

# REALWORLD-INWORLD

## NASA Engineering Design Challenge

**"This challenge solidified my choice to pursue a career in mechanical engineering."** --Jill Friese, Houston, TX

1. The RealWorld-InWorld (RWIW) NASA Engineering Design Challenge guides students through the design engineering process to explore and design solutions for NASA real-world challenges.
2. The challenge is a joint 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** (unique online virtual reality) phase.

**RealWorld:** Teams of middle- and high-school-aged students with support of their teachers/coaches/parents explore and design solutions related to the James Webb Space Telescope and Robonaut 2.

- **RealWorld Phase begins:** September 1, 2011.
- **RealWorld Phase ends: January 27, 2012.** To be considered to move to the InWorld phase, all RealWorld work must be submitted by this deadline.
- **Recognition:** Submitted final project solutions will be featured on the RealWorld-InWorld website and teams will receive recognition for their work once they complete the RealWorld challenge and InWorld registration. Names of teachers/coaches/parents who register their teams will be entered into a monthly drawing for \$100 gift certificates.

**InWorld:** Participating college students select teams of 2-4 middle- and high-school-aged students who have completed the RealWorld phase to build their InWorld teams. Teams work in a virtual online environment using 21st Century tools to refine designs and to create 3D models of their design solutions.

- **InWorld Phase begins:** January 28, 2012. The InWorld phase of the competition requires InWorld team collaboration that will run from January to April 2012. An online timeline helps pace this work.
  - **InWorld Phase ends: April 20, 2012.**
  - **Recognition:** InWorld teams will compete for cash awards (\$1,000 per member, including team leader, for each winning team). Contest rules apply.
- ▶ NASA scientists and engineers visit and "chat" virtually throughout both phases of the Challenge.
4. RWIW encourages students to explore and build skills essential for successful careers in science, technology, engineering, and math (STEM). By later working collaboratively with university students, students will also deepen their understanding of project management and NASA innovation.
  5. The challenge is appropriate for middle- and high-school-aged students (grades 7-12).
    - ▶ Students from informal (home school, scouting troops, etc.) settings are eligible to participate.
  6. RWIW is suited for science, technology, engineering, math, computer science, technology education, and information technology courses.
  7. RWIW's time frame and resources are **flexible**:
    - ▶ The RealWorld phase requires **minimal** teacher/coach/parent preparation and can be completed in about two weeks by teams.
    - ▶ RealWorld resources can be used as a stand-alone unit or as a supplement to existing standards-based curriculum.
    - ▶ Online tutorials guide teams to successful completion of the challenge.
    - ▶ Free webinars will be scheduled to help answer participants' questions related to implementation.
  8. Standards-based resources and tutorials are **free** by registering online.



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