



# RADIX ENDEAVOR PILOT STUDY



## What is the Radix Endeavor?

The Radix Endeavor is an online multiplayer game targeted at improving math and science understanding and engagement in high school students. Players learn concepts as they explore a robust virtual world, make discoveries about how the world works, and complete narrative-driven quests, or in-game tasks.

## Content

All game content is aligned with national standards. Our curriculum materials outline what standards are linked with particular quests. Players practice problem-solving skills, develop content knowledge, and collaborate with other players to progress through the game.

### Biology

Game content in biology is aligned with the Next Generation Science Standards and covers genetics, ecology, evolution and human body systems.

### Math

Game content in math is aligned with the Common Core State Standards and covers basic algebra, geometry, probability and statistics.

## Formative Assessments

As students play, a game-based assessment system collects data on student actions in order to provide real-time feedback to players to improve learning. This data is also presented to teachers in a dashboard that allows them to keep track of student quest progress at an individual and class level.

## What is the Research Study About?

We have designed and developed a new style of educational STEM game. We are conducting this pilot study to research the effectiveness of this type of intervention, and the feasibility of the implementation model. These areas include student engagement, content gains, 21<sup>st</sup> century skill, and more.

## Timeline for the Pilot Study

- The pilot begins in September 2013 and continues through June 2014.
- There will be one release of the game in September 2013 and a second release with additional content in late December 2013.

## Who should Participate

High school biology and math teachers, and their students.

## Classroom Implementation

We encourage teachers to assign Radix game play outside of classroom time which allows students to go at their own pace as they explore the world. Teachers using this model can utilize the bridge curriculum to make connections to topics already being covered in class. Teachers may also elect to do game play during class time if they wish.

## Time Commitment

- Teachers can choose a level of time commitment that suits them. Here are three suggested options and we welcome teachers to use combination of them. *Class period times are estimates and assume that a teacher is assigning game play during class time.*

<b>Low Time Commitment</b> 2 – 4 class periods	<b>Medium Time Commitment</b> 3 - 6 class periods	<b>High Time Commitment</b> 10+ class periods
For each unit covered in the game, assign one quest from that topic quest line	Use all quests in a particular topic area quest line	Use multiple quests in multiple lines
Ex: A geometry teacher would use one quest from topic lines on congruent triangles, scale models and area/perimeter	Ex: A biology teacher would use all of the quests in the genetics quest line	Ex: A biology teacher would use multiple quests from genetics, evolution, ecosystems and human body systems

- In addition, once a semester (December and June) we will ask teachers to fill out a 30-minute survey asking about how they are using Radix in the classroom.
- \*\* Participation in the formal research study requires teachers to implement either the Medium or High time commitment as well as having student take pre and post surveys for quest lines used \*\*

## Teacher Support

- Professional development sessions will be held in August and January. For both dates we will host one session at MIT and one session on the west coast (exact location TBD).
- The Radix website will provide:
  - Teacher resources
  - Answers to FAQs
  - Forums for teachers to interact with other teachers
- Newsletters and webinars will be publicized throughout the study.

## Technical Requirements

- Web-based game – no downloads necessary
- Adobe Flash version 11.2 or higher, in any browser
- MacOS 10.6 or higher OR Windows XP or higher
- Not designed for use on iPads

## Registering for the Pilot

- Sign up for the newsletter at [radixendeavor.org](http://radixendeavor.org).
- When the game site is ready, you will be notified that you can create your account.
- Teachers will be able to create accounts for students at the end of the summer.

## Contact

For specific questions about participating in the Radix Pilot and what it entails, email [sgmesser@mit.edu](mailto:sgmesser@mit.edu).