Section 4: Community
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This Country Coordinator Implementation Guide has been developed as a resource guide to assist GLOBE Country Coordinators in the operations and implementation of The GLOBE Program in their countries. Section 4: Community contains:

1. GLOBE Regional Meetings
2. GLOBE Training and Support
3. GLOBE Teachers
4. GLOBE Trainers and Mentor Trainers
5. GLOBE Training Resources
6. Protocol eTraining
7. Training Workshop Site Requirements
8. Training Workshop Items Provided by Country Coordinators
9. GLOBE Teams
10. Sharing News, Events, Accomplishments and STEM Successes

1. GLOBE Regional Meetings
GLOBE Regional Meetings are held annually to provide an opportunity for Country Coordinators in the region to meet (with the region’s Governance Board if present) to receive updates on the program, share best practices and develop annual strategic plans for the region, utilizing the GLOBE Strategic Plan as a reference point.

The Regional Coordination Office (RCO) works with the Host Country Coordinator (CC) on many aspects of the Regional Meeting (RM) ranging from the meeting theme and agenda to site requirements and in-country support of attendees. Following are the responsibilities of each party as well as the GLOBE Implementation Office (GIO).

Responsibilities of the Regional Coordination Office and Host Country Coordinator:

1. The RCO schedules dates and location for the RM by communicating with the Country Coordinators (CCs) in the region. Typically, the dates and location for the upcoming RM are finalized at the previous one.
2. The RCO with the Host CC identifies a local hotel for participants and visits the hotel site to ensure that the facility can accommodate the meeting:
   a. Obtain Room Block for estimated overnight guests
      i. Meeting Space
      ii. Wireless connection
      iii. Screen and projector
      iv. Microphones (if needed)
b. Catering (Food)
   i. Breakfast
   ii. Breaks
   iii. Lunch
   iv. Dinner

3. Invitations to attend the meeting are provided only to those CCs who have provided a Country Report, completed their annual GLOBE Partner Survey and met data reporting requirements.

4. The RCO with the Host CC organizes airport transfer for participants upon arrival and departure (airport pick up and return after event). It is recommended to hold the event at a hotel that provides transportation. If this is not available, the Host CC secures a plan for transportation to all attending the event.

5. The RCO sends an official letter of invitation, upon request, to all perspective participants as needed for travel permissions or visa purposes. These include a draft agenda, what to expect upon arrival at the airport, ground transportation information to/from the airport, local weather information, and information about any offsite events that may require special clothing. For supported participants, this letter will also include information about the level and amount of financial support the participant will receive.

6. The RCO with the Host CC invites appropriate national and/or regional dignitaries to attend opening/closing ceremonies as appropriate. The RCO also invites the ambassadors of the countries in the region located in the capital city of the host country of the event in order to raise awareness of the international impact of GLOBE.

7. The RCO with the Host CC obtains funding from local venues to cover expenses related to breaks, meals and transportation to and from meeting sites, if possible.

8. The RCO organizes all meeting logistics including round trip air travel (or rail travel) from the participant’s home airport (or rail station), ground transportation, meeting room set ups and any covered meals/breaks (all covered meals must take place during the meeting dates and must be considered an integral part of the meeting, i.e. working lunch. Working meals must include an agenda and participant list).

9. The RCO collaborates with the Host CC (and the Regional Governance Board if present) and the GIO to prepare the draft agenda, in consultation with the region’s CCs, so that it can be finalized and distributed to participants no later than four weeks prior to the workshop.

10. The RCO ensures that all participants receive information at least one week before the event regarding hotels, contact information for country host
and others to ensure transport upon arrival, as well as weather conditions, clothing and other logistical information such as currency rate, etc.

11. The RCO provides an opportunity for all participants to evaluate the event and share this information with the Host CC (and the Regional Governance Board if present) and the GIO.

12. The RCO designates a note-taker for the meeting. Notes from the meeting are sent to all meeting participants.

13. The RM includes discussions about efforts to build capacity in the region and does not spend time on lengthy report outs. The RCO distributes the Country Reports prior to the meeting to inform the CCs about GLOBE activities in the region.

Regional Meeting Site Location Requirements

1. A large room with seating at tables for all participants needs to be available exclusively for participants of the RM for the duration of the meeting.

