Appendix 10: Implementation Form for Student School-Year Activities

Summer of Innovation Student School-Year 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.

This form is intended to document the implementation of the SoI student school-year activities across the awardee sites. All SoI awarded PIs are required to designate an individual(s) to complete this form at the end of any SoI student activities/sessions that occur between the months of September and March. This form is to be submitted to the national evaluation team within two weeks of the last day of EACH school-year activity/session.

You have been asked to complete this form based on your role in the SoI student school-year activities/sessions. Completing this form will help NASA understand awardees' efforts with students during the school year. We estimate that it will take approximately 10 minutes to complete this form.

Privacy and Participation
Your participation in the study is voluntary and nonparticipation will have no impact on you or your SoI awardee organization. Your responses to this survey will be protected under the Privacy Act. There is minimal risk of breach of confidentiality, and we have put in place procedures to minimize this risk. You will never be identified by name, and information from the evaluation will only be reported in the aggregate.

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. You may also contact the evaluation's program officer at NASA Brian Yoder (Brian.Yoder@nasa.gov).

A. Activity Information

Start date of activity:	
End date of activity:	
Total contact hours:	
Total number of hours focused on NASA content:	

B. Content Information

1. Which of the following SoI content themes spanning across all areas of NASA expertise was addressed during this school-year event? Check one or more.
    - ❑ Engineering **[IF SELECTED, ASK QUESTIONS 2a-f]**
    - ❑ Life Science **[IF SELECTED, ASK QUESTIONS 3g-k]**
    - ❑ Earth Science **[IF SELECTED, ASK QUESTIONS 4l-s]**
    - ❑ Physical Science **[IF SELECTED, ASK QUESTIONS 5t-x]**

2. If this event focused on an engineering theme, which of the following SoI content topics was addressed? Check one or more.
    a) ___ Aeronautics
        - **[IF CHECKED, ASK]** Which of the following SoI content lessons was used? Check one or more.
            - ❑ What a Drag!
            - ❑ Future Flight Design
            - ❑ Lift Experiment
            - ❑ The Egg Drop Lander
            - ❑ Ring Wing Glider
            - ❑ Sled Kite
            - ❑ Future Flight Equation
            - ❑ Smart Skies
            - ❑ Connect the Wright Math
            - ❑ The X-Plane Generation
            - ❑ Rotor Motor
            - ❑ Space Shuttle Glider

    b) ___Rocketry
        - **[IF CHECKED, ASK]** Which of the following SoI content lessons was used? Check one or more.
            - ❑ Heavy Lifting
            - ❑ Air Engines
            - ❑ The Nose Cone Experts
            - ❑ Rocket Wind Tunnel Advanced High Power Paper Rockets
            - ❑ High Power Paper Rockets
            - ❑ Vectoring
            - ❑ Pop! Rockets Launcher Po! Rockets

    c) ___Robotics
        - **[IF CHECKED, ASK]** Which of the following SoI content lessons was used? Check one or more.
            - ❑ Robotic Arm
            - ❑ Hold Your Hand
            - ❑ Virtual Exploration
            - ❑ Out of Sight Remote Vehicle
            - ❑ ROVER Race

- ❑ Heavy Lifter

d) ___Exploration
- **[IF CHECKED, ASK]** Which of the following SoI content lessons was used? Check one or more.
  - ❑ Roving on the Moon
  - ❑ Design a Crew Exploration Vehicle
  - ❑ Design a Lunar Transport
  - ❑ NASA Simulations

e) ___Design & Process
- **[IF CHECKED, ASK]** Which of the following SoI content lessons was used? Check one or more.
  - ❑ Lunar Plant Growth Chamber
  - ❑ Mars Pathfinder Egg Drop
  - ❑ Lift Experiment
  - ❑ Beginning Engineering
  - ❑ Roving on the Moon
  - ❑ Design a Landing Pod
  - ❑ Water Rocket Construction
  - ❑ Science in a Box
  - ❑ Spaghetti Anyone?
  - ❑ Balloon Powered Nanorover
  - ❑ Water Filtration
  - ❑ Design Transport Rover

f) ___Challenges
- **[IF CHECKED, ASK]** Which of the following SoI content lessons was used? Check one or more.
  - ❑ Electrodynamic Propulsion
  - ❑ Spacecraft Structures
  - ❑ Thermal Protection Systems
  - ❑ On the Moon Educator Guide
  - ❑ On the Moon: Touchdown

3. If this event focused on a life science theme, which of the following SoI content topics was addressed? Check one or more.

g) ___Body
- **[IF CHECKED, ASK]** Which of the following SoI content lessons was used? Check one or more.
  - ❑ Bag of Bones
  - ❑ Get a Leg Up
  - ❑ How much
  - ❑ Finding Your way Around
  - ❑ How Quick are Your Responses
  - ❑ Vomit or Mucus
  - ❑ Fit Explorers Challenge
  - ❑ Mystery Pathogen

- ❑ Vomit Comet
- ❑ How the Vestibular System Works
- ❑ Ocular Reflex

h) ___Food

- **[IF CHECKED, ASK]** Which of the following SoI content lessons was used? Check one or more.
  - ❑ Classifying Space Food
  - ❑ Food Preparation for Space
  - ❑ Exploration of Human Needs
  - ❑ How much is Waste?
  - ❑ Mold Growth Planning and Serving Food
  - ❑ Ripening Fruits and Vegetables

i) ___Life Out There?

