

Below we offer some suggestions and answers to frequently asked questions that may assist Box Keepers in their duties, as well as suggestions for teachers in partner systems that wish to use Biology in a Box in their classrooms.

### For Box Keepers

What are a Box Keeper's responsibilities?

1. Librarian
2. Inventory Specialist
3. Data Collector
4. Advertiser
5. Teacher
6. Ambassador

As a Box Keeper for your school system, you are considered an extended part of the Biology in a Box Team. In this capacity, and in return for our provisioning of your school system with a diverse array of resource materials, we do have some expectations from our Box Keepers. These responsibilities are outlined below, along with additional suggestions for facilitating you in your completion of each:

1. Librarian

Acting as a librarian of sorts, as you will be checking out materials to teachers in your system requesting them as well as checking these materials back in.

For the most part, since school systems vary substantially, the Biology in a Box team does not provide rigid guidelines regarding procedures by which boxes are checked out from a Box Keeper. We believe that a Box Keeper's familiarity with their school system, should give them ideas as to how to construct their own guidelines that will best serve all the schools in their system, as well as increase awareness and availability of Biology in a Box resources to teachers and students in the system. It is up to the Box Keeper of each system to determine reasonable limits on numbers of boxes checked out at one time by requesting teachers, as well as the length of time that the boxes are allowed to be checked out.

Ultimately, these decisions should be based on the degree of usage of and demand for the boxes for use in classrooms within the school system. Box Keepers are also responsible for arranging pick-ups and/or delivery of units requested by teachers. One possible method of facilitating this responsibility is the use of the system's inter-school mail delivery, if such is available. Box Keepers are encouraged to pursue this and other options that increase the efficiency with which boxes are distributed to requesting teachers and returned to the Box Keeper.

## 2. Inventory Specialist

Keeping track of materials in each unit and communicating needs for replacement/update materials to the Biology in a Box team.

This is the responsibility of both the Box Keeper and requesting teachers. Any damaged/missing materials should be noted by teachers that check out any Biology in a Box units, and promptly reported to their Box Keeper. Box Keepers should relay this information to our email at: [biologyinabox@utk.edu](mailto:biologyinabox@utk.edu) so that replacement materials may be provided. It is recommended that Box Keepers have requesting teachers conduct inventories of the materials in a unit when they check it out, and again before returning it to the Box Keeper. It might also be even more practical for the Box Keeper to conduct this inventory with the requesting teacher when the box is returned. It is also recommended that Box Keepers conduct a full inventory of all Biology in a Box materials at least once, if not twice, a year, to determine whether any replacement or update of materials are needed.

Since Biology in a Box is in over 100 school systems in Tennessee, as well as in four surrounding states, it is practically impossible for us to keep up with every system's individual needs without communication from our Box Keepers. If we do not receive requests for updates or replacement materials, we must conclude that the boxes are all in good order, or that the system is either not using the boxes or is satisfied with using older versions of exercises for which updates might be available.

## 3. Data Collector

Keeping records of usage of Biology in a Box units in your school system and supplying the Biology in a Box team with this information.

Details regarding the usage (and frequency thereof, as well as additional details such as information regarding requesting teachers (such as name, school, unit(s) requested, exercises used, and class/grade level in which the units/exercises are used should be provided to the Biology in a Box team at UTK in the form of an annual report, available from the Biology in a Box website: <https://biologyinabox.utk.edu/forms/> . Collection of this information not only provides us with valuable data that can be used to assess the impact of our program (which is important for proposals for additional funding), but also facilitates communication between Box Keepers and requesting teachers and makes the check-out/check-in procedure more standardized/streamlined across systems.

These data are extremely valuable to the Biology in a Box team, and we feel that submission of this information once a year is a small thing to ask in return for the materials we have provided to your school system. School systems that provide

the annual report to us, thus, will be given priority treatment with respect to the replacement of damaged or lost materials and updating of the units as exercises are revised and new ones added. Also, we will consider supplying large school systems with additional copies of the units, but only if they are supplying us with the requested information on box use patterns. When we do not receive these data from the Box Keeper of a system, we assume that the boxes are not being used to a degree that warrants provisioning the system with additional materials.

