

HOW CAN I IMPROVE THE MATH PERFORMANCE OF INTERMEDIATE
STUDENTS USING GAME-BASED LEARNING:
PROJECT

By

LeAnn M. Karl

A capstone project submitted in partial fulfillment of the
requirements for the degree of Master's of Education.

Hamline University

St. Paul, MN

August 2017

Primary Advisor: Laura Halldin

Peer Reviewer: Whitney Potvin

My capstone project was the creation, design, and completion of an educational website called gamebaseded.com. This website breaks down the intermediate Minnesota math standards by grade and skill. Games are linked to each standard to assist in game-based learning.

gamebaseded.com

Figure A

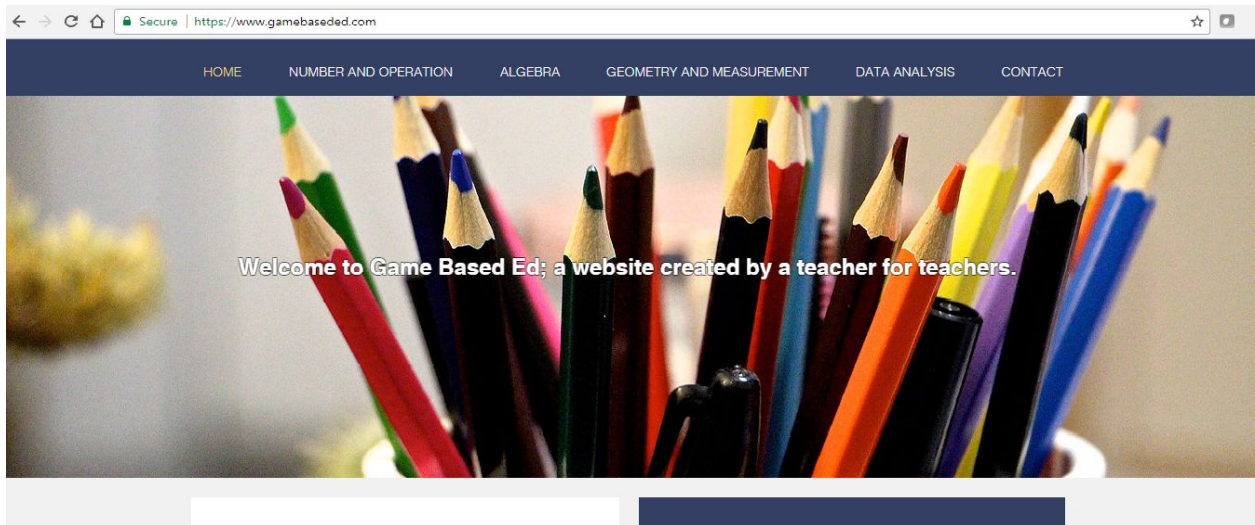
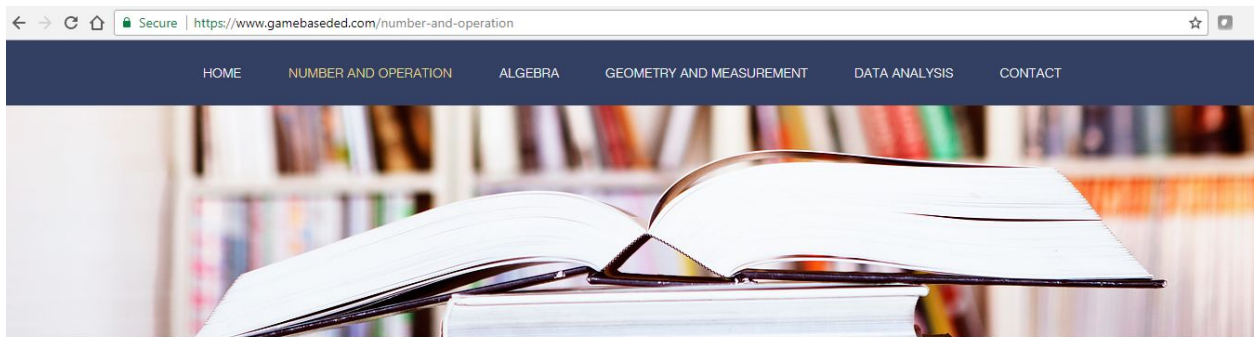


Figure B




Fourth Grade

Fifth Grade

Figure C.1

HOME NUMBER AND OPERATION ALGEBRA GEOMETRY AND MEASUREMENT DATA ANALYSIS CONTACT

4th Grade MN Number and Operation Standards

 Demonstrate mastery of **multiplication and division basic facts; multiply multi-digit numbers**; solve real-world and mathematical problems using arithmetic.
*Basic Multiplication

- [Grand Prix Multiplication](#)
- [Meteor Multiplication](#)
- [Penguin Jump](#)
- [Space Race](#)
- [Swimming Otters](#)
- [Tractor Multiplication](#)
- [Math Boat](#)

Figure C.2

 **Represent and compare fractions and decimals** in real-world and mathematical situations; use place value to understand how decimals represent quantities.

*Fractions

- [Tug Team- comparing fractions](#)
- [Dirt Bike Proportions- equivalent fractions](#)
- [Puppy Chase- fraction to decimal](#)
- [Speedway- adding and subtracting like denominators](#)
- [Bunny Jump- compare fractions](#)
- [Feed the Fish- ordering fractions](#)

- [Snow Sprint- Multiplying fractions](#)

Figure D

List of Online Resources Used

<http://www.arcademics.com/games?grade=3>

<http://www.mathpup.com/game-level/5th-Grade>

<http://www.kidsmathgamesonline.com/numbers/meanmedianmode.html>

<https://www.mathsisfun.com/data/mean-machine.html>

<https://www.topmarks.co.uk>

<https://www.broadoak.n-somerset.sch.uk>

<http://www.coolmath-games.com/>

<http://www.mathplayground.com/games.html>

<https://www.mathgames.com/>

<http://www.softschools.com/math/games/>

<http://www.mathgametime.com/grade/5th-grade>

<https://www.education.com/games/third-grade/>

<https://www.varsitytutors.com/aplusmath/hidden-picture/division>

<http://www.primarygames.com/math/grade/grade4-math-games.php>

<http://www.sheppardsoftware.com/math.htm>

<http://www.hoodamath.com/>

<http://www.playkidsgames.com/classgamelists.php?d=7>

<http://www.math-play.com/4th-grade-math-games.html>

<https://www.theproblemsite.com/math-games>

http://www.learninggamesforkids.com/math_games.html#post-131

<http://www.dr-mikes-math-games-for-kids.com/>

<http://www.xpmath.com/>

<http://www.learn-with-math-games.com/fraction-games.html>

<http://www.gamequarium.org/dir/Gamequarium/Math/Decimals/>

<http://www.multiplication.com/games/all-games>

<http://www.onlinemathlearning.com/decimal-games.html>

<https://www.turtlediary.com/games/third-grade/math.html>

<http://www.kidsmathtv.com/4th-grade-games/>

<http://www.roomrecess.com/pages/MathGames.html>

<https://www.bfscapital.com/math-business-games-for-kids/>

<http://www.abcya.com/search.htm>

<http://interactivesites.weebly.com/math.html>