

Fact Sheet

1. The RealWorld-InWorld (RWIW) NASA Engineering Design Challenge guides students through the design engineering process to solve real-world challenges related to the James Webb Space Telescope.
2. The Challenge is a joint education initiative of NASA Langley Research Center and Goddard Space Flight Center in collaboration with the National Institute of Aerospace (NIA), USA TODAY Education, and LearnIT-TeachIT.
3. RWIW consists of two components or phases of project-based learning: a RealWorld (face-to-face) and an InWorld (virtual) phase.

Phase 1 (RealWorld): Teachers/coaches and high-school-aged students develop physical models and solutions to one of two real-world challenges related to the Webb telescope.

Phase 2 (InWorld): Teams of 3-5 high-school-aged students and their teacher/coach may expand to include university engineering students who serve as leaders for each InWorld team. Engineering experts join each team as mentors. In this multi-user virtual environment, teams transform ideas from Phase 1 (RealWorld) into 3D virtual models of the Webb telescope using 21st Century tools and skills. Webb engineers will visit to “chat” throughout Phase 2, the InWorld Challenge.

4. The Webb telescope is the premier space observatory of the next decade and is scheduled to launch in 2014. Several advanced technologies have been developed for it. These technologies serve as the basis for student exploration during the Challenge.
5. The Challenge is appropriate for high-school-aged students (grades 9-12).
6. The RealWorld phase of the competition requires minimal commitment and can be completed in roughly two weeks by a teacher/coach and a group of high-school-aged students. The InWorld phase of the competition requires InWorld team collaboration that will run from January to April 2011. A timeline helps pace this work (visit www.nasarealworldinworld.org/Timeline.aspx).
7. RealWorld teams are encouraged to submit their solutions by **January 15, 2011**, and to consider applying for the Challenge’s InWorld (virtual) phase. **Note:** Moving to Phase 2 (InWorld) and access to the virtual InWorld requires selection by college team leaders. This match will be supervised by NIA. Participation in the InWorld (Phase 2) component is limited to U.S. citizens.
8. The RealWorld and InWorld resources and tutorials are **free** and flexible to implement. The RealWorld resources can be used as a stand-alone unit or as a supplement to existing standards-based curriculum. Teachers/coaches can register online for **free** to receive these resources.
9. The **Basic Registration** offers teachers/coaches access to both RealWorld and InWorld resources. By completing **Advanced Registration**, teachers/coaches may submit images of their students’ final RealWorld project solutions. These designs will be showcased in the Student Gallery and all teams (participants) will receive recognition for their work. Students moving InWorld (Phase 2) will compete for scholarships and technology awards. Based upon evaluation of two projects, the top five InWorld teams will present their ideas during a synchronous education forum held April 14, 2011, 3:30-5:30 p.m. ET.
10. The main goal is to encourage students to explore and build skills essential for successful careers in science, technology, engineering, and math (STEM). By later working collaboratively with university students, engineering professionals, and Webb telescope engineers, students will also deepen their understanding of project management and NASA innovation.



Visit www.nasarealworldinworld.org for to obtain more information or to register.