In conjunction with the previous responsibility, Box Keepers should also monitor the condition in which loaned units are returned. Requesting teachers should insure that materials are returned in their respective containers in a neat and orderly fashion, and immediately report any missing or damaged materials to you. You, as Box Keeper, do have the right to refuse further loans of units to teachers that consistently return units in a disorganized state, or with damaged materials (particularly if they are not reported). Ideally, however, this should not become a problem. If materials are returned in poor condition, you should give the returning teacher a “friendly reminder” of the costs (both monetary and time) of production of these materials, which will hopefully rectify the situation. The eleven units currently in your school system come to you at a material cost alone of over \$4,000.

#### 4. Advertiser

Advertising availability of Biology in a Box units in your system.

Since Biology in a Box is an outreach program, our goal is to reach as many students as possible, and our Box Keepers’ assistance is extremely valuable in this regard!

Providing information on the availability of particular units is the responsibility of the Box Keeper. The easiest way for a teacher to know if a particular unit is available at any given moment would simply be for them to contact their system’s Box Keeper. If contacted regarding the availability of a particular unit, it is crucial that our Box Keepers are quick and efficient in their responses to requesting teachers, so that as many students as possible are provided access to these materials.

Though it is by no means a requirement, some Box Keepers make a spreadsheet or other document available via the web (e.g. through Google Docs, etc.) whether particular units are currently checked out, to whom they are checked out, scheduled return dates, etc.

#### 5. Teacher

Conducting periodic in-services on Biology in a Box in your system.

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This is not necessarily mandatory, but we do feel that this is a great way to keep teachers in your system up to date on the program. Since Box Keepers should have initially attended a Biology in a Box in-service, their previous experience should provide an initial framework for their conducting their own workshops/in-services in their systems.

Ideally, such in-services would be conducted by the Box Keeper themselves, so that the boxes can remain at their designated location, but arranging for other teachers in the system (preferably those that have attended a previous Biology in a Box in-service/workshop) to check out the entire set of boxes to conduct an in-service at a different location is an option at the Box Keeper's discretion. If such a workshop/in-service is conducted by an educator other than the Box Keeper, this should be well coordinated with the Box Keeper to ensure that the boxes are returned to their "home base" in a timely manner so that they are available for other teachers in the system.

If a system's Box Keeper (or another teacher in the system) conducts such an in-service, we would greatly appreciate being informed. Sign-in sheets for such an in-service can be found on our website at the following address:

<https://biologyinabox.utk.edu/forms/> .

After an in-service is conducted, the sign-in sheet can simply be emailed to: [biologyinabox@utk.edu](mailto:biologyinabox@utk.edu) .

Alternatively, our Teacher Facilitators are also willing to conduct "refresher" in-services at the cost of \$300 plus mileage to and from the location of the in-service. Should you wish to pursue this option, please contact us at:

[biologyinabox@utk.edu](mailto:biologyinabox@utk.edu) .

Certificates recognizing all attendees' participation in workshops will be sent out for all workshops conducted by our Teacher Facilitators. These certificates will be sent to the system's Box Keeper for distribution to or pick-up by the attendees. If in-services are conducted by Box Keepers or other teachers within a particular system, certificates for attendees can be sent to the in-service coordinator upon request.

## 6. Ambassador

Keeping the Biology in a Box team updated regarding any changes in Box Keeper.

This is another critical responsibility of Box Keepers. If your contact information changes in any way, please keep us informed of this, as this information is posted to our website to enable teachers in participating systems to contact their local Box Keepers regarding loans of units. If teachers in a particular system are unable to get in touch with their Box Keeper, the system's Biology in a Box Units cannot be used for the purpose for which they were intended: to assist teachers

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in getting students engaged in hands-on learning of important biological and mathematical concepts. This also creates difficulties for the Biology in a Box team, causing us to have to “play detective” to track down the system’s units or an appropriate contact that is familiar with the program in the system. This takes away valuable time which we could devote to reaching more schools. If you move to another school, resign, retire, or simply feel that you are unable to continue to fulfill your responsibilities as a Box Keeper for your system, please designate a new Box Keeper for your system (preferably someone that has also attended a Biology in a Box in-service in your system) that is able and willing to take on these duties, and provide this information to us at: [biologyinabox@utk.edu](mailto:biologyinabox@utk.edu) .

Box Keepers may also wish to designate a secondary Box Keeper in their school to assist them with their duties, as well as to provide teachers in the area with a backup contact. This information should also be sent to us.