2. Availability of breakfast/lunch/dinner options at or near the meeting hotel.

3. Availability of Internet access and/or computer station (such as a business center located in the hotel).

4. Projection capabilities including:
   a. A large screen or white wall for projection
   b. Over-head projector
   c. Flip chart on easel, and/or
   d. Blackboards (or whiteboards) for the indoor portions of the meeting

5. Other materials required for the meeting.
   a. Agenda
   b. Pens
   c. Pencils
   d. Paper
   e. Hand out information
   f. Presentation Information (Handouts)
   g. Name Badges

Virtual Annual Regional Meeting

When it is not possible to hold an in person meeting (as a result of a health crisis, conflict, etc.), a virtual annual GLOBE RM will be held in its place. While this means there is not travel to a country location for the meeting, all CC requirements should be completed and sent to the RCO by a specified date prior to the meeting. Meeting structure may be different with shorter days and different modes of content delivery.
Responsibilities of the GLOBE Implementation Office:

1. Facilitate U.S. Embassy involvement in the event as needed.
2. Assist with development of event agendas as needed.
3. Attend the meeting in person or virtually to update CCs on program developments.

2. GLOBE Training and Support

In supporting countries, GLOBE sees training as part of a continuum that begins before and continues after a CC completes Train-the-Trainer Training. Clearly, developing a qualified team of trainers is a major enabling step in the progress of virtually every country, but it is just one part. GLOBE training and support activities are broken down into three categories—initial support, training, and continuing support—to emphasize that the support starts immediately after a country joins GLOBE and continues indefinitely. Furthermore, it highlights that the training process is often an ongoing process that may take place over a number of training events, and the relationship between CCs and their GLOBE trainers and teachers is also an ongoing relationship.

Welcome to GLOBE

Around the world, when new countries join GLOBE, they will be welcomed immediately and personally by the senior management of GLOBE, initiating the onboarding process:

- The NASA GLOBE Program Manager sends a letter to the Government Point of Contact (GPOC) welcoming him/her to The GLOBE Program. The welcome letter introduces the GIO Director and the GLOBE International Coordinator.
- The GLOBE International Coordinator arranges an onboarding call with the GPOC and CC to welcome them to The GLOBE Program; introduce the overall GLOBE organization, community, policies and regularly held events; and guide them in their first steps of launching the program in their country, including but not limited to available materials and resources, obtaining training and establishing their web presence on www.GLOBE.gov included below. GIO will introduce the Regional Coordinator in their region who will participate in the telecon.

1. Agenda for onboarding call
   a. Introductions
   b. Overview of GLOBE
      i. Organization — GIO, RCOs, GLOBE Working Groups (WGs)
      ii. Community — Roles and responsibilities of GPOCs and CCs; GLOBE International STEM Network (GISN)
      iii. Website and Data Information System — Website content and resources, country pages, accounts, partner implementation tools, and GIO/RCO training on these
      iv. Resources — protocols, educational materials, The GLOBE Program’s app, GLOBE Observer
v. Policies—translation, reproduction, use of GLOBE trademarks, etc.

vi. Meetings, events and measurement campaigns—Annual Meeting, Regional Meetings (RMs), GLOBE Learning Expedition (GLE), International Virtual Science Symposium (IVSS), current global and regional campaigns

vii. Trainer/Mentor Trainer process and training opportunities

viii. Country goals and objectives for GLOBE and implementation plans (GIO requests CC to develop a draft implementation plan for discussion at a second call)

c. GIO schedules a second call for CC to present the draft implementation plan and GIO to provide feedback

- GIO Communications announces new partnering countries to the GLOBE Community via the GLOBE newsletter, Website and/or other communications vehicles.

**GLOBE Website and Data/Information System (DIS)**

- DIS adds the new partnering countries to the appropriate web pages at www.GLOBE.gov with an approved flag (or other approved image), and the GIO Community Support Team (CST) adds the names of the designated points-of-contact (POCs).
- GIO CST communicates with the CCs of new countries and helps them to set up accounts on the Website. GIO CST also offers training opportunities so that the CCs and other program participants are fully familiar with the functionality and content available on the Website and can use it as a day-to-day tool for the implementation of GLOBE.

