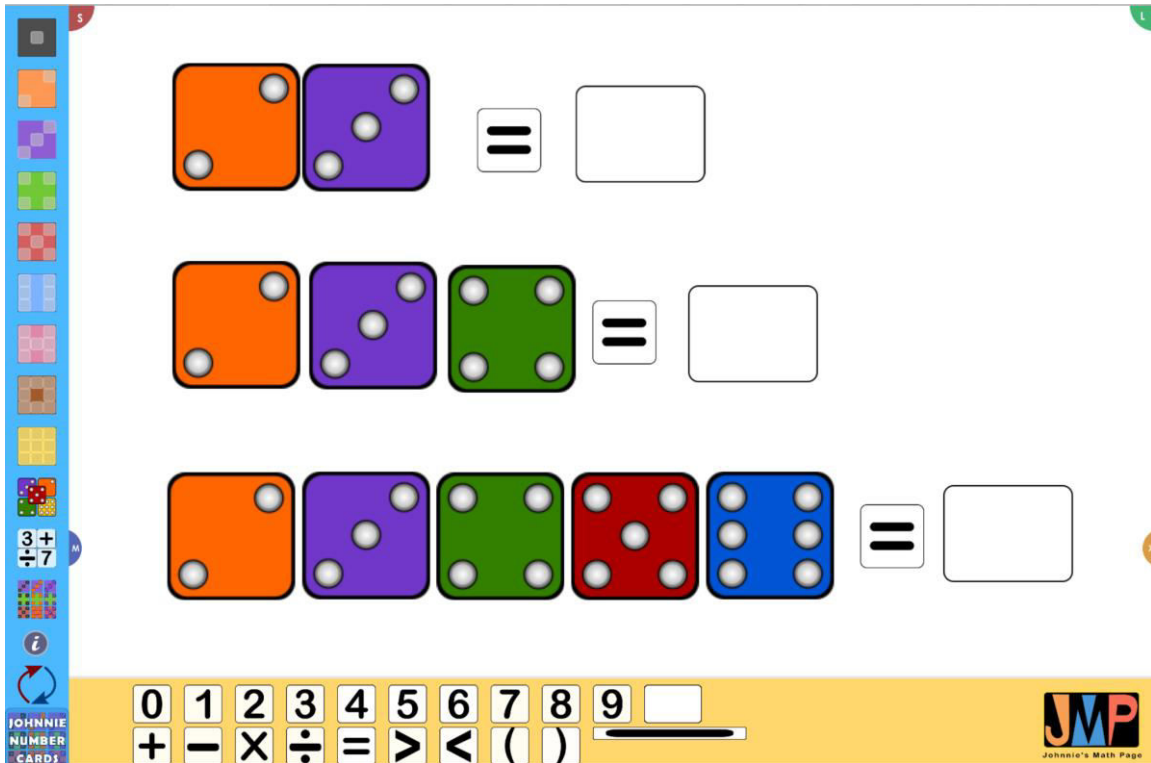
Set out number tiles for matching activity. Match the number tile with the number of number cards.

Set out number tiles and work with students to build numbers within tens frames that match.

Place ones number cards in patterns asking students for the count. This is a subitizing activity.



Dice Sums



3 + 7

JOHNNIE NUMBER CARDS

0 1 2 3 4 5 6 7 8 9

+ - × ÷ = > < ()

JMP Johnnie's Math Page

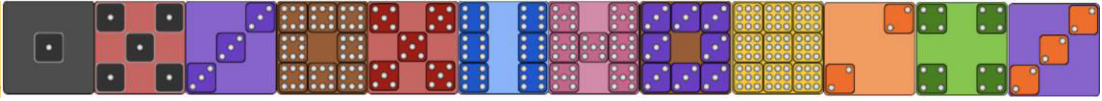
Description:

Set out dice cards to explore sums.

