The purpose of this guide is to help organizations new to e-Learning for Kids plan, execute and manage successful implementation of digital learning in the classroom.
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1. BACKGROUND ON E–LEARNING FOR KIDS

E–Learning for Kids (EFK) is a global non–profit foundation whose commitment is to help children learn and create opportunities for them in life by providing access to free, high–quality digital learning lessons. By mastering the basics of reading, science, math and other subjects, children can make their dreams come true. The EFK digital lessons are designed to inspire learning in a fun way so that children will gain important knowledge and life skills. Every child deserves a chance to reach their full potential, despite often challenging circumstances.

The e–Learning for Kids digital lessons are used by underprivileged children ages 5 to 12 throughout the world. Thus far, EFK has helped 15 million people in over 190 countries to achieve a meaningful primary education that otherwise may not have been possible. The subjects covered by the EFK lessons include Math, Science, Language Arts, Health, Environmental Skills, Computer Skills, and Life Skills.

EFK regularly collaborates with other organizations including schools, foundations, local governments, and NGOs to implement the e–learning lessons and help underprivileged children receive a quality education. This implementation guide is intended to help
organizations that are new to EFK to achieve a greater level of success when implementing EFK lessons in classrooms, libraries, computer learning labs, in children’s homes, and anywhere else learning occurs. While children are free to use EFK at home or part of a home schooling environment, the focus of this document to help schools and NGOs implement the e-Learning for Kids lessons and curriculum.

EFK has offices in the Netherlands and the United States. It is recognized as a 501(c)(3) organization in the United States and as a CBF/ANBI foundation (Stichting) in the Netherlands. More information on the e-Learning for Kids foundation and the lessons they provide can be found at the e-Learning for Kids web site.

2. PLANNING FOR IMPLEMENTATION

One of the compelling features of e-Learning for Kids is how easy it is to use online, without requiring passwords, licenses, or special software to use. Any user with an Internet connection and a relatively recent personal computer (PC) and web browser can launch a lesson through the web portal and begin learning. Offline versions are also available for those who don’t have an Internet connection or if it is too slow.

However, many users of EFK operate in rural or developing areas of the world, where the basics may be in short supply (e.g., reliable electricity, teacher training, or computer literacy). As digital learning is introduced, care must also be taken to engage all the stakeholders in learning, including school administrators, teachers and parents. Planning ahead is an essential component of success in implementing e-Learning for Kids.
2.1 Minimum Requirements for a Learning Lab

The first component of planning is to understand and establish the minimum required infrastructure and technology needed to create a safe, reliable and comfortable environment (or “learning lab”) for the computers to operate and the students to learn. Below is a checklist of what is needed to build a good learning lab.

- **Weatherproof Structure**

  The building or room which contains the learning lab should have a strong, weatherproof roof and walls to protect from intrusion of rain, dust, debris and insects into the computer equipment. Exposure to the outside elements will rapidly degrade computer equipment, reducing the availability of PCs for teaching and increasing costs for technology repair or replacement.

- **Air Conditioning or Ventilation**

  Computer equipment generates heat while operating. Ideally, the equipment should be placed in a cool, dry room maintained by air conditioning. If this is not available, control the room’s temperature and humidity through simpler means. For example, ensure adequate ventilation is provided by large, open windows (with screens to control insects) or use fans to circulate air around the room.

- **Reliable Electricity**

  Computer equipment requires electricity to operate, but is particularly vulnerable to sudden loss of power and voltage surges. Many developing areas of the world have limited electricity access or irregular voltage in the electrical supply. If possible, establish a dedicated power supply for the learning lab. A qualified technician should inspect the lab’s electrical wiring to ensure it can safely carry the load demanded by the equipment, and make any necessary repairs or improvements before the equipment is installed. Next, install surge protectors (usually inexpensive) to protect equipment from voltage surges. Finally, if the area’s available electrical supply is unreliable, consider acquiring a battery backup or uninterruptable power supply (UPS). A UPS system provides from a few minutes
to a few hours of emergency power should the external supply be interrupted, protecting equipment from possible damage and providing additional time to utilize the lab productively.