**Community**

- Following the GIO-arranged telecon, RCOs follow up with new CCs to provide information about the functions of the RCO and GLOBE activities in the region.
- RCOs introduce new CCs to the GLOBE Community in the region and put them in touch with other Partners in the region for mutual support.
- GIO Director and GLOBE International Coordinator help new CCs make contacts as appropriate with other GLOBE Partners who may have shared interests in various projects or activities.

**Materials and Resources (covered in onboarding call and follow-on activities)**

- GIO shows new CCs how and where to locate the GLOBE Teacher’s Guide and its various components (e.g., protocols) online.
- GIO also informs them about the Elementary GLOBE books and the GLOBE Earth As a System poster and associated materials and where they can be found on the GLOBE Website.
- GIO informs them about The GLOBE Program’s app, GLOBE Observer and where to locate it online.
- GIO informs new CCs about GLOBE instrument specifications, and RCOs identify possible instrument suppliers in their region.
- GIO explains the policies on translation, reproduction, other matters and the use of GLOBE trademarks.
GLOBE Meetings and Training (covered in onboarding call and follow-on activities)

- GIO informs new CCs of upcoming Annual and Regional Meetings, including the contact information of the organizers, and encourages them to begin early planning to secure funding and travel visas for one or more representatives to participate in these meetings which deliver training and best practice exchange for all who attend. CCs are responsible for all costs associated with their and/or their representatives’ attendance at GLOBE Annual Meetings. GLOBE only provides some support for CCs’ attendance at RMs.

- GIO introduces the GLOBE Train-the-Trainer model and the certification process.

- Following the onboarding call, RCOs work with new CCs to determine what initial training, including protocol training, is most beneficial for them to establish sufficient number of qualified trainers in the country to initiate or reinitiate GLOBE implementation. RCOs also work with them to arrange and implement in-person or virtual training sessions (at the country’s expense) and invite them to other planned regional events or trainings, as appropriate.

- Once new CCs are ready to begin training teachers, RCOs will offer assistance to them for this initial training. RCOs can offer advice on workshop facilities, equipment, protocols to be trained, and possible approaches to implementing the Program in the school systems. Funding for these trainings is the country’s responsibility. In the latter case, the RCOs will also suggest connections with other countries in the region.

GLOBE’s goals for CCs are that they will recruit, train, and mentor – or provide continuing support – to schools in their target areas and that every GLOBE school they support will take and submit measurement data to the GLOBE database and submit GLOBE student research projects. CCs ensure that a new teacher is trained in a GLOBE school if its GLOBE teacher(s) leave so that GLOBE students can continue their activities under the guidance of a GLOBE-trained teacher. GLOBE also recognizes and supports country’s goals for meeting their objectives for GLOBE: education, science, environment, technology, etc. Following training, GIO and RCOs continue to work with CCs to achieve these goals.

Furthermore, GIO, RCOs and the GLOBE team work with CCs to utilize, create, or modify existing tools and resources to enable them to manage their implementation aspects more efficiently. GIO will provide letters and acknowledgements as requested to assist them in building learning communities and strengthening local support for their GLOBE activities. GLOBE’s communications tools such as the GIO Director’s letters and videos, GIO News Briefs, RCO communications (calls, webinars and virtual meetings) and other information on the GLOBE Website, publications, and the structure of the Annual and Regional Meetings reflect the focus on providing continuous support to GLOBE countries.

Lastly, GIO worked closely with CCs and other members of the GLOBE Community to develop the GLOBE Strategic Plan 2018–2023. GIO assesses progress towards achieving strategic plan goals on an annual basis and more often if necessary to coordinate the GLOBE Community’s mutual efforts for a successful program — locally and globally — and to celebrate the achievements of GLOBE participants as we all work in partnership to:

- Increase environmental awareness;
- Contribute to the scientific understanding of Earth; and
- Contribute to improved student achievement in science and mathematics.

3. GLOBE Teachers
All teachers will be recognized as part of the GLOBE family as soon as they begin their training with CCs. Accordingly, teachers will be recognized as GLOBE Teachers when CCs have trained them in any protocol or set of protocols. CCs may give them GLOBE Teacher certificates recognizing them as full members of GLOBE, or they may choose to present them with certificates customized to suit their needs. GLOBE Certificate Templates and instructions are available on the GLOBE Website for CCs to utilize.

