imagine robotify®

# Imagine Robotify® Logic Model

Imagine Robotify is an elementary and beyond browser-based robotics and computer science learning program. Students learn to code by programming virtual robots with over 1,000 different coding activities and games.

This logic model provides a conceptual framework of how Imagine Robotify is intended to work. It shows what is required to make it effective and the outcomes that teachers can expect students to achieve.

## Program Inputs

### IMAGINE ROBOTIFY

- Engaging content and courses that include trackable student-created daily and weekly goals
- Curriculum that meets many STEM or coding learning standards
- Program design that supports the development of creativity, communication, critical thinking, and collaboration skills (Four Cs of STEM)
- Teacher curriculum maps, lesson plans, slides, summaries, worksheets, offline lessons, project resources, assessments, and rubrics for assessments
- Reporting on student use (tasks attempted, tasks completed, active time, projects created, and lessons completed)
- Student-facing worksheets, offline lessons, and slides
- Courses, challenges, assignments, instructional videos, practice activities, simulations, projects, competitions, and alternative assessments

### IMAGINE LEARNING

- Onboarding and implementation support
- Professional development and coaching for teachers and administrators
- Flexible implementation models for content delivery
- Customer support to troubleshoot immediate issues

### DISTRICT

- Networked computers with proper memory, media appliances, and headsets
- Adequate classroom or lab space
- Online access to Imagine Robotify and enough bandwidth to support use
- School implementation plan

## Classroom Activities

### STUDENT ACTIVITIES

- Students engage in the following activities: courses, lessons, challenges, and assignments
  - 45–90 minutes per week for elementary grades
  - 60–120 minutes per week for secondary grades
- Students monitor progress against goals weekly
- Students use algorithms and bring together other learned skills to solve assigned challenges
- Students work together on how to solve problems presented in challenges or projects
- Students create or participate in projects (based on teacher assignment)
- Students compete and communicate with each other in friendly competitions (based on teacher assignment)

### TEACHER ACTIVITIES

- Teachers attend appropriate number of professional development sessions for implementation success
- Teachers set up and assign students to their classrooms
- Teachers plan weekly using teacher resources (lesson plan, summary, slides, worksheets, and curriculum map)
- Teachers implement lessons, courses, challenges, projects and competitions based on time suggested for grade bands
- Teachers tailor instruction to the student by monitoring student usage and student performance reports weekly and monthly

## Outputs

### STUDENT OUTPUTS

- Students progressed through content or skills and student-created daily and weekly goals
- Students made consistent progress in courses, lessons, and challenges (demonstrated progress utilizing the student progress bar)
- If assigned by a teacher, students completed projects
- If assigned by a teacher, students participated in competitions

### TEACHER OUTPUTS

- Teachers completed professional development sessions and felt prepared to support student learning in computer science and coding
- Teachers' classrooms met their lesson plan goals of completing courses, challenges, projects, and competitions
- Teachers accessed progress reports at least once per week
- Teachers monitored student performance and helped students where they were struggling

## Outcomes

### SHORT-TERM OUTCOMES

- Improved proficiency in computer science standards
- Improved creativity, communication, critical thinking, and collaboration skills
- Proficiency in basic programming skills using loops, variables, functions, and algorithms
- Proficiency in basic robotics programming skills including movement, sensor, and controls
- Improved programmatic thinking in iterative design, storyboarding, and code review

### LONG-TERM OUTCOMES

- Increased interest in programming and robotics career fields
- Develop students' Four Cs of STEM for college and career readiness
- Increased enrollment in computer science-related education/career paths
- Improved readiness for more advanced studies in computer science or robotics
- Improved performance in subsequent STEM courses

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imaginelearning.com/imagine-robotify
877-725-4257 • solutions@imaginelearning.com

1485511452 2409