MISSION EARTH JULY SUMMER WORKSHOP & TRAINING

MONDAY - JULY 16, 2018 Getting to Know Each Other & Introductory Activities

Time	Topics	Resources
8:30 – 9:45 Peter Don Evangeline	● **Introduction to Workshop: Overview of GLOBE** ● Agenda ● Purpose/History/Goals/Projects ● Connection to 3D NGSS -- Science Practices ● Resources: Wavelength, S'Cool, GLOBE ● GLOBE at Work in Providence ○ Evangeline slide show	
9:45-10:30 Don & Team	**Ice-Breaker Activity: Earth as a System** Exploring an Earth System: Cloud Observation Protocol Practice Cloud PowerPoint ○ Veteran teacher co-facilitate ■ Cloud Identification ■ Outdoor activity	Cloud Charts Cloud Observation Field Guides
10:30-10:45	**BREAK**	
10:45-11:30 Peter Team	● **GLOBE Data Entry:** ○ Entering cloud data into GLOBE website ● **ES teachers Breakout : Integrating Clouds in the Classroom** ○ Examples from classroom: Veteran Teachers ○ Veteran teachers' examples and GLOBE slideshow ● **MS / HS teachers breakout: Linking GLOBE to Your Classroom** ○ How do you think a program like GLOBE can help your teaching? ○ What do you hope to get from this workshop?	GLOBE Website on laptops
11:30-12:30 Team	**Cross-cutting Protocols** ● Calibration of Instruments ● Air Temperature protocol (ES,MS/MS) ● Soil Temperature (ES, MS/HS) ● Surface Temperature (ES, MS/HS)	Thermometers for air, soil, and IRTs
12:30-1:00	**LUNCH** **Share local schools' weather station data**	
1:00-2:30 Don & Peter	**Project Based Learning: Introduction** ● Research questions ● Science and Engineering Practices ● Science symposia ○ virtual ○ Providence ○ regional ○ international Share Providence teachers' project ideas from June workshop	
2:30-4:00 Bruce & Caleb	**Where and when do the protocols fit in your classroom?** ● Experienced Teachers share curriculum maps with grade 2, 3, 5 new elementary teachers ● Breakout for MS/HS teachers	

MISSION EARTH JULY SUMMER WORKSHOP & TRAINING

TUESDAY - JULY 17, 2018 Earth As A System: Weather

Time	Topics	Resources
8:30 – 9:00 Evangeline	**Journaling:** What did you learn yesterday that you can use with your students? **SurveyMonkey:** Science Teacher Efficacy Belief Instrument	
9:00-10:30 Bruce	**Overview of GLOBE Earth as a System: Atmosphere/ Weather** **How can GLOBE help in predicting the weather** **Bruce Anderson**	
10:30-11:30 Peter Presentations by Rick Tramonti & Ray Pandozzi	**Earth as a System: Weather** ● Introduction to Davis Weather Station ○ Data collection and visualization ● Doing Science: Potential Activities Using Science Practices ○ Engaging students in recording and understanding weather data ○ WeatherLink: Comparing weather data from other locations	Davis weather station
11:30-12:00 Don, Peter, Evangeline Bruce, Peter, Caleb	**Next Steps in the Classroom** ● Clouds in a Jar ● Elementary Teachers: ○ Anemometer ○ Wind Vane ○ Thermometer ● MS/HS Teachers: Breakout and explore online Contrail Activity	Mason jars, ice, hot water, paper cups, straws
12:00-1:00	**Lunch break; Cloud Observation; Share local school's weather station data**	
1:00-2:30 Magaly	**GLOBE & Earth as a System: :** Introduction to My NASA Data ● **Magaly Koch** ○ Grade appropriate exercises using My NASA Data	My NASA data activity
2:30-4:00 Team	**Curriculum Mapping Q1/Q2 by Grade** ● Linking ELA, Math, Science, & Technology ● Linking GLOBE to Providence Standards ● Developing Classroom Activities	

