Appendix 11: Student Summer Activities Implementation Form

OMB Control No. xxxx-xxxx
Approval expires xx/xx/xxxx

National Aeronautics and Space Administration

www.nasa.gov

Summer of Innovation Student Summer Implementation Form

The National Aeronautics and Space Administration (NASA) is conducting a national evaluation of its Summer of Innovation (SoI) Program. Abt Associates Inc. and its partner the Education Development Center have been hired to conduct this study. The goal is to explore how SoI is being implemented and assess the outcomes related to the implementation of SoI across the country.

All SoI awardees are required to submit this implementation form for each camp (i.e., set of activities that take place in a specific location like a school or community center). It is intended to be filled out by the site coordinator or lead instructor of each camp. This implementation form will help NASA understand your accomplishments with students this summer. It asks for information regarding the site, class, content, student attendance, and the provider of the activities. We estimate that it will take approximately 10 minutes to complete. Please complete this form and submit within two weeks of the end of each class of every camp.

If you have questions about this evaluation, please contact the evaluation director, Hilary Rhodes of Abt Associates Inc. at (877) 520-6840 (toll-free) or send an email to NASASummerofInnovation@abtassoc.com.

A. Site / Camp Information

Site Name (e.g., name of school, community learning center, YMCA)	
Program / Camp Name (if different than above)	

Start date	**Calendar icon**
End date	**Calendar icon**
Total number of days	***Limit to numeric characters (max 3 values)***

Total Number of Contact Hours	***Limit to numeric characters (max 3 values)***
a) Total Number of Hours Focused on NASA SoI Content	***Limit to numeric characters (max 3 values)***
b) Total Number of Hours Focused on Other STEM Content (non-NASA)	***Limit to numeric characters (max 3 values)***

Which of the following best describes how students experienced SoI at this site? Check one.

Students at this site experienced SoI through…

- ❑ A stand-alone program/camp developed specifically for SoI
- ❑ An existing summer program/camp where NASA content is integrated into that program/camp's curriculum
- ❑ Other, please specify:_____

Programming note: If existing program, continue. If stand-alone or other, skip to section "all".

Does this existing program/camp receive funding from any of the following federal or state-wide grant programs?

- ❑ 21st Century Community Learning Centers
- ❑ Federal TRIO programs (e.g., Upward Bound, Talent Search)
- ❑ GEAR-UP program
- ❑ Other, please specify:_____

What type of existing program/camp was SoI integrated into? Check one.

- ❑ Summer school
- ❑ University-affiliated outreach program
- ❑ Local nonprofit, community, or faith-based program
- ❑ Other, please specify:_____

Is the focus of the program/camp curriculum primarily science, technology, engineering, and/or mathematics (STEM) subject matter? Check one.

- ❑ Yes
- ❑ No

Programming note: ALL section

B. Content Information

Below is a list of the NASA units that were identified for SoI. Please indicate which ones were used during this program/camp. Check all that apply.

Earth & Space Science

- ❑ Climate and Seasons IF SELECTED, ASK:

  Which *Climate and Seasons* lessons were presented? *Specific activities associated with each lesson are italicized.* Select one or more.

  - ❑ Climate (*Globe Soil Learning Activities: Soil Temperature; How Does Earth's Energy Budget Relate to Polar Ice?; Surface Color and Effect on Temperature Change; What is the Right Answer?)*
  - ❑ Seasons (*Habits of the Mind; Is Grandpa Right, Were Winters Colder When He was a Boy?; Kinesthetic Astronomy; Seasonal Change on Land and Water)*
  - ❑ Other, please specify

- ❑ Destination Mars (*Can We Take it with Us?; Mars Bound)*

- ❑ Earth Moon System IF SELECTED, ASK:

  Which *Earth Moon System* lessons were presented? *Specific activities associated with each lesson are italicized.* Select one or more.