Variations:

Set out dice cards in numerical order. Work with students to determine the sums of consecutive numbers. Discuss strategies for determining that sum.

Explore commutativity by moving dice cards to make friendly numbers to determine sums.



Ten Plus

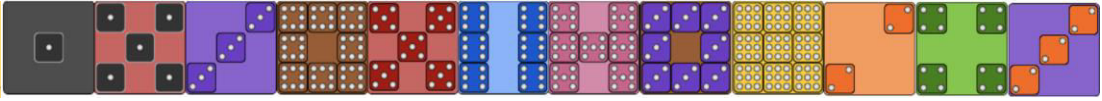
Description:

Investigate numbers from 10 to 19. Set out two five cards to make ten. Set out ones cards. Set out number tiles. Build numbers using number cards. Express the number using the number tiles.

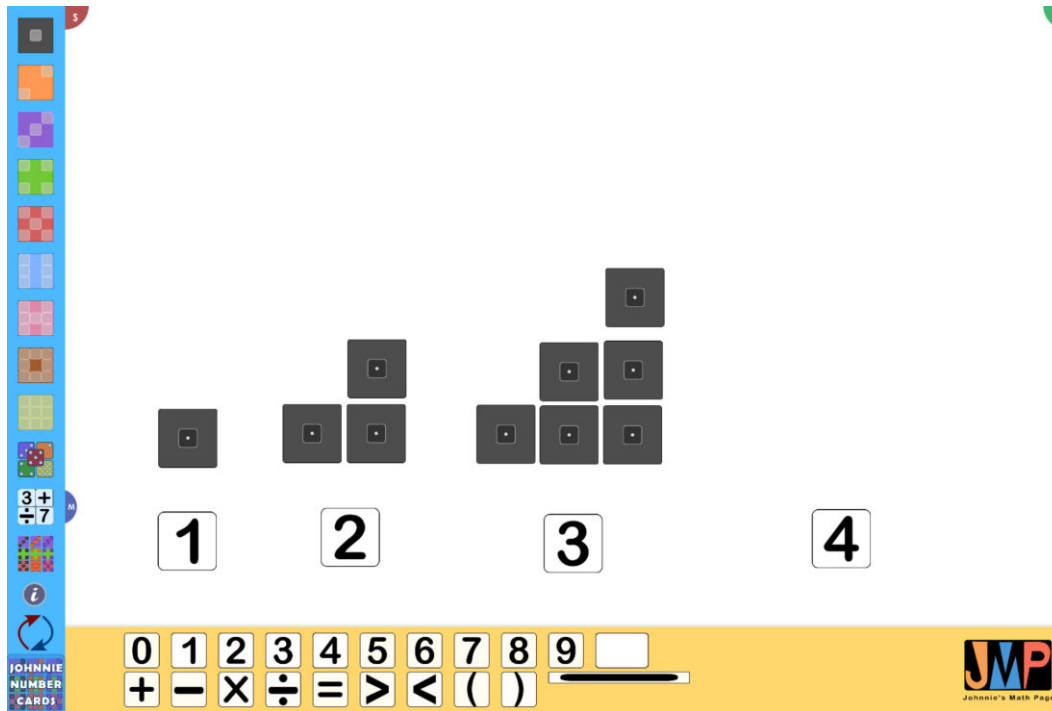
Variations:

Choose number cards representing larger numbers. You might start with 10 (5 and 5) or another multiple of 10 - 20, 30...

Complete a number sentence with the number tiles. Have students construct or construct with you that sentence using the number cards.



Growing Patterns



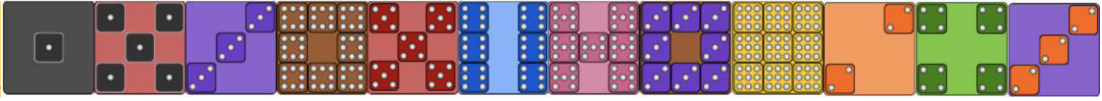
Description:

Set out ones cards. Make these cards small by placing the cursor over them and typing the letter 'S' or drag to the upper left corner. Build a growing pattern like the one described above. Have students work with you to describe the fourth step in this growing pattern and the total number of cards in the pattern. Discuss rules for how the pattern grows.

