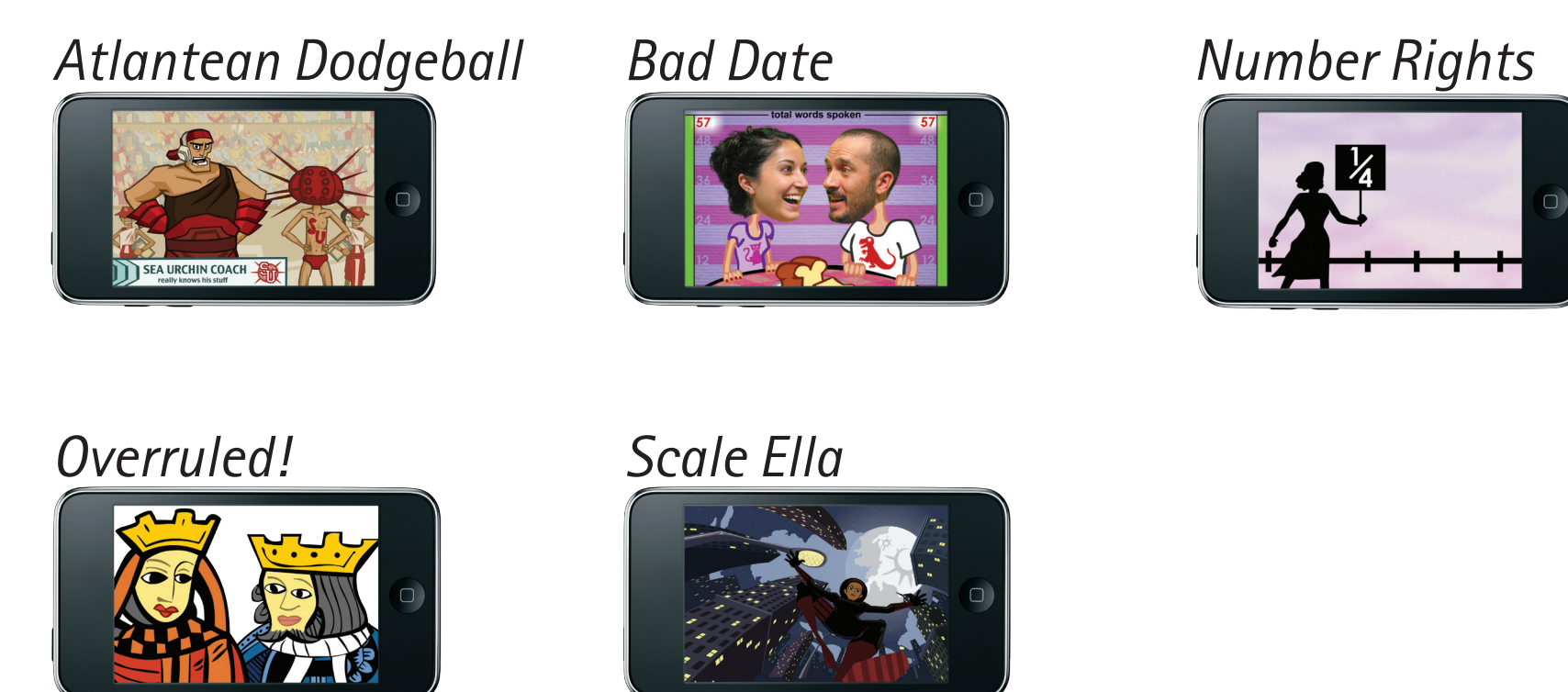# Addressing

Conceptual Gaps in Math

Students continue to have conceptual gaps in mathematics understanding which limit their ability to be successful in mathematics. The Math Snacks team has conducted extensive research on these gaps, and identified the areas of greatest need, by triangulating data from standardized exams, teacher interviews, and student interviews while doing mathematics tasks.

Based on these areas of greatest need, team members identified reasons why this content is difficult for students; addressing students' attitudes toward math, and providing through games, the engagement, representation and scaffolding students need as they move from concrete to abstract learning.

Animations
These animations address ratios, number lines, fractions, and more.