  - ❑ Earth's Attic: The Moon (*Lava Layering; Moon Math: Craters!; Reaping Rocks; Regolith Formation)*
  - ❑ The Sky is Falling (*Finding Impact Craters; Falling the Falling Meteorite; Lava Layering; Searching for Meteorites; Space Rocks! A Meteorite Game)*
  - ❑ Other, please specify

- ❑ Planetology IF SELECTED, ASK:

Which *Planetology* lessons were presented? *Specific activities associated with each lesson are italicized*. Select one or more.

- ❑ Earth: A One of a Kind Planet? (*Assessing Planets as Candidates for Life; Astro-Venture: Search for and Design a Habitable Planet!); Mars and Earth Physical Comparison)*
- ❑ Finding Earth-like Planets (*Count Your Lucky Stars, Detecting Planet Transits; Paint by Numbers)*
- ❑ How Does Earth Compare? (*Earth, Moon, Mars Balloons Activity; Exploring Planet Sizes; Solar System Missions; Walking the Planet Distances)*
- ❑ Other, please specify

❑ Remote Sensing IF SELECTED, ASK:

Which *Remote Sensing* lessons were presented? Select one or more.

- ❑ A World of Change (*Paint by Numbers; Quantifying Changes in the Land Over Time)*
- ❑ Earth Versus Mars (*What Similar Physical Processes Occur on Both Earth and Mars; Charting the Physical Characteristics of Both Earth and Mars)*
- ❑ Finding Impact Craters
- ❑ Finding Water Systems (*Hydrology Investigation: Model a Catchment Basin)*
- ❑ Other, please specify

❑ Universe IF SELECTED, ASK:

Which *Universe* lessons were presented? Select one or more.

- ❑ Is It Safe? (*Astroventure Geology Mission; Space Weather Action Centers)*
- ❑ Points of Light (*Counting Your Lucky Stars; Hubble Deep Field Academy; Light Pollution Star Count; Stories in the Sky)*
- ❑ What's in the Stars? (*Cycles in the Cards; Elements and You; What's Out There)*
- ❑ Other, please specify

❑ Weather IF SELECTED, ASK:

Which *Weather* lessons were presented? Select one or more.

- ❑ Air has Weight and Temperature Affects it? (*Does Air Have Weight? How Do You Know?; Can You Show That Temperature of Air Has an Effect on Its Weight and Its Weight and Direction of Vertical Movement?)*
- ❑ Moisture and Clouds (*Does Cloud Type Affect Rainfall?; How Much Water is Available in the Atmosphere for Precipitation?)*

- ❑ What Influences Planetary Weather (*Coriolis Effect; Atmospheric Science, Geology, and Design a Planet)*
- ❑ Other, please specify

❑ Year of the Solar System IF SELECTED, ASK:

Which *Year of the Solar System* lessons were presented? Select one or more.

- ❑ Comet on a Stick
- ❑ Make a Comet and Eat it
- ❑ Scale Models of the Solar System (*Exploring Planet Sizes; Walking Planet Distances; Solar Pizza)*
- ❑ Solar System Missions
- ❑ Solar System Simulator (*Solar Pizza; The Schoolyard Solar System)*
- ❑ Space Rocks! A Giant Meteorite Board Game (*Space Rocks! A Meteorite Game)*
- ❑ Vegetable Light Curves
- ❑ Where Do We Choose to Live and Why? (*United States at Night)*
- ❑ Other, please specify

Life Science units

❑ Body IF SELECTED, ASK:

Which *Body* lessons were presented? Select one or more.

- ❑ Brain in Space (*Find Your Way Around Without Visual or Sound Cues; How Quick are Your Reflexes?; Vestibular-Ocular Reflex; Visualizing How the Vestibular System Works)*
- ❑ Space Adaptations (*Bag of Bones; Get a Leg Up; Hole-y-Bones; O2-How Much?; Vomit Comet)*
- ❑ Train Like an Astronaut (*Base Station Walk-Back; Crew Strength Training; Do a Spacewalk!; Jump for the Moon; Mission: Control!)*
- ❑ Other, please specify

❑ Food (*Food Preparation for Space; Food Selection; How Much is Waste?; Mold Growth; Planning and Serving Food; Ripening Fruits and Vegetables)*

❑ Life Out There? IF SELECTED, ASK:

Which *Life Out There* lessons were presented? Select one or more.