4. GLOBE Trainers and Mentor Trainers
The GLOBE Program has a long history of building the capacity of its community by certifying GLOBE Trainers and Mentor Trainers. The result is a vibrant, growing community with members who are equipped to accomplish the mission and strategic goals of GLOBE [Education Goals #2. GLOBE’s capacity to deliver high quality professional learning experiences (trainings) has increased (from GLOBE Strategic Plan 2018–2023)].

To accomplish this, it is important to have GLOBE Trainers leading GLOBE workshops who are knowledgeable in the GLOBE program with a firm understanding of protocols, procedures, quality of data being collected and recorded, and who can guide teachers how to implement GLOBE in their educational setting. These GLOBE Trainers must be able to educate as well as support teachers to ensure GLOBE protocols are properly being conducted. There are three types of GLOBE trainers:

- **Candidate Trainers** are individuals seeking accreditation to be a formal GLOBE Trainer. They must provide documentation of their competency in four critical areas: (1) Science, (2) Education, (3) Adult Learning, and (4) Knowledge of GLOBE. Candidate Trainers will work with a Mentor Trainer to lead a GLOBE Workshop under the guidance and supervision of this Mentor Trainer.

- **Candidate Mentor Trainers** are individuals seeking accreditation to be a formal Mentor Trainer to GLOBE Trainers. They must provide documentation of their competency in four critical areas: (1) Science, (2) Education, (3) Adult Learning, and (4) Knowledge of GLOBE. If possible, Candidate Mentor Trainers will work with a Mentor Trainer to assist Candidate Trainers in leading a GLOBE Workshop under the guidance and supervision of this Mentor Trainer.

- **Trainers (and Master Trainers)** are certified to train educators in various GLOBE scientific protocols, educational activities, and GLOBE science research process. GLOBE Trainers are the front line ambassadors from GLOBE to faculty and teachers from elementary through university and the general public. Please note: the terms Trainer and Master Trainer have been combined into one term, Trainer. The term Master Trainer will no longer be used.

- **Mentor Trainers** aid in advancing the community of Trainers by mentoring Candidate Trainers.
For more information on the certification process, please check the links below:

1. GLOBE Trainer and Mentor Trainer Qualifications and Certification Process
2. Candidate Trainer Application
3. Candidate Trainer Workshop Observation Form
4. Current Trainer Active Status Form
5. Candidate Mentor Trainer Application
6. Candidate Mentor Trainer Workshop Observation Form
7. Current Mentor Trainer Active Status Form
8. View List of Trainers on our World Map

5. GLOBE Training Resources
GLOBE provides video tutorials on managing training workshops (how to create workshops, sign up teachers, and recognize when training is complete). GLOBE Trainers have worked with GIO to develop training materials (Introduction to GLOBE, presentations on each of GLOBE’s five spheres, student inquiry, implementation, sample agendas and workshop evaluation, and Website training materials). CCs can search for trainers here.

6. GLOBE Protocol eTraining
GLOBE has developed Protocol eTraining modules and assessment tests to supplement in-person GLOBE training and/or provide alternatives to attending a GLOBE training workshop.

7. GLOBE Training Workshop Requirements
This section outlines information on the requirements for organizing, coordinating and running a GLOBE training workshop on a number of levels from teachers to trainers, including responsibilities of the RCO, Mentor Trainers and Host CC.

Purpose of training

- To facilitate the pedagogical preparation necessary to ensure a successful GLOBE training event, resulting in successful teacher training events
- To provide a training opportunity for CCs to send Trainer Candidates, Mentor Trainer Candidates and/or teachers, provided they are able to obtain their own funding to support these individuals
- To provide an opportunity for the host country to train a large number of teachers (approximately 30) with the assistance of a Mentor Trainer and/or Trainer Team

Preparations for the Workshop
The RCO manages the following tasks in relation to a training event if it is held in conjunction with the Annual Regional Meeting.
Facilities

- Identify and provide the training facilities (see Site Requirements).
- Identify the computer laboratory where the technology-training component of the workshop will be held. In some cases, a room equipped with laptops or iPads will work. See description of computer needs in the Site Requirements below.