Atlantean Dodgeball   *Bad Date*   *Number Rights*
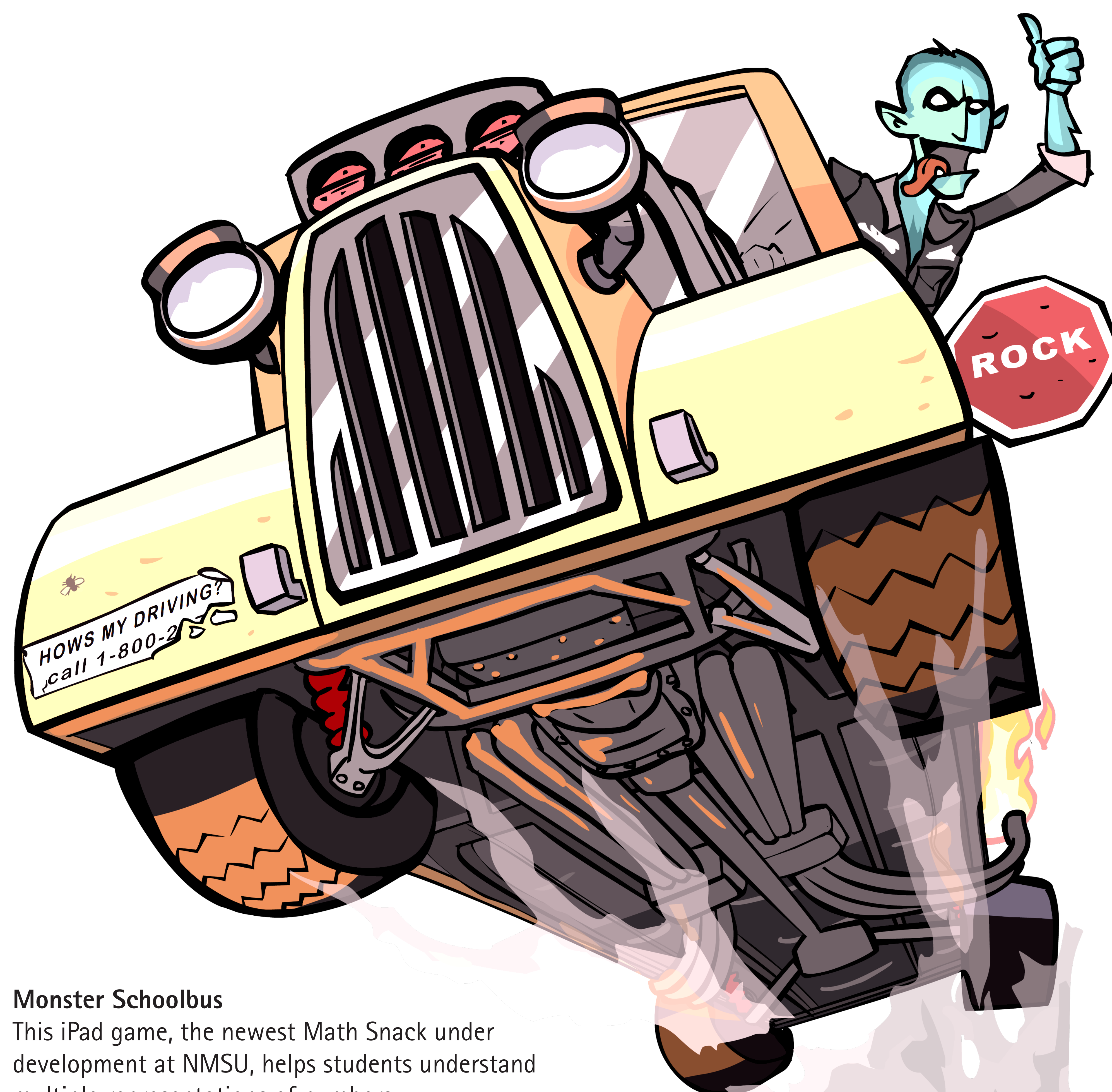
Overruled!   *Scale Ella*

Games
This game addresses fractions, decimals, and negative numbers on the number line.

Pearl Diver is available for play on iPhone,® iPod touch,® iPad,™ and computer.

MATH SNACKS

www.mathsnacks.org
Addressing Gaps in Conceptual Mathematics Understanding with Innovative Media

Monster Schoolbus
This iPad game, the newest Math Snack under development at NMSU, helps students understand multiple representations of numbers.