- **[IF CHECKED, ASK]** Which of the following SoI content lessons was used? Check one or more.
  - ❑ Afterschool Astrobiology
  - ❑ Animal Antics
  - ❑ Astroventure Biology Mission
  - ❑ Are Two Eyes Better than One?
  - ❑ Chain Game
  - ❑ What Does Life Need to Live?
  - ❑ Creature Feature
  - ❑ It's Just Right
  - ❑ The Sun's Habitable Zone
  - ❑ The Shape of Things & From the Outside In
  - ❑ What Can Life tolerate
  - ❑ What is Life?

j) ___Plants

- **[IF CHECKED, ASK]** Which of the following SoI content lessons was used? Check one or more.
  - ❑ Follow the Water
  - ❑ Have Seed Will Travel
  - ❑ Living Clocks
  - ❑ Can Photosynthesis Occur on Saturn?
  - ❑ Do Plants Prefer the Blues?
  - ❑ How do Plants Know Which Way to Grow?
  - ❑ Phototropism

k) ___Survival

- **[IF CHECKED, ASK]** Which of the following SoI content lessons was used? Check one or more.
  - ❑ Animals in Space
  - ❑ Chain Reaction
  - ❑ Field Trip to the Moon
  - ❑ Keeping Your Cool

- ❑ Modeling Radiation-Damaged DNA
- ❑ Solar Radiation and SPF Levels
- ❑ Cool Suits

4. If this class focused on an earth and space science theme, which of the following SoI content topics was addressed? Check one or more.

l) ___Climate & Seasons

- **[IF CHECKED, ASK]** Which of the following SoI content lessons was used? Check one or more.
  - ❑ NASA Scifiles: the Case of the Ocean Odyssey
  - ❑ Habits of Mind
  - ❑ Seasonal Change on Land and Water
  - ❑ How Does the Earth's Energy Budget Relate to Polar Ice?
  - ❑ What is the Right Answer?
  - ❑ Hydrology Investigation: Catchment Basin
  - ❑ Kinesthetic Astronomy
  - ❑ Surface Color and Effect of Temp Change
  - ❑ Is Grandpa Right, Were Winters Colder When He Was A Boy?
  - ❑ Why Do We Study Soil?

m) ___Destination Mars

- **[IF CHECKED, ASK]** Which of the following SoI content lessons was used? Check one or more.
  - ❑ Can We Take it With Us
  - ❑ Drive the Mars Rover
  - ❑ Getting There
  - ❑ Mars Bound!

n) ___Earth Moon System

- **[IF CHECKED, ASK]** Which of the following SoI content lessons was used? Check one or more.
  - ❑ Moon Math: Craters!
  - ❑ Reaping Rocks
  - ❑ Regolith Formation
  - ❑ Earth, Moon, and Mars Balloons Activity
  - ❑ The Coriolis Effect
  - ❑ Where Do We Choose to Live and Why?

o) ___Planetology

- **[IF CHECKED, ASK]** Which of the following SoI content lessons was used? Check one or more.
  - ❑ Follow the Falling Meteorite
  - ❑ Searching for Meteorites
  - ❑ Lava Layering
  - ❑ Atmospheric, Geology and Design a Planet
  - ❑ What Makes a World Habitable

p) ___Remote Sensing
- **[IF CHECKED, ASK]** Which of the following SoI content lessons was used? Check one or more.
  - ❑ Earth+
  - ❑ Paint by Numbers
  - ❑ Finding Impact Craters
  - ❑ Quantifying Changes in the Land Over Time

q) ___Weather
- **[IF CHECKED, ASK]** Which of the following SoI content lessons was used? Check one or more.
  - ❑ Does Air have Weight?
  - ❑ Does Cloud Type Affect Rainfall?
  - ❑ S'Cool
  - ❑ How Much Water is Available in the Atmosphere
  - ❑ The Heat is On
  - ❑ Museum in a Box: Weather to Fly By
  - ❑ Temperature of Air Has an Effect on Its Weight?