Trainers

- Work with the RCO and/or GIO to identify and recruit Mentor Trainers and Trainers to be included on the training team (taking into consideration the protocols and activities to be covered during the workshop, as well as the funding available to support expenses).
- Organize and communicate with the Regional Trainers and local assistants joining the training team to ensure a well-organized training event.

Equipment

- RCO requests Trainers to provide a list of all equipment and materials necessary for the protocols and activities they will be facilitating/training.
  - Trainers also provide a list of all equipment and materials which they can bring with them.
  - Host CC locates any equipment and material needs identified by Mentor Trainers (including those which Mentor Trainers have agreed to bring – as a back-up)
  - Host CC communicates any equipment and material needs (which they are unable to attain in-country) to the RCO; RCO will survey regional partners
  - If RCO and host CC are unable to locate certain equipment and materials, RCO communicates this information to GIO as soon as possible. As a last resort, if GIO representative(s) are attending regional meeting, it may be possible for them to transport or ship a small amount of equipment and/or materials.
- In the event that funding has been obtained to purchase equipment for the workshop, it is necessary to arrange for someone on the Training Team in the Host country to count/inventory all boxes when they arrive at the training site to ensure that the entire shipment is received. Each box should contain a packing list inside which should also be checked to confirm all contents have been included. Mentor Trainers, RCO, and GIO should be notified as soon as possible to confirm the status of the shipment’s arrival.
- If funding has been obtained to provide workshop participants with instruments and/or training materials, the host partner is responsible for facilitating the purchase and shipment of these instruments and materials as well as distribution to the workshop participants. **NOTE: The GIO can assist the Host CC in the communication with U.S.-based vendors.** However, it is preferable to obtain equipment within the region to support regional vendors.
- Work with Mentor Trainers to identify appropriate data sheets, field guides, and other handouts; Host CC is responsible for making copies for participants at the training workshop based on Mentor Trainer needs.
Training Site Requirements

- **Full-time Meeting Room:** A large meeting room with seating at tables for all participants needs to be available exclusively for participants of the GLOBE Trainer Workshop for the duration of the training event.

- **Breakout Room:** A second, smaller room with tables is needed that can be used as a lab (e.g., soil and/or hydrology). Floors and tables may need to be covered with plastic.

- **Trainer Preparation Room:** A room with sufficient space and security to hold workshop materials (scientific instruments, educational materials, and copies, including data sheets and field guides from the GLOBE Teacher’s Guide) and to allow Mentor Trainers access for training preparation. A large table should be available in this room for trainers to use for organizing and making an inventory of the instruments.

The rooms should be available at least 1 day (preferably 2 days) prior to the start of the workshop; equipment and materials should be readily available by the Mentor Trainers upon their arrival.

- **Lunches and breaks should be organized at or near the meeting room to prevent loss of time due to transportation.**

- **Projection capabilities including:**
  - a large screen or white wall for projection,
  - over-head projector,
  - flip chart on easel, and/or
  - blackboards (or whiteboards) for the indoor portions of the meeting.

- **Transportation arranged to visit off site locations where protocol training will occur.**

There should be a minimum of 1 computer for every 2 participants connected to the Internet with direct broadband access or through WiFi. The appropriate software should be installed and configured to access the Internet with a browser such as Chrome, Edge, Firefox, or Safari. An LCD pallet/screen (or comparable computer projector) for projections from a computer screen should also be available. Alternatively, laptops or electronic notebooks can be used in the meeting room once Internet access is available. Appropriate Internet browsers are listed on the following Website: http://browsehappy.com. One of these browsers should be on these computers and should always be up to date.

Suggested Length of Workshop

- When developing a GLOBE workshop agenda, it is important to identify which protocols and activities will be trained. Each protocol requires a minimum amount of time; therefore, the Host CC includes Mentor Trainers in the discussion of time and site requirements. A training workshop could last anywhere from one day to an entire week, depending on the content. Several sample agendas are available on the GLOBE Website. Please feel free to contact the GIO Community Support Team for further details or assistance.

- It is essential that the Host CC assign one or two host country support staff to assist with local issues surrounding the implementation of a GLOBE regional workshop. In past
events, access to a photocopier, computer and printer for the GLOBE Training Team has proved invaluable.