Developing

Engaging Games and Animations

Developers at NMSU's Learning Games Lab are working with researchers to create innovative, engaging media that address the established gaps in mathematical understanding. Building on pilot animations and previously developed mini-games, the team is creating new tools for use on the Web and mobile devices. The iterative instructional design process integrates research, best practices in educational game development, and extensive user testing with students and teachers throughout the project.

- Targets math learners grades 6–8

- Classroom and informal use

Math Snacks Website
(www.mathsnacks.org)
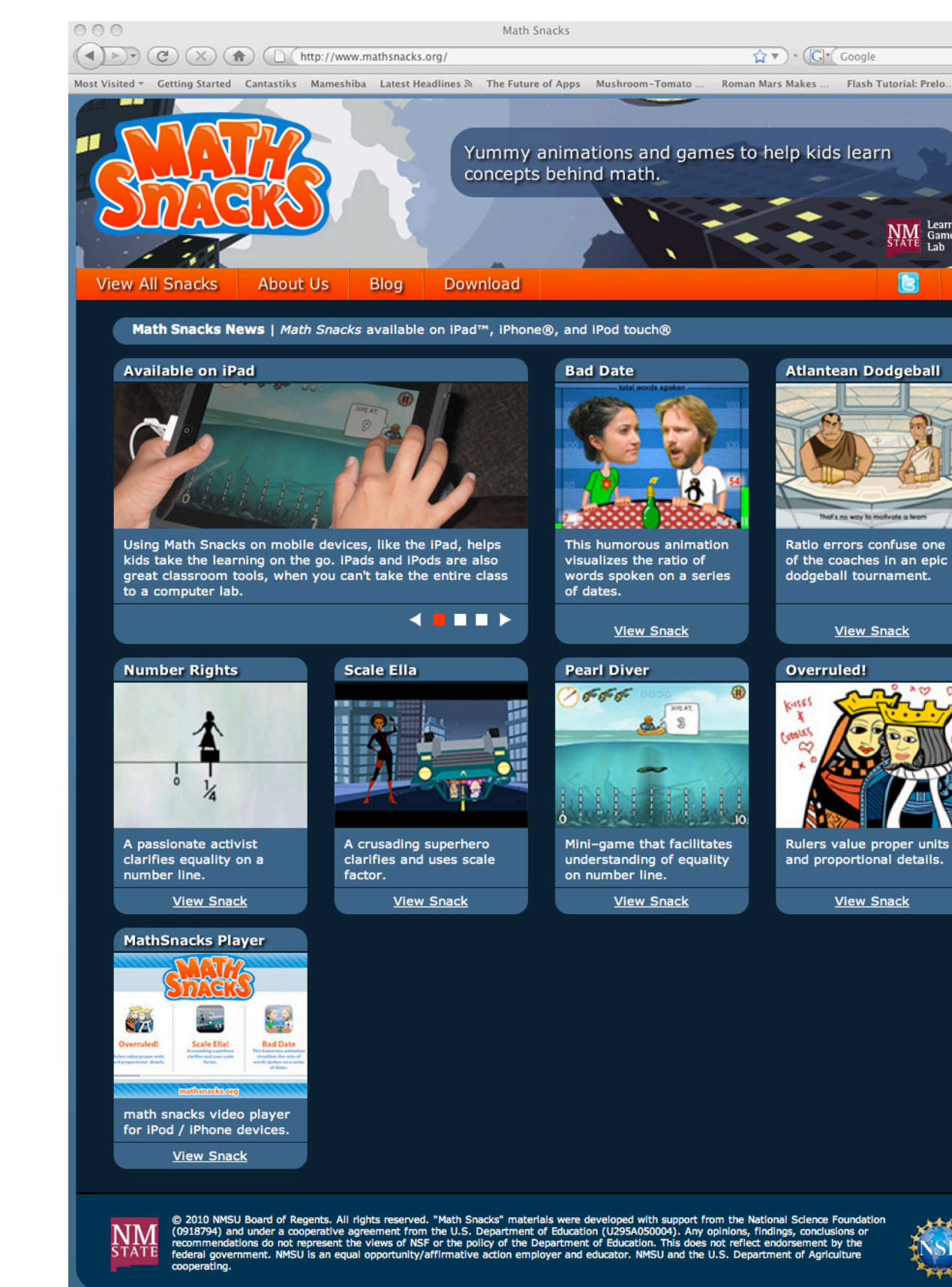
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NM STATE UNIVERSITY — Learning Games Lab   NSF