• **Furniture and Lighting**

The learning lab should be equipped with furniture and lighting appropriate to the lab’s size, number of computers, and number of users. Typical furnishings include chairs and desks or tables. Be sure that lighting for nearby computers is bright enough to provide adequate illumination for learners and teachers using the equipment.

• **Modern Personal Computers**

It is recommended to use EFK with Microsoft Windows compatible personal computers. The minimum system requirements for PCs are listed on the How to Use EFK Lessons page and in section 3 of this guide. While some EFK courses will work on Mac or Linux computers, others do not. Our experience is that deploying, operating, maintaining and updating personal computers in the learning lab is far simpler if all computers of are of a similar hardware and software configuration.

• **(For online use) Local Area Network**

A local area network (LAN) is required to connect individual personal computers to an Internet connection. Ethernet over cabling and Wi-Fi (wireless) are the two most common technologies currently used to build LANs. Wi-Fi requires personal computers equipped with wireless adapters connected to a wireless access point. Wired Ethernet LANs require PCs equipped with Ethernet adaptors and cabling from the PCs to an Ethernet switch.

• **(For online use) Internet Connection**

An Internet connection consists of the local hardware (or wide area network device) and Internet service provided by a telecommunications company. Typical WAN devices include dial-up, cable or DSL modems. In many parts of the world reliable,
affordable Internet connections are not available—for this reason EFK lessons can also be used in an offline mode; see section 4 of this guide for more information.

Read section 3 of this guide for more details on the acquisition, setup, maintenance and operation of the computer network and lab environment.

2.2 Engaging Administrators, Teachers and Parents

Many organizations implementing digital learning in the classroom for the first time overlook the importance of engaging the people involved in the learning process. Just as it is important to plan for proper infrastructure and technology in the learning lab, it is critical to plan for the engagement of school administrators, teachers and parents.

Working with Administrators

Whether it is in a government–run school, not–for–profit learning center, or private charity, most organizations new to EFK are implementing digital learning within an existing learning environment. Local administrators may hold broad authority over the curriculum, learning lab, and teaching staff. Therefore it is essential to engage administrators and carefully explain the benefits of digital learning in general and e–Learning for Kids in particular. There are many studies that detail the benefits of e–learning for students.

“
A meta–search of more than a thousand empirical studies of online learning... found that on average, students in online learning conditions performed modestly better than those receiving face–to–face instruction.

—2010 U.S. Department of Education study of e–learning

As well, e–Learning for Kids offers an online lesson on Effective Use of EFK, which outlines the key benefits for community, school and learner:
**Benefits of e-Learning for Kids**

| How Students Benefit | Fun to learn and play  
<table>
<thead>
<tr>
<th>Computer experience</th>
<th>Certificates of completion</th>
</tr>
</thead>
</table>
| **How Schools Benefit** | Pre-designed courses save time  
| Safe content | Learning portal involves parents |
| **How Communities Benefit** | Education improves lives  
| Primary school education available broadly |

Use these points, within the context of the local community and situation, to explain your organization’s objectives with digital learning technology. If the local government or school requires new curriculum items to follow an approval process before introduction, follow it diligently.

It is not uncommon for administrators to initially oppose the introduction of new learning technologies in the classroom. In some developing areas of the world, information technology may be little known. The local culture may emphasize traditional ways of life or work. Administrators may prefer the status quo because adopting new teaching methods is perceived as a career risk rather than an opportunity for better learning. In most cases, interacting with administrators as described above will clear the way for implementation.

“Administrators can be dedicated to the government curriculum and resistant to change. Before sending volunteers to a new school, we use our network of trusted teachers to identify regions with greatest need and interview prospective partners to evaluate their motivation and interest.”