- ❑ Astrobiology: Life Here and Out There (*Are Microbes Alive? Could Life Exist in Other Places in the Solar System; Do You*

Think Aliens Exist?; Do the Mystery Samples Contain Life?; Is it Living; Now What Do You Think About the Possibility of the Life in the Universe; What Does Life Need?; Where Does Life Live?)

- ❑ Habitable Zones (*Astrobiology in Your Classroom: Life on Earth… and Elsewhere?; Fingerprints of Life; Sun's Habitable Zone)*
- ❑ Search for Life On Other Worlds: Observing and Classifying Life (*Animal Antics; Are Two Eyes Better Than One?; Creature Feature)*
- ❑ Search for Life on Other Worlds: What is Life and What Does it Need to Live?
- ❑ Shapes and Food Chains (*Chain Games; Supporting Structures; Weighty Questions)*
- ❑ Other, please specify

❑ Plants IF SELECTED, ASK:

Which *Plants* lessons were presented? Select one or more.

- ❑ Have Seed Will Travel
- ❑ How do Plants Know Which Way to Grow? Tropisms (*Space Garden)*
- ❑ Light Effects On Plant Behavior (*Can Photosynthesis Occur on Saturn?; Phototropism: Do Plants Prefer the Blues?; Phototropism: How Little Light Will Bend a Seedling?)*
- ❑ Living Clocks (*Plant Leaf Movement)*
- ❑ Other, please specify

❑ Survival IF SELECTED, ASK:

Which *Survival* lessons were presented? Select one or more.

- ❑ Cool Spacesuits (*Cool Suits; Keeping Your Cool)*
- ❑ Field Trip to the Moon (*Ecosystem Investigation; Engineering Investigation; Geology Investigation; Habitation Investigation; Medical Investigation; Navigation Investigation)*
- ❑ Survivor: The Space Environment (*Chain Reaction; Exploration Then and Now – Human Needs; Modeling Radiation-Damaged DNA; Solar Radiation and SPF Levels)*
- ❑ Other, please specify

Physical Science and/or Engineering units

❑ Aeronautics IF SELECTED, ASK:

Which *Aeronautics* lessons were presented? *Specific activities associated with each lesson are italicized.* Select one or more.

- ❑ Air Foils (*The NASA Why Files: The Case of the Challenging Flight)*
- ❑ Bag Balloons
- ❑ Beginners Guide to Aeronautics (*Aerodynamics of Baseball / Soccer)*
- ❑ Bernoulli and More Bernoulli (*The NASA Why Files: The Case of the Challenging Flight)*
- ❑ Controlling the Plane (*The Straw Plane Experiment 1-4)*
- ❑ Designing Aircraft in 5 Easy Steps: It's a Challenge! (*The Design Center*, *The Design Laboratory*, *The Poster Activity)*
- ❑ Fluttering Fun, Point of Balance (*The NASA Why Files: The Case of the Challenging Flight)*
- ❑ Four Forces of Flight (*The NASA Why Files: The Case of the Challenging Flight)*
- ❑ Getting off the Ground into the Smart Skies (*LineUp with Math Educator Guide)*
- ❑ Getting the Drop on Flight with the "X" Planes (*Constructing and Testing the Ring Wing Glider*, *Constructing the X-33*)
- ❑ Jet Propulsion
- ❑ Learning the "Wright" Way to Fly! (*Engineering the Sled Kite*, *NASA Connect: the "Wright" Math)*
- ❑ Other, please specify

❑ Challenges IF SELECTED, ASK:

Which *Challenges* lessons were presented? Select one or more.