- The specifications for the four GLOBE study sites are listed below:

  **Atmosphere:** The GLOBE Atmosphere site should be located on a flat, grass covered area, at least 5 meters away from trees or buildings. If the workshop will cover air temperature and/or precipitation, a 10 cm by 10 cm square by 2 meter long post should be provided for the mounting of the Atmosphere Instrument Shelter (a 50 cm by 25 cm thermometer enclosure). A rain gauge mounted can either be mounted on this post or on a separate post (please see [http://www.globe.gov/documents/348614/348678/atinst.pdf](http://www.globe.gov/documents/348614/348678/atinst.pdf) for more information). This study site should be in close proximity to the indoor workshop site.

  **Biosphere:** The GLOBE Biosphere protocols are best done at a natural forest, woodland, shrub land, or grassland site. For training, natural means not watered, irrigated, mowed, or planted with decorative, non-native plants. Ideally, this site should be a square measuring 90 m by 90 m that is homogeneous in vegetation cover (clearings and paths within the site are fine). The site must be within 15 minutes transportation time of the indoor workshop location. If an ideal site is not available, the protocols can be trained on a 30 m by 30 m site, in a stand of trees and/or shrubs in a park, or in a grassy field. Please note, if the grassland site is to be trained, permission is needed to clip at least a 1 m by 1 m square to the bare ground (this should not kill the grass).

  **Hydrosphere:** The GLOBE Hydrosphere site requires safe access to surface water of any stream, river, lake, bay, seashore, or pond within 15 minutes transportation time of the indoor workshop site. Ten liters of distilled water should be available for the hydrology trainer.

  **Pedosphere (Soil):** The GLOBE Pedosphere site is an area where one can dig to a depth of 1 meter. Natural areas or parks where the soil has not been disturbed are ideal, but any location where there are at least 2 distinct layers in the top meter of soil is acceptable. Permission to dig a 1 m deep soil pit is desirable, but the protocol can be taught using an auger to remove soil samples. It’s best to have a facilities manager determine the best location to avoid disturbing electrical or plumbing lines. Some additional surface soil will also be disturbed. The site should be as close as possible (within 15 minutes transportation time) to the indoor workshop location.

  **Note:** Transportation time refers to the time it will take to get workshop participants from the indoor site to the other field site using whatever means of transport will be available (e.g., walking, van or bus).