r) ___Year of the Solar System
- **[IF CHECKED, ASK]** Which of the following SoI content lessons was used? Check one or more.
  - ❑ Comet on a Stick
  - ❑ Cooking Up a Comet
  - ❑ Earth-Mars Comparison
  - ❑ Exploring Planet Sizes
  - ❑ Walking Planet Distances
  - ❑ Earth vs. Mars
  - ❑ Solar System Missions
  - ❑ Solar Pizza
  - ❑ Make a Comet and Eat It
  - ❑ Space Rocks!
  - ❑ United States at Night
  - ❑ Vegetable Light Curves
  - ❑ Solar System Simulator

s) ___Universe
- **[IF CHECKED, ASK]** Which of the following SoI content lessons was used? Check one or more.
  - ❑ Count Your Lucky Stars
  - ❑ Cycles in the Cards
  - ❑ Detecting Planet Transits
  - ❑ Space Weather Action Centers
  - ❑ Elements & You
  - ❑ Hubble Deep Field
  - ❑ Stellarium
  - ❑ Zooniverse

- ❑ Light Pollution Star Count
- ❑ What's Out There?
- ❑ Stories in the Sky
- ❑ Astroventure Geology Mission

5. If this class focused on a physical science theme, which of the following SoI content topics was addressed? Check one or more.

t) ___Aeronautics

- **[IF CHECKED, ASK]** Which of the following SoI content lessons was used? Check one or more.
  - ❑ Bag Balloon
  - ❑ Beginners Guide to Aeronautics
  - ❑ Controlling the Plane
  - ❑ Bernoulli and More Bernoulli
  - ❑ Four Forces of Flight
  - ❑ Jet Propulsion
  - ❑ Air Foils

u) ___Force & Motion

- **[IF CHECKED, ASK]** Which of the following SoI content lessons was used? Check one or more.
  - ❑ 3..2..1 Puff
  - ❑ Accelerometers
  - ❑ Aerogel-lo
  - ❑ Balloon Staging
  - ❑ Collisions
  - ❑ Foam Rocket
  - ❑ Newton Care
  - ❑ Pop Can Hero Engine
  - ❑ Pop! Rockets
  - ❑ Potato Astronaut
  - ❑ Racing Against Friction
  - ❑ Rocket Pinwheel
  - ❑ Rocket Races
  - ❑ Museum in a Box: Ball Launcher

v) ___Wave & Optics

- **[IF CHECKED, ASK]** Which of the following SoI content lessons was used? Check one or more.
  - ❑ What's the Frequency Roy G.Biv?
  - ❑ Wavelength and Energy
  - ❑ Space Operations Learning Center
  - ❑ Sources and Detectors
  - ❑ Simple Spectroscope
  - ❑ Simple Magnifiers
  - ❑ Red Shift, Blue Shift

- ❑ Constructing a Spectroscope
- ❑ Amazing Rays
- ❑ Investigating Ice Worlds

w) ___Properties of Matter

- **[IF CHECKED, ASK]** Which of the following SoI content lessons was used? Check one or more.
  - ❑ 3-2-1 Pop!
  - ❑ Antacid Tablet Race
  - ❑ Heat an Agent of Change
  - ❑ Liquid Rainbow
  - ❑ Potato Float
  - ❑ Robotics Lesson Plans: What's Hidden Inside
  - ❑ Radiation Exposure on Earth
  - ❑ Student Glove Box
  - ❑ Supernova Chemistry
  - ❑ The Nature of Salt
  - ❑ Tracking a Solar Storm
  - ❑ Museum in a Box: Composites and other Aerospace Materials

x) ___Gravity

- **[IF CHECKED, ASK]** Which of the following SoI content lessons was used? Check one or more.
  - ❑ Falling Weight Apparatus
  - ❑ Fluttering Fun, Point of Balance
  - ❑ Heavy Lifting
  - ❑ Inertial Balance
  - ❑ Marble Run
  - ❑ Mass vs. Weight
  - ❑ Pendulums
  - ❑ Shoot a Cannonball Into Orbit
  - ❑ Spaced Out Sports
  - ❑ Toys in Space

C. Attendance

Students

Total number of students present at activity:	
Total number of students at the activity who also participated in a summer 2011 SoI camp:	

Reason(s) students who attended the summer activity did not attend the school-year activity (choose all that apply):	
☐	Students had scheduling conflicts/Alternative plans
☐	Students asked to leave for behavioral issues
☐	Students had transportation issues
☐	Lack of interest
☐	Student moved out of the area
☐	N/A. All students who attended the summer activities also attended the school-year activity
☐	Other, please specify:

D. Educators who implemented the activity

Number of classroom teachers	
	+
Number of informal educators	
	+
Number of others (e.g., undergraduate students)	
	=
Total number implementing the activity	

Number of classroom teachers implementing the activity who also attended a SoI PD session	

Number of classroom teachers implementing the activity who also led student summer 2011 activities	

Comments: