# SimScientists Games

Development of Simulation-Based Game Designs to Enhance Formative Assessment and Deep Science Learning in Middle School

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## www.simscientists.org

### CURRICULUM EMBEDDED ASSESSMENTS AND PROGRESS REPORTS



### SIMSCIENTISTS CURRICULUM INTEGRATION

DIFFERENTIATED CHALLENGE ACTIVITIES in SIMSCIENTISTS GAMES

### SUMMATIVE ASSESSMENT AND REPORT



**What are SimScientists Games?**

Academic games that engage students in differentiated challenge activities within simulated science systems

SimScientists Games reinforce, extend, and assess the science practices and core ideas taught in a middle school ecosystems curriculum unit.

## Project Goals

- Create games that assess and promote student learning
- Document effectiveness, feasibility, and utility
- Explore potential to measure and support collaboration
- Document design principles for additional science systems

## Research Design

*Game Development (2015–16)*

- Design and develop two 45-minute games
- Alignment to learning performances and assessment targets
- Play testing, focus groups, think-aloud studies; revisions

*Feasibility Testing (2016–17)*

- Integrate into instruction in the classrooms of six teachers

*Pilot Testing (2017–19)*

- Two rounds of revision and subsequent pilot testing
- Comparison group using SimScientists without the games