MISSION EARTH JULY SUMMER WORKSHOP & TRAINING

WEDNESDAY- JULY 18, 2018 Earth As A System: Biosphere

Time	Topics	Resources
8:30-10:30 Don (Spaziano), Peter (Nathan Bishop), Kathleen (Carnevale)	**Introduction to Biosphere: MEET AT WEBSTER SCHOOL GARDEN** After Webster School: Breakout to other schools Fogarty & Carnevale teachers: Go to Carnevale Spaziano teachers: Go to Spaziano, then reconvene at Carnevale MS/HS teachers: Go to Nathan Bishop MS School Visits: Field measurements of: ● Surface Temperature ● Soil Temperature ● Air Temperature ● Phenology & Discuss Green-up & Green-down	Thermometers
11:00-11:30 Peter & Team	**GLOBE Data Entry** ● Set up your school site ● Enter data collected in the morning	Google Earth
11:30-12:00 Kathleen	**Biosphere: Phenology** ● Bottle Biology Demonstration: Your own garden in the classroom	Bottle biology materials
12:00-1:00	**Lunch Break** **Cloud Observation; Share local school's weather station data** **Journal Prompts:** What did I learn today? What can I do with my students? How can I integrate GLOBE into my classroom?	
1:00-2:30 Kathleen Kathleen Magaly Team	**Teacher Break-out: Using Phenology in Your Classroom** ● USA Phenological Networks - Budburst (ES) and Nature's Notebook (MS/HS) ● ES: Demo Bingo games and variations ● MS/ HS: Demo - Maps **Debrief and Report back**: ● How can you use these Biosphere protocols in your teaching?	Bingo games; maps
2:30-4:00 Team	**Curriculum Mapping Q2/Q3 by Grade** ● Linking ELA, Math, Science, & Technology ● Linking GLOBE to Providence Standards ● Developing Classroom Activities	

Reminder: Please bring a water sample to work with tomorrow.

MISSION EARTH JULY SUMMER WORKSHOP & TRAINING

THURSDAY- JULY 19, 2018 Earth As A System: Living in Cities

Time	Topics	Resources
8:30-9:00 Evangeline	**Journal:** What did I learn? What can I do with my students? How can I implement GLOBE protocols into my practice? **Survey:** Interview Questions	
9:00-10:00 Team	**GLOBE & Earth as a System** ● Linking ELA, Math, Science, and Technology: Cross-grade report out	
10:00-11:00 Bruce & Kathleen	**GLOBE-based Project: Urban Heat Island** Land, water, and air protocol - ■ Surface temp ■ Air temp ■ Soil temp ■ water temp	Globe Activity Air/water thermometer Soil thermometer IR thermometer Water Containers Heat lamps
11:00-12:00 Team	**Debrief by grade level:** ● How would you implement what you have seen so far in your classroom? ● **Report Out (chart paper)**	
12:00-12:30	**Lunch Break** **Cloud Observation; Share local school's weather station data**	
12:30-2:00 Kathleen	**Hydrology** ● Modeling a Watershed Activity ● Hydrology: Practice Protocols	Globe Activity Pans Sand Cups Food dye Containers pH tabs/paper Dissolved Oxygen kit Water Quality meters
2:00-3:00 Team	**Drafting Project Based Learning for your Classroom** Charting 1 or 2 Possibilities **Report Back on PBL for your Classroom**	
3:00-4:00 Team	**Curriculum Mapping Q3/Q4 by Grade** ● Linking ELA, Math, Science, & Technology ● Linking GLOBE to Providence Standards ● Developing Classroom Activities	

Reminder: Prepare your favorite science lesson for tomorrow!

MISSION EARTH JULY SUMMER WORKSHOP & TRAINING

FRIDAY- JULY 20, 2018

Time	Topics	Resources
8:30-9:30 Evangeline	**Journal:** What did I learn from yesterday? What resources and materials do I need for implementation? **SurveyMonkey: Post Workshop**	
9:30-12:00	**Present Favorite Science Lesson to Add Globe/ NASA Assets to** ● Choose GLOBE/NASA assets that you can add to enhance your favorite science lesson and explain how you might incorporate this ● Identify 3 possible projects and discuss the materials/resources you may need for this	
12:00-1:00	**Analyzing Weather Data:** **Clouds, Barometer, Temperature, Precipitation** What patterns do we see in this week's weather?	
1:00-2:00	Lunch Provided **Round table: Bringing GLOBE into your teaching?** ● What do you need? ● What resources are available to you in Providence? ● Building a Communication Network!	
2:00-3:00	**GLOBE & Earth as a System:** ● What Research Question/s have you decided on? ● Which Instruments will you need? **Gathering Resources and Materials** ● Ordering Materials ● Resources from GLOBE (teachers have a Google sheet they can use to specify/request GLOBE-related resources they need us to supply)	
3:00-4:00	**GLOBE Certificates!**	