– NGO partner in Thailand

However, if sustained engagement in good faith with local administrators on introducing digital learning is not successful, it may be best for your organization to select another school or region for implementation.
Learning for Kids Implementation Guide

Working with Teachers

The next critical step in implementing e-Learning for Kids is engaging with teachers who will guide students in using the software. Spend the time to interview teachers in the selected school or region, with the goal of identifying an implementation partner, not just an educator. Ideally, this teacher would be motivated, focused on student success, open to new ideas, and willing to learn to use the technology. Explain the benefits of digital learning as detailed in the Effective Use of EFK course.

Some teachers may be opposed to adopting new learning methods, or concerned that learning technology poses a risk of replacing them as instructors in the classroom. In this case, take time to articulate EFK’s value as an addition or enhancement to learning, rather than a replacement for qualified teachers.

The e-Learning for Kids catalog includes two courses which are very helpful in introducing teachers to digital learning. The Guided Tour introduces the basic functionality of the lessons, how to search and select courses online, and how to launch and navigate through a lesson.

A major part of the Effective Use of EFK course deals with effective integration of EFK lessons into the school curriculum from a teacher’s perspective. Included are worksheets and questionnaires to help guide a teacher’s decision-making on how best to use EFK lessons. Involve teachers in the process of developing these ideas and encourage them to explore the lessons available through EFK. This will increase their familiarity with the technology and build a sense of ownership in the effort.

“Engaging with the kids and teachers is about helping them ‘see and do.’ Incorporate as much fun as possible for younger children! Spend time with the teachers to see how lessons complement the local school curriculum”

‒ NGO partner in Ghana

Emphasize that EFK is not intended to replace the local school curriculum; instead it is an effective complement which teachers can tailor according to their own needs and
preferences. There is no “one size fits all” approach for utilizing lessons within a curriculum, but ten recommended approaches are listed below. The *Effective Use of EFK* course covers each of these in more detail, and there are other related resources available on the EFK website.

### Ten Ways to Use e-Learning for Kids in the Classroom

| 1. Teacher introduces topic / students complete specific course | 2. Teacher guides course / students repeat course on their own |
| 3. Teacher introduces topic / students take lesson as homework | 4. Learners with challenges complete additional courses |
| 5. Above average learners complete advanced courses | 6. Courses completed as additional practice on specific topics |
| 7. Courses covered are outside the core curriculum, but of interest | 8. Home schooled students take courses as supplemental learning |
| 9. Eager students are given recommendations for lessons | 10. Students complete lessons using interactive whiteboard technology |

### Working with Parents

Most organizations which are successful gaining support of administrators and teachers for digital learning do not face special challenges from parents. If there are difficulties, the steps recommended to introduce administrators and teachers can be effective with parents. In any case, EFK’s experience is that primary students are very enthusiastic to use new technology! You can expect that their children’s enthusiasm may be the greatest factor for parents embracing digital learning.

“Your courses are wonderful. My daughter and I find them fun and really easy to follow we are able to retain the information in a simple way. There is so much available. We are currently home schooling and find this is one of the best resources available on the Internet.”

— Parent in the United Kingdom
Another area to consider engaging parents on is helping prepare children to use the Internet safely. EFK offers an online course *Safe Internet Usage* which covers best practices for browsing the web safely; check the EFK website to access the lesson.

### 2.3 Language Considerations

EFK provides over 700 courses in Math, Science, Language Arts, Computers, English as a Second Language, Environmental, Health and Life Skills. All courses are available in English, and select courses are translated and available in Spanish, French, Portuguese and Indian English (voiceover only). EFK does not currently plan to offer a complete translation of all courses into languages other than English, but will work with your organization on specific translation requests on a case-by-case basis. Please visit How to Use EFK Lessons for more details.

Many of our partners globally teach primarily in a language other than English, but still utilize EFK lessons very effectively. Some partners provide an English-speaking teacher to assist with translations for learners; others focus on courses that do not require English proficiency, such as Mathematics. Others use the lessons to enhance students’ practice with the English language.

### 2.4 Pilot Digital Learning and Next Steps

After minimum infrastructure requirements are met ([section 2.1](#)), learning lab computers are configured and staff trained ([section 3](#)), and administrators, teachers and parents have been engaged ([section 2.2](#)) the next step is to launch the learning lab and begin instruction for students.

[Section 4](#) of this guide provides details of online and offline usage. The simplest and most complete method is to start using lessons on the online web portal by linking directly to [www.e-learningforkids.org](http://www.e-learningforkids.org).

Our experience is that most successful implementations begin with one classroom, one teacher or one school. Every situation is unique, and your organization will learn vital
lessons in how best to deploy digital learning by starting small. This approach will decrease the complexity and cost of initial deployment. As your experience and familiarity grows with digital learning, so will your ability to launch digital learning on a larger scale.

Section 5 describes recurring activities for organizations using EFK lessons, such as how to measure progress, manage technology repairs and updates, and stay connected to the e-Learning for Kids foundation.

Appendix B: Third-Party Technology Support lists resources and organizations which can provide additional advice and support as you implement e-Learning for Kids.

3. SETTING UP THE COMPUTING ENVIRONMENT

In order for children to be productive when using e-learning lessons, a safe and reliable computing environment must be established. Proper planning will reduce costly computer failures, and ensure that students are not distracted by viruses, malware, pop-ups, fake warning screens, and inappropriate images. Preventing these types of issues will also reduce the number of IT visits, and therefore also reduce the cost and frequency of computer repairs.

3.1 EFK Technical Requirements

Not all computers are compatible with EFK. Before accepting or purchasing computer equipment for use with EFK, be sure that it meets the minimum system requirements for
use with EFK, and that it runs a compatible operating system. The minimum standards are as follows:

- **Hardware**
  - RAM (memory): At least 512 MB
  - VGA Monitor Resolution: 1024 X 768 pixels
  - Processor: Pentium 4 1.6 GHz or above
  - Speaker and sound drivers installed

- **Software**
  - Microsoft Windows 7
  - Microsoft Internet Explorer: 7, 8 (recommended), 9
  - Adobe Flash Player 8 or above
  - Settings: Set privacy settings to medium or medium–high. Accept third–party cookies and allow session cookies. Enable JavaScript.

If a computer is not running the latest versions of vendor–supported operating systems and software, it is recommended that the computer is not connected to the Internet for security purposes, or that access is strictly limited to specific web sites. Supported versions of the software mentioned above are:

- Microsoft Windows Vista SP2, Windows 7 SP1, or Windows 8.1 (see the Windows Lifecycle Fact Sheet for current information)
- Microsoft Internet Explorer 7 and above (support depending on OS version)
- Adobe Flash Player 11 and above (see Adobe Flash Player Downloads page for current information)

Some organizations have made the EFK software work on alternative operating systems such as Apple Mac OS X, Linux (Ubuntu), Google Android, and other platforms that support Flash. The lessons were designed to work on desktop PCs with a mouse; however, some lessons may work on mobile devices with touch interfaces. Note that
Apple iOS devices such as iPad and iPhone do not support Flash and will not run EFK lessons.

For limited technical support when running the EFK e–learning lessons, feel free to contact EFK with any questions or concerns.

3.2 Obtaining Donated PCs

For many schools and other learning institutions, it is possible to obtain donated computers. Specific organizations have programs setup to redistribute computers that companies and individuals have donated. Additionally, they will often refurbish and recondition the computers so that they are able to be used for longer periods of time without issues. By reconditioning the computers, they run faster, have newer software, are free of malware, and have been cleaned of dust accumulated inside that causes other problems. Although donated PCs may be ready to use as soon as you receive them, it is still important to configure them for your needs before using them.

Schools and organizations in need of PCs must apply to receive donated PCs from an organization that specializes in providing computers to under–privileged areas. Some organizations have a process to apply online. Alternatively, find the contact information for the organization and call or email them. Important details to have in advance are:

- Background information about yourself and your organization
- The locations that require PCs (and how many)
- How you plan to use the PCs

Depending on the organization, it may be possible to request that the latest EFK software is pre–loaded onto the computers before they are shipped to your location(s). References to organizations that supply computers can be found in Appendix B of this guide.

When working with organizations that refurbish and donate PCs, please remember that their members may have busy schedules and many other organizations asking them for help. Being friendly and patient may go a long way towards a mutually rewarding
relationship. If you or your organization has worked with NGOs or other organizations that provide computers that are not listed in this document, please reach out to EFK and they can be added to the list.

### 3.3 Acquire Networking Equipment

If your organization intends to connect multiple computers together or connect them to the Internet, it will be important to obtain networking equipment for this purpose. Without it, each computer is “on an island” and cannot communicate with others. Although network connectivity is not required to use the offline version of e–Learning for Kids, it is required in order to use EFK online. Network connectivity has other benefits as well, including:

- File and printer sharing (server–based or peer–to–peer)
- Wireless device access (Wi–Fi)
- Backing up files
- Advanced: Centralized services (on a server)
  - Directory services (Active Directory domain)
  - Anti–virus configuration
  - Software updates / patching
  - Proxy / web browsing security

The types of networking equipment will vary based on the type of computer hardware you have. Some organizations may only want to use wireless networking equipment with laptops, and others may have all desktop computers with wired network connections. Generally, you will need the following equipment:

- **Router** – This device handles the connection to the Wide Area Network (WAN), and routes network traffic between your network and other networks (including the Internet). If your network will not be connected to other networks or the Internet, you will not need a router.
• **Modem** – Depending on the type of Internet provider you have, you may need a modem. Examples include a cable modem and DSL modem. This hardware connects between the Internet Service Provider (ISP) and your router.

• **Ethernet switch** – This device allows all of the computers within a building or campus to communicate with each other over a Local Area Network (LAN). A switch will have multiple RJ45 (8-pin) ports on it, with each one connecting to a different computer. Multiple switches can also be connected to each other, adding capacity to the network for additional computers.

• **Ethernet cabling** – This cabling must be rated at category 5e (CAT5e) or better, and has RJ45 connectors on each end. It is used to connect computers to Ethernet switches. These cables can be bought in spools and made yourself with proper knowledge, as well as the appropriate RJ45 connector ends and crimping equipment.

It is important to design the network before acquiring equipment, or you may end up with the wrong equipment. By planning properly and evaluating that the hardware you want to acquire meets all of the needs of your network (including speed/bandwidth, management flexibility, and level of vendor support), you will reduce the number of headaches and mistakes when setting up the computer network. When in doubt, contact an IT professional.

For more information, reference Appendix D: Setting Up the Computer Network & Internet Access.

**3.4 Create a Safe and Secure Computing Environment**

Many organizations have setup robust learning labs, only to have them fail repeatedly once students begin using them and Internet access is enabled. It is important to know that this was not the fault of the students, but rather that the computers were not configured with an adequate level of security. Consequently, the computers were compromised with malware that stole data and passwords from them, transformed them
into spam email generators, and made them very slow to use. By creating a computing environment with sufficient security controls, it significantly increases the reliability and longevity of the computers so that they can function well for years to come. For details on protecting the computers in the learning lab, see Appendix E: Protecting Learning Lab Computers.

It is also important for teachers, administrators, and parents to know the risks of their computers and data being potentially compromised. To help them understand better, EFK has published a digital learning lesson called Safe Internet Usage.

### 3.5 Technical Support Staff

When applying proper security to computers, the need for technical support can be significantly reduced. However, most computer issues are not security related, so there will still be a great need for technical support staff. When computers break or someone needs technical help, IT support must be there to assist.

The first step to have an IT support program is to identify the people who will be responsible for IT support. This may include contractors, volunteers, dedicated staff, or employees that have a different primary role such as teaching. Once these people have been identified, they should be evaluated to determine if they have the proper expertise to support the technologies within your organization. If they are not already qualified, they must receive training in order to be successful in the IT support role. Reference Appendix C for examples of online locations where organizations can receive IT support training for free.

It is important to define the process for reporting issues to IT support. Once the IT support staff have been trained or adequately assessed, their role and contact information must be communicated to the organization. After the process is defined and documented, it should be communicated to the people that are using the computers and e–learning software. This process should also include creating a new record for a problem each time one occurs, so that the number of open and resolved problems can be properly
tracked and accounted for. The volume of work from the IT support role may justify the hiring of another dedicated person to help with the workload.

4. USING EFK IN THE CLASSROOM

There are many different ways to for organizations to access the e–Learning for Kids digital lessons. Each organization must choose an approach for delivering the lessons to students prior to implementation. There are several factors to consider before choosing a delivery method for lessons, including:

- If there is an Internet connection that is accessible to all computers
- If the Internet connection has enough bandwidth
- If the computers are running a supported operating system
- If a local server is available on your network

These factors will determine which approach your organization should take when choosing how to access EFK lessons. The options currently available are to access the lessons:

- **Online** – This option is best if a site has a reliable high-speed Internet connection that can be used by every computer to access the [EFK web site](#).
- **Offline** – Use this option if a site has no Internet connection, or the connection is unreliable. The EFK lessons can be accessed using:
  
  - **CD–ROM discs** – For more information on creating EFK CD–ROM discs and the procedure involved, see [section 4.2](#) on “How to Use EFK Offline.” Once the discs are created, then the lessons can be accessed directly from them or
the digital lesson files can be copied from the discs to each of the student computers.

- **Pre-loaded lessons** – Computers may have been provided with EFK lessons pre-loaded onto them from a third party. If EFK lessons were pre-loaded onto donated or refurbished computers, no CD–ROM discs are needed to use them. However, the pre-loaded lessons should be updated periodically using the CD–ROM download when new lessons are available from EFK.

- **A local network server file share** – If a local server is available for hosting the files, the lessons can be copied to it and accessed by each client over the network. This is a more complex but lower maintenance option, as it limits having to update each copy of the lessons on every computer as new updates are published.

  - **Hybrid** – A hybrid environment is one in which students access the EFK lessons online from some locations and offline from others. A common example would be a library or computer lab with Internet access, paired with classrooms without Internet access. Students may also access the lessons online from home and offline in the classroom.

The ideal method for accessing EFK may be different for each site within your organization. Be sure to evaluate the best approach for each location based on the various factors mentioned in this section.

### 4.1 How to Use EFK Online

The first (and preferred) method for using e–Learning for Kids digital lessons is to access them online. This can be accomplished by simply accessing the Internet and navigating to the [EFK web site](https://example.com) using a web browser. The online version is preferred because it will always be updated with the latest lessons. Accessing EFK online can be accomplished by following these instructions on a computer that meets the minimum requirements for using EFK:

1. Login to the computer and open a web browser such as Internet Explorer.
2. Open the EFK web site URL by typing it into the address bar.
3. Once the page loads, click on the appropriate native language in the top-right corner. By default, United States English is chosen (as shown).

![Language selection](image)

4. Choose the subject to be accessed. This list will differ based on the language chosen.

![Subject selection](image)

5. Click on the grade number for the student or lesson to be accessed.

![Grade selection](image)

Alternatively, search for the specific lesson by using the keyword search.

![Search lesson](image)

Either of these steps will limit which lessons are shown on the page.

