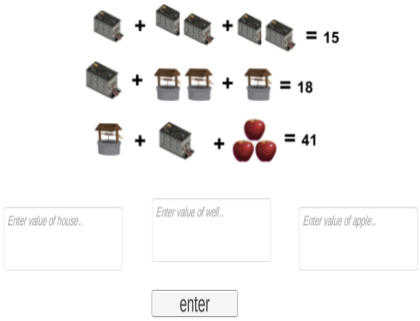
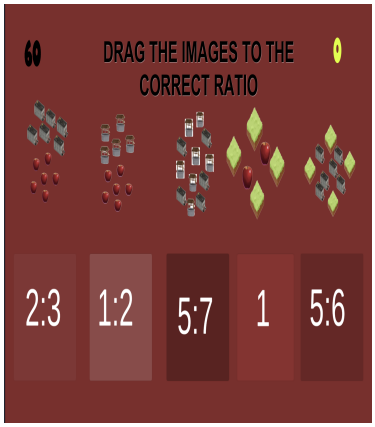
Math Quizzes Documentation

Mathematics: basic algebra, Number theory and Combinatorics. This is done through the quizzing function.

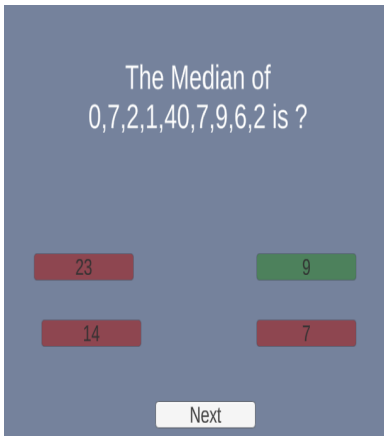
Description of the Math Mini Games implemented in Vol2: Middle Ages



Fill in the blanks



Drag and Drop



Multiple Choice

1st Mini Game

Topic : **Number set - Counting**

Type: **Fill-in-the -Blanks**

Gameplay:

1. The player has to find the value of the house,well and apple.
2. There will be a hint given to explain the game
3. The game will be followed by a timer
4. The player enters 3 numbers.

5. All 3 numbers have to be correct to mark the game as finished
6. Display a message and gain energy if successful
7. Reset game if wrong

Design: Main panel, hint button, three inputs, timer function, submit function,

2nd Mini Game

Topic : **Ratios, rates percentages**

Type: **Drag and Drop**

Gameplay:
The player has to drag an image to its corresponding ratio.
This task will be done four times

Design: Mainly sprites/images as GameObjects
4 ratios and 4 images

3rd Mini Game

Topic : **Representation of data**

Type: **Multiple Choice**

Gameplay:

The player will have four options
The game will be followed by a timer
The player taps on one of the options
If the option is right, move to other questions
Else
Reset game
Design: Title Text, submit button, timer function, 4 options buttons

Game Contents:

The mean of 4,5,6,7,8 is?
Four options are 6 5 7 8

The mode of 1,2,3,4,6,9,1 is?
Four options are 1 2 4 3

The Median of 0,7,2,1,40,7,9,6,2 is ?
Four options are 6 *1 40 7*

Look at this set of 8 numbers:
5,9,5,1,4,9,4,3
What is the mean if the number 1 replaced one of the 9's in the set?
Four options are 4 *9 4 3*

Look at this set of 5 numbers:
9,1,4,6,8
What is the range if the number 7 replaces the number 4 in the set?
Four options are 8 *9 1 6*

4th Mini Game

Topic : **Expressing data as algebra expressions**

Type: **Drag and Drop**

Gameplay:

The player has to drag an image to its corresponding ratio.
This task will be done four times

Design: Mainly sprites/images as GameObjects

4 ratios and 4 images

Game-Content:

Solve the following expression:

3x + 18 - 8x = -17

Ans 7

Simplify by combining like terms
-7x-2-9y+10x
Ans 3x-9y-2

Solve the following expression
14 + x = 18
Ans 4

Write an expression for the verbal phrase:
Seven is less than s
Ans s>7

Write and solve an equation based on the verbal phrase.
5 more than x is equal to 32

Ans 27

5th Mini Game

Topic : **Geometric and Linear relationship**
Type: **Fill-in-the-Blank**

Gameplay:

1. The player has to find the value of the probabilities
2. There will be a hint given to explain the game
3. The game will be followed by a timer
4. The player enters a fraction.
5. Display a message and gain energy if successful
6. Reset game if wrong

Design:Main panel, image, hint button, one input, timer function, submit function,

Game-Content:

What is the slope of the line with the equation y = 2x+5
Ans 2

Solve for m
-4(5m-7) = 10m - 2 ,
Ans 3

What is the slope of this equation?
Y = -5x-3
Ans -5

What is the Y-intercept of 4x+10 = -2y?
Ans -5

What is the X-intercept of 5y+3x = 9?

Ans 3

6th Mini Game

Topic : **Understanding probability**

Type: **Multiple Choice**

Gameplay:

The player will have four options
The game will be followed by a timer
The player taps on one of the options
If the option is right, move to other questions
Else
Reset game

Design: Title Text, submit button, timer function, 4 options buttons

Game-Content:

Of the 8 tools used for harvesting, 4 tools are made from wood.
What is the probability that a randomly selected tool will be made from wood?
Four options are 0.5 4 8 2

4 out of the 16 fruits in a bunch are apples.
What is the probability that a randomly selected fruit will be an apple?
Four options are 0.25 4 16 0.5

There are 8 houses of which 1 is made from concrete.
What is the probability that a concrete house is randomly selected?
Four options are 0.125 0.5 0.25 8

A farmer has 18 carts to transport crops, including 2 defective carts.
What is the probability that a randomly selected cart will not be defective?
Four options are 0.89 0.76 0.63 0.57