- ❑ Electrodynamic Propulsion
- ❑ On Target Challenge
- ❑ Spacecraft Structures
- ❑ Thermal Protection Systems Challenge
- ❑ Touchdown Challenge
- ❑ Other, please specify

❑ Design Process IF SELECTED, ASK:

Which *Design Process* lessons were presented? *Specific activities associated with each lesson are italicized.* Select one or more.

- ❑ Build a Solar Oven
- ❑ Lunar Plant Growth Chamber
- ❑ Mars Pathfinder Egg Drop Challenge
- ❑ Project X51 Water Rocket Construction (Rocket Activity Project X-51)
- ❑ Spaghetti Anyone? Building with Pasta (*NASA "Why?" Files: The Case of the "Wright Invention"*)

- ❑ Space Place: Make a Balloon Powered Nanorover (*Build a Nanorover; Be Glad You're Not a Cyclops1; Marsdial: Show Me the Way to Go Home*)
- ❑ Student Glovebox: Droplet Investigation of Liquids
- ❑ Water Filtration System
- ❑ Other, please specify

❑ Exploration IF SELECTED, ASK:

Which *Exploration* lessons were presented? Select one or more.

- ❑ Crew Exploration Unit
- ❑ Landing a Rover
- ❑ Moon Rovers
- ❑ NASA Simulations
- ❑ Other, please specify

❑ Forces and Motion IF SELECTED, ASK:

Which *Force and Motion* lessons were presented? *Specific activities associated with each lesson are italicized.* Select one or more.

- ❑ Danger: Space Debris (*Aerogel-lo: Technology for Studying Comets, Collision; Potato Astronaut – Exploration Brief: Micrometeoroids and Space Debris)*
- ❑ Inertia and Friction (*Newton Car; Racing Against Friction)*
- ❑ Thrust, Air Pressure, Rockets and Newton's Third Law (*Balloon Staging; Pop Can Hero Engine; Rocket Pinwheel; Rocket Races)*
- ❑ What Goes Up… Must Come Down: Projectile Flight (*3…2…1 Puff!; Accelerometers; Foam Rocket; Pop! Rockets)*
- ❑ Other, please specify

❑ Gravity IF SELECTED, ASK:

Which *Gravity* lessons were presented? *Specific activities associated with each lesson are italicized.* Select one or more.

- ❑ Fighting Gravity – A Matter of Balance (*Fluttering Fun; Point of Balance; Heavy Lifting)*
- ❑ Gravity Games
- ❑ Heavy Duty Topics (*Falling Weight Apparatus; Inertial Balance; Mass vs Weight; Pendulums)*
- ❑ Other, please specify

❑ Properties of Matter IF SELECTED, ASK:

Which *Properties of Matter* lessons were presented? *Specific activities associated with each lesson are italicized.* Select one or more.

- ❑ Composite Materials (*Museum in a Box)*

- ❑ Nature of Salt
- ❑ Reaction Rates (*Antacid Tablet Race*)
- ❑ Space Weather (*Build a Magentometer; Radiation Exposure on Earth; Space Weather Action Center; What's Hidden Inside?)*
- ❑ States of Matter (*3-2-1 Pop!*, *Heat as the Agent of Change: Atoms and Molecules in Motion; Liquid Rainbow; Potato Float)*
- ❑ Student Glovebox
- ❑ Other, please specify

❑ Robotics IF SELECTED, ASK:

Which *Robotics* lessons were presented? Select one or more.

- ❑ Heavy Lifter
- ❑ Robotics: Hands Down!
- ❑ Using Robotics
- ❑ Other, please specify

❑ Rocketry IF SELECTED, ASK:

Which *Rocketry* lessons were presented? *Specific activities associated with each lesson are italicized*. Select one or more.

