

## **Appendix 8: Planning Form for School-Year Activities**

## NASA Summer of Innovation Planning Form for School-Year Activities

The National Aeronautics and Space Administration (NASA) is conducting a national evaluation of its Summer of Innovation (Sol) Project. Abt Associates Inc. and its partner the Education Development Center have been hired to conduct this study. The goal is to explore how Sol is being implemented and assess the outcomes related to the implementation of Sol across the country. All Sol awardees are asked to submit two types of reporting forms: planning forms and implementation forms.

This is the planning form that will help NASA understand how you anticipate meeting the Summer of Innovation requirements for the school-year activities. It asks for information regarding how you intend to structure the activities, their location, their content, and how many participants you expect to attend. We estimate that it will take approximately 30 minutes to complete. Please complete this form and submit it by August 31, 2011.

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](mailto:NASASummerofInnovation@abtassoc.com). You may also contact the evaluation's program officer at NASA Brian Yoder ([Brian.Yoder@nasa.gov](mailto:Brian.Yoder@nasa.gov)).

### Definition of Key Terms:

- **Awardees:** Entities entering into agreement with NASA to implement Sol.
- **Key partners:** Awardee's partner organizations that will play a critical role in the project's ability to meet NASA's requirements for Sol (e.g., a partner who provides additional funding or is responsible for the recruitment of students and teachers should be considered a key partner whereas a partner whose main contribution is providing snacks/lunch should not be listed as a key partner).
- **School-year activities:** Set of activities that take place in a specific location (e.g., school, community center).
- **Camps:** Set of activities that take place in a specific location (e.g., school, community center, etc.)
- **Classrooms:** Group of students who receive the same set of learning experiences from the same teacher.
- **PD sessions:** Defined set of Sol professional development opportunities for teachers. Because some professional development activities may occur only in one PD session within a location, a session and location may be one and the same.

**Awardee Camp Locations**

1. Please describe the general structure of the school-year program: *e.g., 10 Science Saturdays across 10 cities.*
  
2. Expected location(s) where Sol student school-year activities will be implemented

	Name	City	State	Total Number of Students Expected	Total Number of Classes	Students per Class
Event #1						
Event #2						
Event #3						

3. Expected location(s) where Sol teacher school-year activities (PD) will be implemented

	Name	City	State	Total Teachers Expected
PD Session #1				
PD Session #2				
PD Session #3				

**Key Partners**

4. Name of partner: \_\_\_\_\_
  - At which event(s) or PD session(s) will this partner be involved?  
\_\_\_\_\_
  - Which category best describes this partner?
    - School / school district
    - State department of education
    - College or university
    - Non-profit/community based organization
    - For-profit organization or company
    - Foundation
    - State or local government association
    - Other, please specify: \_\_\_\_\_

5. Has your organization collaborated with this partner before?
- No
  - If yes, please describe: \_\_\_\_\_
6. What role do you expect this partner to fulfill? (Check all that apply.)
- Funding
  - Student recruitment
  - Teacher and/or educator recruitment
  - Existing student program(s) into which Sol will be integrated
  - Lead the professional development activities
  - Venue for student or teacher activities
  - Transportation to and/or from program (e.g., bus service to and from program)
  - Other, please specify: \_\_\_\_\_

[If multiple partners, section will repeat for each partner]

[EVENT NAME #1] Student School-year Program

7. Total expected number of middle school students who will participate in Sol activities during school-year 2011/2012 \_\_\_\_\_
8. Expected number of hours of interactive STEM activities utilizing NASA content during the school-year 2011/2012 \_\_\_\_\_
9. What proportions of the educators who provide school-year instruction are from the following categories?
- Classroom teachers \_\_\_\_\_
  - Informal educators \_\_\_\_\_
  - Other, please specify: \_\_\_\_\_
10. Which of the following Sol content themes spanning across all areas of NASA expertise will be addressed during [EVENT NAME #1]? Check one or more.
- Engineering [IF SELECTED, ASK QUESTIONS 12a-f]
  - Life Science [IF SELECTED, ASK QUESTIONS 13g-k]
  - Earth Science [IF SELECTED, ASK QUESTIONS 14l-s]
  - Physical Science [IF SELECTED, ASK QUESTIONS 15t-x]
11. If [EVENT NAME #1] is focused on an engineering theme, which of the following Sol content topics will be addressed? Check one or more.
- a) \_\_\_Aeronautics
- [IF CHECKED, ASK] Which of the following Sol content lessons will be 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 Sol content lessons will be 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 Sol content lessons will be 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 Sol content lessons will be 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 Sol content lessons will be 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 Sol content lessons will be used? Check one or more.
  - Electrodynamic Propulsion
  - Spacecraft Structures
  - Thermal Protection Systems
  - On the Moon Educator Guide
  - On the Moon: Touchdown

12. If **[EVENT NAME #1]** is focused on a life science theme, which of the following Sol content topics will be addressed? Check one or more.

g) \_\_\_Body

- **[IF CHECKED, ASK]** Which of the following Sol content lessons will be 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 Sol content lessons will be 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 Sol content lessons will be 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 Sol content lessons will be 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 Sol content lessons will be 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

13. **[EVENT NAME #1]** is focused on an earth and space science theme, which of the following Sol content topics will be addressed? Check one or more.

l) \_\_\_Climate & Seasons

- **[IF CHECKED, ASK]** Which of the following Sol content lessons will be 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 Sol content lessons will be 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 Sol content lessons will be 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 Sol content lessons will be 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 Sol content lessons will be 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 Sol content lessons will be 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 Sol content lessons will be 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 Sol content lessons will be 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
14. **[EVENT NAME #1]** is focused on a physical science theme, which of the following Sol content topics will be addressed? Check one or more.
- t) \_\_\_Aeronautics
- **[IF CHECKED, ASK]** Which of the following Sol content lessons will be 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 Sol content lessons will be used? Check one or more.
    - 3..2..1 Puff
    - Accelerometers
    - Aerogel-Io
    - 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 Sol content lessons will be 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 Sol content lessons will be 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 Sol content lessons will be 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

**[REPEAT QUESTIONS 7-14 for each EVENT]**

### Professional Development for Classroom Teachers during the School Year

15. How many classroom teachers are expected to participate in **[PD SESSION #1]**?  
\_\_\_\_\_
16. Who will provide the training at **[PD SESSION #1]**? *(Check all that apply.)*
- Awardee organization
  - Partner organization
  - NASA
  - Other: \_\_\_\_\_
17. How hours of professional development will each classroom teacher receive during **[PD SESSION #1]**? \_\_\_\_\_
18. Which of the following Sol content themes will be addressed during **[PD SESSION #1]**?
- Theme A
  - Theme B
  - Theme C
  - Theme D

19. Will informal educators, i.e., non-classroom teachers, be included in [PD SESSION #1]?

- Yes
- No [REPEAT QUESTIONS 15-20 for REMAINING PD SESSIONS]

20. How many informal educators, i.e., non-classroom teachers, will be included in [PD SESSION #1]? \_\_\_\_\_

[REPEAT QUESTIONS 15-20 for REMAINING PD SESSIONS]

### Training for Informal Educators

21. Will you provide additional training to your informal educators besides through the professional development sessions for classroom teachers?

- Yes
- No [Skip to end]

22. If so, approximately how many hours of training will be provided? \_\_\_\_\_

23. Who will provide the training? (Please check one or more.)

- Awardee organization
- Partner organization
- NASA
- Other: \_\_\_\_\_

24. Please describe the additional training planned for informal educators:

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