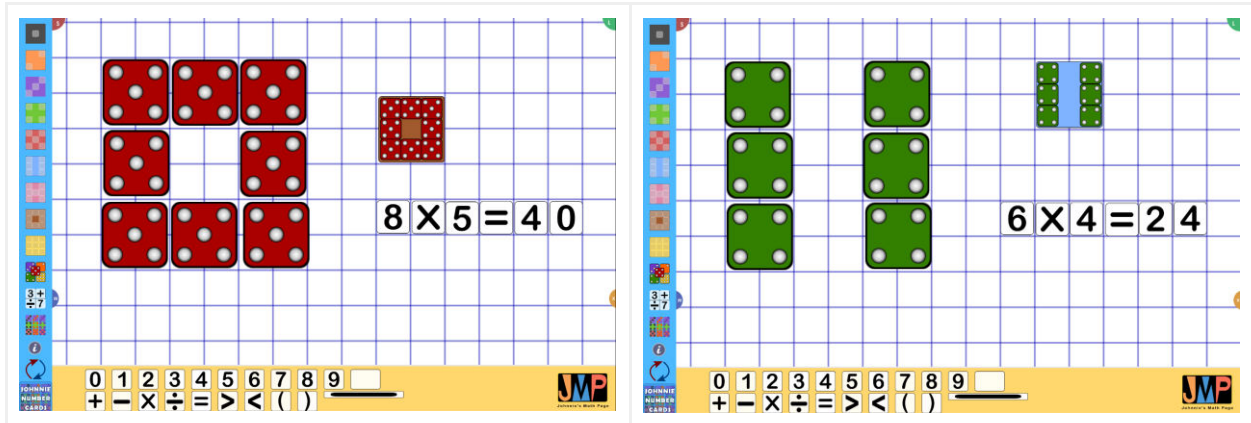
Variations:

Consider growing patterns other than the step pattern.

Use number cards other than one.



Multiplication Explorer



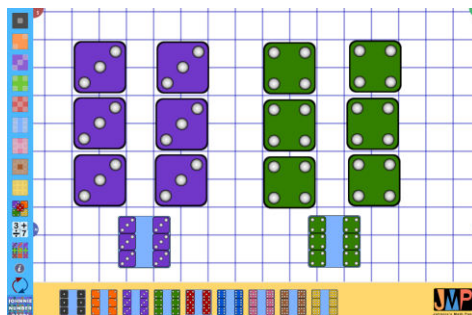
Description:

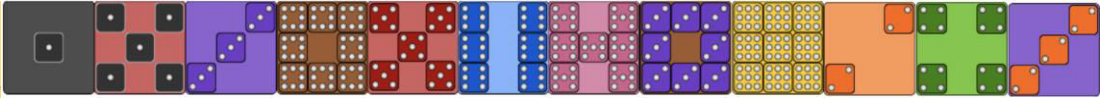
Set out a number card showing a multiple. Use dice cards to build model of the card. Work with students to understand multiples as repeated addition. Have students guide you in building other multiples using more of the same dice card. Use number tiles to express the multiplication.

Variations:

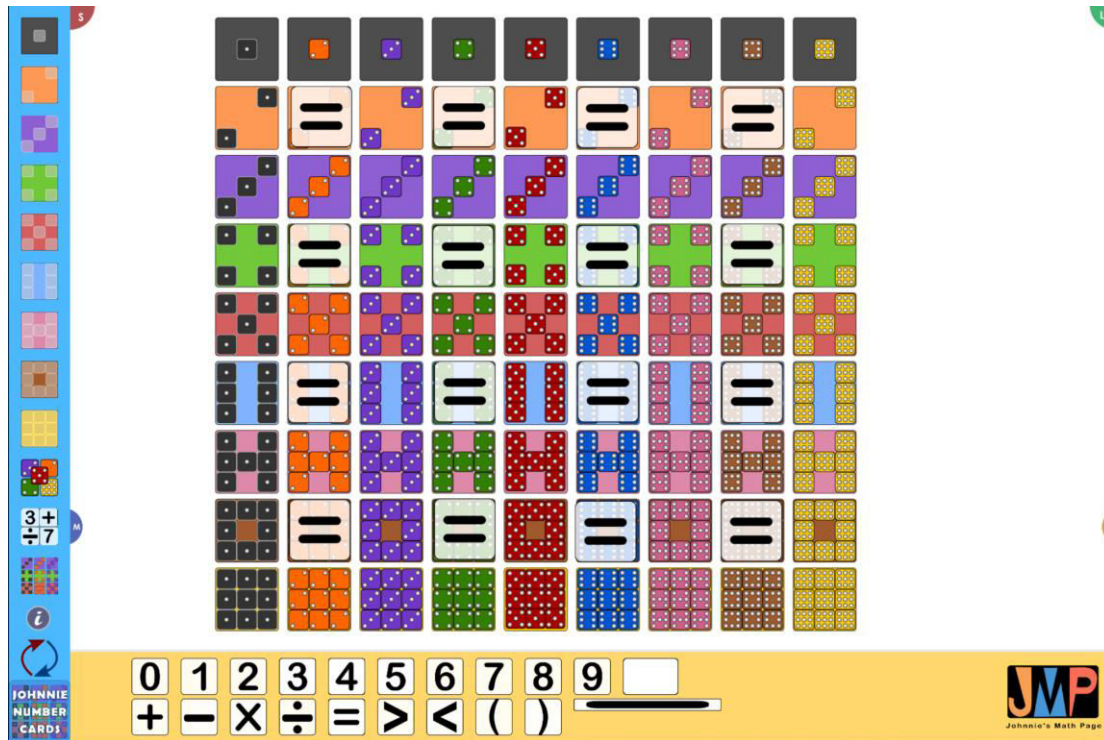
Set out multiplication sentence with students. Have them direct you to build a model using dice cards and number cards.

Set out multiples using dice cards just one number different. How is the product changed?





Multiplication Mystery Numbers



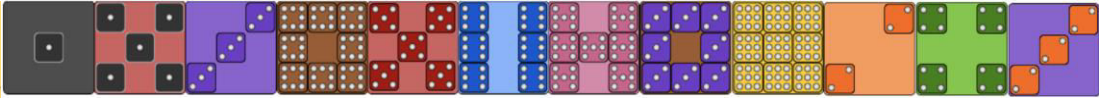
Description:

Set the background to be the number cards multiplication table. Use the number tile equal sign to cover particular cards. Work with students to find the numbers that are hidden under the equal signs.

Variations:

Set out covering equal signs in particular patterns to reveal relationships within the table (as shown above).

Set out covering equal signs for analogous pairs i.e. 4×6 and 6×4 . Ask students to find these pairs and discuss how they come to the same product.



Multiplication Match

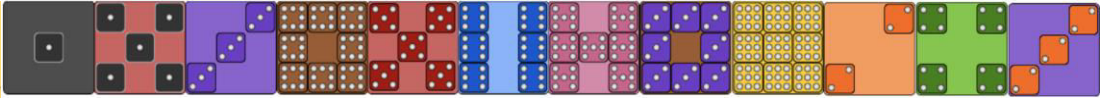
Description:

Set the background to be the multiplication table. Set out number cards- could be random or purposefully chosen. To make these cards the right size, place your cursor over them and type the letter 'S'. You can also drag individual tiles to the upper left corner to make the right size. Work with students to drag number cards to cover the right numbers on the multiplication table. Discuss what is in the card that makes the card fit the number.

Variations:

Do the reverse. Cover numbers on the multiplication table with number cards. Ask students what number is under the card and the reasons why.

Look at particular sets. Multiples of three, four, five... Look at square numbers. Talk about missing numbers- primes.



Compare Fractions

Description:

Use the number tiles to set out fraction bars and greater than, less than, and equal to signs. Make these signs larger (press letter A while the cursor is over tile or drag to the upper right corner). Use number cards to construct fractions to compare. Give attention to dice images in the cards as a means to make the fraction comparisons. Use signs to complete fraction statements.

Variations:

Build three fractions with bars and number cards. Work with students put fractions in order from least to greatest or greatest to least.

Set out a fraction with a bar and number cards. Work with students to build equivalent fractions.

Sum Stacks



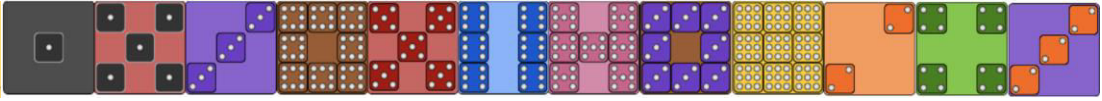
Description:

Use the dice cards to build sum stacks. Make the dice cards small by having cursor over cards and typing 'S'. This will work for multiple cards at once. Start by purposefully organizing the dice cards in useful pairs that add to 10. Have students estimate the sum of all dice. Follow by students calculating the value of the sum stack. Discuss strategies for finding that sum.

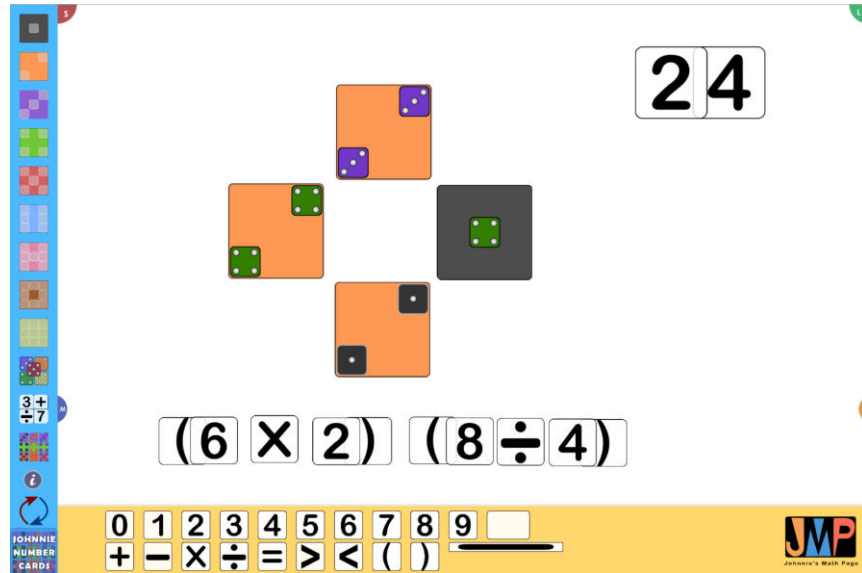
Variations:

Build sum stacks with students aiming for a particular sum.

Bundle the dice cards in multiples to emphasize multiplication as a tool to find the sum.

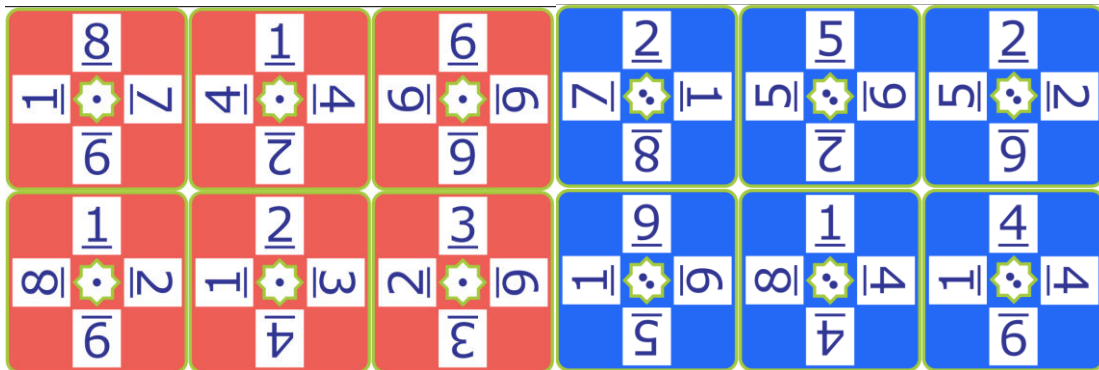


Game of 24



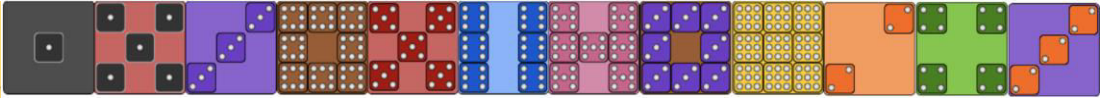
Description:

Set out number four number cards. Students are to use any combination of operations to make the represented numbers equal 24. More possibilities for cards below:

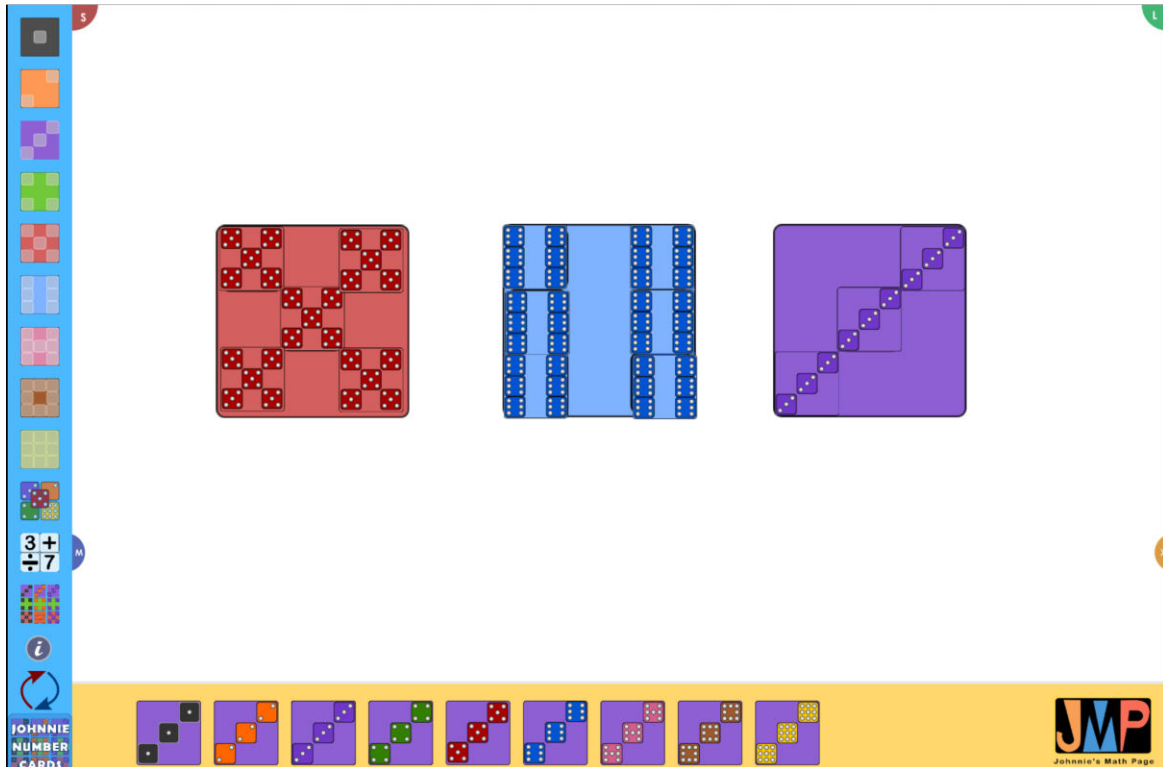


Variations:

Allow the use of exponents (make small number tiles) and fractions.