- ❑ Heavy Lifting Air Engines (*Air Engines; Heavy Lifting; Vectoring*)
- ❑ Nose Cone Aerodynamics (*Adventures in Rocket Science*)
- ❑ Ride the Wind: Compressed Air Rocketry (*High-Powered Paper Rockets; Pop! Rockets*)
- ❑ Other, please specify

❑ Waves and Optics IF SELECTED, ASK:

Which *Waves and Optics* lessons were presented? Select one or more.

- ❑ Making Use of the Electromagnetic Spectrum (*Amazing Rays, Investigating Ice Worlds)*
- ❑ Manipulating Waves (*Exploring Diffraction with a Spectroscope/Constructing a Spectroscope; Simple Magnifiers; Space Operations Learning Center)*
- ❑ Wave Measurements (*Intro to the Electromagnetic Spectrum; Red Shift, Blue Shift; Simple Spectroscope; Wavelength and Energy; What's the Frequency, Roy G Biv?)*
- ❑ Other, please specify

Please provide any additional NASA content and/or activities that you used during this program/camp.

C. Additional Activities

Did students participate in any of the following field trips or special events during the program/camp? Check all that apply.

- ❑ Attended a rocket or space shuttle launch event
- ❑ Participated in a live video downlink event from the International Space Station or Space Shuttle
- ❑ Toured a NASA Center or facility
- ❑ Visited a science museum, science center, or planetarium
- ❑ Visit from a NASA astronaut or other NASA subject matter expert
- ❑ Other, please specify
- ❑ Students did not participate in any field trips or special events

D. Student Attendance

Total number of students who attended the program/camp	_____ ***students***
What was the average daily attendance for the program/camp? **Note: Please follow these steps to calculate the average daily attendance rate:** **1) At the end of each day, determine the number of different participants who attended** **2) At the end of the program/camp, add the daily attendance totals.** **3) To determine the ADA, divide the total monthly attendance by the number of serving days in the program/camp**	_____ ***students*** ***Limit to numeric characters (max 3 values)***

Did any students drop out or stop attending the program/camp?

- ❑ Yes
- ❑ No

Programming note: If yes, students dropped out or stopped attending, continue. If no or don't know, skip to Section E.

What percent of students dropped out or stopped attending? ***Enter a percent (e.g., 5)***	_____***%*** ***Limit to numeric characters (max 3 values)***

Why did students drop out or stop attending the program/camp? Check all that apply.

- ❑ Scheduling conflict
- ❑ Dismissed because of behavioral issues
- ❑ Got sick
- ❑ Lack of interest
- ❑ Other, please specify:_____
- ❑ Don't know

E. Educators who led the program/camp

Total number of educators who worked with students using NASA SoI content and activities	***Limit to numeric characters (max 3 values)***
a) How many are K-12 classroom teachers?	***Limit to numeric characters (max 3 values)***
b) How many are K-12 informal educators? (e.g., community learning center educator)	***Limit to numeric characters (max 3 values)***
c) How many are university faculty or staff?	***Limit to numeric characters (max 3 values)***
d) How many are pre-service teachers?	***Limit to numeric characters (max 3 values)***
e) How many are Americorps volunteers?	***Limit to numeric characters (max 3 values)***
f) How many are other types of educators? Please specify: _____	***Limit to numeric characters (max 3 values)***

Display note: "Number of individuals entered for Items A-F should equal Total number of educators who worked with students using NASA SoI content and activities"

Did the educators who worked with students using NASA SoI content and activities participate in professional development training before the start of the program/camp?

- ❑ Yes
- ❑ No

Programming note: If yes, continue. If no, skip to All section.

What percent of the educators participated in professional development training before the start of the program/camp?

What percent of the educators participated in professional development training before the start of the program/camp? ***Enter a percent (e.g., 90)***	_____*%* ***Limit to numeric characters (max 3 values)***

Programming note: All section

Please provide any additional information you would like to share with us about the NASA SoI activities at your site.