**8. Items Provided by Country Coordinators**
The following table lists support materials for GLOBE workshops. The number is based on 30 workshop participants. The materials may change based on the protocols being taught in the workshop.
<table>
<thead>
<tr>
<th>ITEM</th>
<th>QUANTITY</th>
<th>SUBSTITUTES</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Miscellaneous</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cellophane tape</td>
<td>8</td>
<td>None</td>
</tr>
<tr>
<td>Scissors</td>
<td>8</td>
<td>Knife</td>
</tr>
<tr>
<td>Distilled water</td>
<td>7–10 liters</td>
<td>None</td>
</tr>
<tr>
<td>Rubber bands</td>
<td>1</td>
<td>None</td>
</tr>
<tr>
<td>Permanent markers, black</td>
<td>10</td>
<td>None</td>
</tr>
<tr>
<td>Permanent markers, red</td>
<td>5</td>
<td>None</td>
</tr>
<tr>
<td><strong>Pedosphere</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Microwave</td>
<td>1</td>
<td>None</td>
</tr>
<tr>
<td>Triple beam balance</td>
<td>2</td>
<td>Electrical scale</td>
</tr>
<tr>
<td>Shovel for digging soil pit</td>
<td>1</td>
<td>None</td>
</tr>
<tr>
<td>Hot plates</td>
<td>2</td>
<td>Bunsen Burner, camp stove</td>
</tr>
<tr>
<td>Wood blocks (5cmx, 10cmx,25cm)</td>
<td>3</td>
<td>Flat, solid object used for striking soil can without denting it</td>
</tr>
<tr>
<td>8 oz (250 ml) or similar soil sample cans</td>
<td>36</td>
<td>Please collect 250 ml or similar cans for preserved vegetables, fruit, etc. Smooth the edges so people don't cut their hands.</td>
</tr>
<tr>
<td>White paper plates or similar</td>
<td>100</td>
<td>Something to hold soils in the classroom. Need something durable.</td>
</tr>
<tr>
<td>250ml plastic cups</td>
<td>20</td>
<td>Glass beakers or other containers may satisfy this purpose, or empty plastic bottles with the tops cut off.</td>
</tr>
<tr>
<td>2 liter clear plastic bottles</td>
<td>8</td>
<td>i.e. soda/juice bottles</td>
</tr>
<tr>
<td>1.5 liter clear plastic bottles</td>
<td>8</td>
<td>i.e. soda/juice bottles</td>
</tr>
<tr>
<td>0.5 liter clear plastic bottles</td>
<td>8</td>
<td>i.e. soda/juice bottles</td>
</tr>
<tr>
<td>100 ml plastic cups</td>
<td>25</td>
<td>Glass beakers or other containers</td>
</tr>
<tr>
<td>Baking soda</td>
<td>2</td>
<td>None</td>
</tr>
<tr>
<td>Trowels</td>
<td>3</td>
<td>Shovel</td>
</tr>
<tr>
<td>Golf tees or similar</td>
<td>40</td>
<td>Twigs, sticks, etc. to identify soil horizons</td>
</tr>
<tr>
<td>Distilled white vinegar</td>
<td>1</td>
<td>None</td>
</tr>
<tr>
<td>Rolling pin</td>
<td>1</td>
<td>Something to crush soil peds/blocks/pieces</td>
</tr>
<tr>
<td>Plastic spoons</td>
<td>1</td>
<td>Regular spoons, or something to scoop soil</td>
</tr>
<tr>
<td>ITEM</td>
<td>QUANTITY</td>
<td>SUBSTITUTES</td>
</tr>
<tr>
<td>--------------</td>
<td>----------</td>
<td>--------------------------------------------------</td>
</tr>
<tr>
<td>Biosphere</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Local dichotomous keys</td>
<td>5</td>
<td>Local vegetation books</td>
</tr>
<tr>
<td>Dental floss</td>
<td>8</td>
<td>String, twine, etc.</td>
</tr>
<tr>
<td>Approximately 30 cm rulers</td>
<td>4</td>
<td>None</td>
</tr>
<tr>
<td>Atmosphere</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wood Boards (5 x 10 x 61cm)</td>
<td>4</td>
<td>4 wooden boards to support atmosphere shelter</td>
</tr>
<tr>
<td>Wood post (approx. 10cm x 10cm x 2m)</td>
<td>1</td>
<td>Atmosphere shelter fastened to post which is supported by the 4 wood boards</td>
</tr>
<tr>
<td>Hydrosphere</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plastic pails</td>
<td>2 to 5</td>
<td>Plastic buckets, children's buckets</td>
</tr>
<tr>
<td>Rope (5m)</td>
<td>5</td>
<td>None</td>
</tr>
<tr>
<td>Salt (NaCl)</td>
<td>2</td>
<td>None</td>
</tr>
<tr>
<td>Rope (50m) for sample buckets / secchi disk</td>
<td>1</td>
<td>May be 2x25 but needs to add up to 50m approx.</td>
</tr>
<tr>
<td>250ml plastic cups*</td>
<td>20</td>
<td>Glass beakers or other containers may satisfy this purpose, or empty plastic bottles with the tops cut off.</td>
</tr>
</tbody>
</table>

9. GLOBE Teams
GLOBE Teams can be created to enable collaboration on a variety of activities such as data competitions, science projects and support of educational initiatives. GLOBE teams can bring together family members, clubs, troops, classes, or any other group of interested individuals for real-world science experiences. Through working together on projects, a team can contribute valuable information to the scientific community while strengthening the groups interpersonal coordination.

Teams can be created by anyone and managed directly on the GLOBE Website. Visit here to create or join an existing GLOBE Team.

10. Sharing News, Events, Accomplishments and STEM Successes
CCs are encouraged to share information on their GLOBE activities with the GLOBE Community on a regular basis, through communication to RCOs or through the GLOBE Website. Doing so will highlight activities and recognize GLOBE members in their countries. It also will provide ideas and examples of best practices that will help inspire new GLOBE activities around the world. Details on these can be found below and in Section 6: Communications.

- GLOBE Stars and STEM Stories
  - GLOBE Stars (Instructions)
  - STEM Stories (Instructions)
- GLOBE News
- GLOBE Events