Mega Number Cards

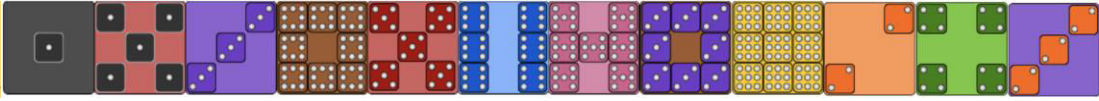


Description:

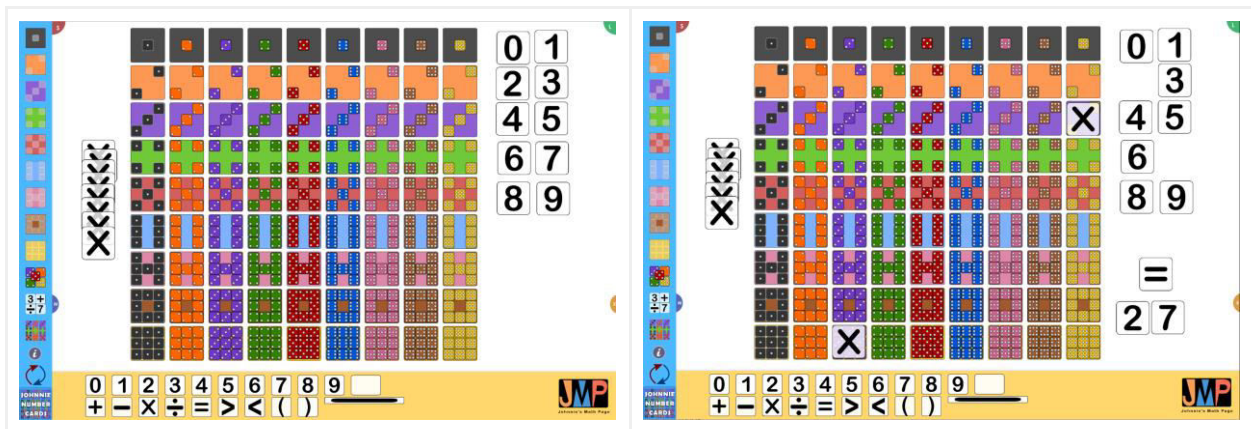
Investigate multiples of multiples. Choose number cards. Enlarge these cards by having your cursor over the card and typing 'A' or dragging the card to the upper right corner. Choose other number cards to place on top of the larger cards. Take these cards and make them smaller by having your cursor over the cards and typing 'S' or by dragging the cards to the upper left corner. Place these small cards above the dice images on the larger cards. Work with students to consider greater multiples- five fives of five, six sixes of six, three threes of three.

Variations:

Mix and match the values of the smaller number cards you place on the larger cards.



Multiplication Cross Out



Description:

Set the background to the numbers cards multiplication grid. Set out number tiles 0 through 9. Set out a number of 'X' multiplication tiles to use as Cross Out markers. Pull down two numbers to multiply from the number tiles. Students work with you to determine where on the grid that product might be. Cross out the spaces on the grid with the 'X' markers. Continue with other factor pairs.

Variations:

Play the inverse. Place 'X' makers on the grid and work with students to determine what factors make that product.

Cover one card on the grid with an 'X' marker. Pull down one number tile as a factor. Work with students to determine the other factor.