### For Requesting Teachers

Below are some suggestions on using Biology in a Box in your classroom that may help facilitate the operation of the program in your system

1. Please Communicate with your Box Keeper
2. Return Materials Timely
3. Be Careful
4. Utilize Free Resources
5. Please Communicate with the BioBox Team
6. Share with other Teachers

1. Please Communicate with your Box Keeper

Your Box Keeper is a valuable resource to your system, as they are responsible for making Biology in a Box units available to you. They should be your number one contact regarding the use of Biology in a Box in your classroom. If you are interested in checking out a particular unit, you should contact your Box Keeper regarding this matter. It is most helpful to the Box Keeper, as well as the Biology in a Box team if your initial contact includes the following information:

- Your name & email address
- Your school’s name and physical address
- Which unit(s) you wish to check out and on what dates
- Which exercises from the unit(s) you will be using in the classroom (this information can be provided to the Box Keeper when the unit is returned, if you are not initially sure which exercises you will be using)
- The grade level(s) and course(s) for which the units will be used

The information above will be used by the Box Keeper in completing an Annual Report to be submitted to the Biology in a Box team. This information may also be used by the Biology in a Box team to contact teachers regarding their experiences with the program.

If you check out a Biology in a Box unit and discover that there are missing or damaged materials in the unit, this information should also be reported immediately to your Box Keeper, who should pass this on to the Biology in a Box team so that replacement/update materials can be provided to the system in a timely fashion. As a matter of courtesy to both your Box Keeper and other teachers who may wish to use these units in their classroom, you should do an inventory of the materials in the unit(s) you check out both upon receipt of the unit, and before returning the unit(s) to your Box Keeper.

## 2. Return Materials Timely

The Biology in a Box team is thrilled that you are making use of the resources we provide to your school system. However, also keep in mind that there are other teachers in your system that may wish to use the same unit, so please arrange to get the unit(s) returned to your Box Keeper as quickly as possible after using them in your classroom so that other teachers and students can gain the benefit of these materials.

## 3. Be Careful

Many of the materials provided in Biology in a Box units are expensive and/or very time-consuming to produce. Please take care when using these materials, as replacing them can be quite costly to the Biology in a Box team, which limits the number of new partner systems that can be added to our program. Please also make students in your classrooms aware of this, as well!

Additionally, when returning loaned units to your Box Keeper, please make sure that the materials are returned in their respective containers in a neat and orderly fashion. It is extremely frustrating and time-consuming for Box Keepers to have to rearrange materials to get them organized for future loans. If teachers requesting loans of units consistently return units in a disorganized state, or with damages to the materials, Box Keepers reserve the right to refuse further loans to those particular teachers.

## 4. Utilize Free Resources

There are a number of free resources available to enhance the engagement of Biology in a Box Thematic Units. Located on our website here: <https://biologyinabox.utk.edu/> and our YouTube Channel here: <https://www.youtube.com/channel/UCLyphYbrDwNZEALGndGS-xw> . Please explore these as you prepare your lessons.

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### 5. Communicate with the BioBox Team

If you use particular units/exercises in your classroom, feel free to let us know about your experiences! If there are aspects of exercises that work particularly well, if you have suggestions for improvement of particular exercises, or if you have ideas for new exercises that could feasibly be added to a unit, contact us at: [biologyinabox@utk.edu](mailto:biologyinabox@utk.edu) with this information. Alternatively, a “Teacher Idea Submission Form” can also be found on the following page: <https://biologyinabox.utk.edu/forms/> .

This completed form can be emailed to Biology in a Box at: [biologyinabox@utk.edu](mailto:biologyinabox@utk.edu) or sent to us via regular mail at Department of Ecology & Evolutionary Biology, 569 Dabney Hall, University of Tennessee, Knoxville, TN 37996-1610.

If you have any difficulties contacting your local Box Keeper, or if your Box Keeper is not fulfilling their responsibilities as outlined above in an efficient manner, please contact us, so that actions may be taken to update this information, or to determine whether it is necessary to designate a replacement Box Keeper for your system.

### 6. Share with other Teachers

By informing other teachers of the availability of Biology in a Box resources in your system, you are helping us contribute to the advancement of science and math education of a broader student audience outside of your own classroom!

Also, an understanding of mathematics plays a substantial role in scientific disciplines, and science represents great opportunities to illustrate practical applications of mathematical concepts, both of which are highlighted in our substantial updates to many of our exercises, which have been achieved through our collaboration with the National Institute of Mathematical and Biological Synthesis (NIMBioS). Science and math teachers may wish to consider getting together to “team teach” using Biology in a Box exercises to simultaneously reinforce both scientific and mathematical learning.