6. Click the Start Lesson button under the lesson to begin.

Once these instructions have been demonstrated to the teachers and students, they are generally able to navigate the site by themselves to access the courses. Be sure to designate a contact person in your organization for any questions regarding EFK.
4.2 How to Use EFK Offline

In circumstances where the Internet is not accessible or accessing the lessons online is not possible, EFK provides the option to use the lessons offline. This means that the lesson files are provided by EFK for download onto recordable CDs, and therefore Internet access is not required to use the lessons. This option makes the EFK lessons very flexible for remote and offline locations.

The first step to using EFK offline is to complete the appropriate User Compliance Agreement form, which can be downloaded from the EFK Offline Access page. It is here that the potential user of the offline courses agrees to terms of use, selects the desired topics and languages, and estimates usage for EFK as part of their request. Once the form is completed, it can be sent to EFK via email for review. EFK will then approve the completed form and provide instructions for downloading the necessary files and creating the CD-ROM discs using a computer at your location. For those who request the courses for offline use in languages other than English, the appropriate download link(s) and instructions will be sent for the language(s) chosen.

Once the CDs are created, the information can be copied to many locations. The lesson files are typically copied to each student computer, where the students can then open the lessons and take the courses. Detailed instructions for opening the e-learning lessons are included within the “Read Me.doc” file on the CDs. Once teachers are familiar with the process, they can easily show most students how to use the lessons.

Organizations may also choose to copy the lessons to a local server instead, which will reduce the amount of time spent copying files and allow for them to be managed in a central location for each site. This is a more advanced usage and is not covered in this document due to the extensive level of IT knowledge required.

It is recommended that when using EFK offline, the lessons should be updated at least once per year on every computer. By keeping the software updated, the students have access to the latest lessons available and are able to get the most value out of them. Teachers are also able to supplement more classes with e-learning materials, which helps to keep the students more engaged.
4.3 Integrating Lesson Plans with EFK Courseware

There are many lessons for students to take using the EFK course library. It is important that the lessons being taken are pertinent to what is being taught in the classroom, which will make the content easier for students to understand and apply. It is the responsibility of the curriculum administrators and teachers to integrate e–learning lessons with current and future lesson plans. With proper planning, this will reduce time spent on coordinating additional student activities and make the classroom instruction easier for teachers.

To begin integrating lesson plans with EFK, it is helpful to identify the list of e–learning courses that are applicable to a specific grade level and subject being planned, for example, third grade math. Once the e–learning list is created, another list must be produced that details the skills outlined in the curriculum for the same grade level and subject. After both lists are completed, the e–learning lessons can be more easily paired with the curriculum objectives. For a detailed list of available e–learning lessons by grade level and which skills are covered in each, contact EFK and one will be provided.

“Our students enjoy very much working with interactive programs. Thus, combining learning with fun, colors and a different setting other than regular classroom learning, e–Learning for Kids is a good choice to enhance different skills – both language–wise for foreign students as ourselves, as well as in regular subject matter areas.

– Private school teacher in Denmark

As the lesson plans are created, the e–learning lessons can be included for activities such as homework, extra credit, classroom activity, or after–school activity. The lessons can also be used to help students that are behind and to help advanced students get ahead. More information on e–learning use cases is available at the How to Use EFK Lessons page and in section 2.2 of this document. If a teacher wants to cover an e–learning lesson but does not have enough computers in the classroom, a projector may be used to share the experience with the students in front of the class.
Although e-Learning for Kids’ mission is to create high quality digital learning lessons in English, it is still possible for children to use the lessons if they do not know English. For environments where language barriers exist, other subjects such as Math and Computer Skills can be used until they are more comfortable with English. Additionally, a limited EFK curriculum is also available in four other languages.

“Most teachers choose to use EFK to help teach things like Mathematics because of limited English skills in the classroom. As students advance in English, they begin to try the English language courses.”

– NGO partner in Thailand

Taking e–learning lessons may be helpful and fun for students, but the lessons can also make teachers’ jobs easier and more effective. By using EFK effectively, organizations can get the most value out of the time spent with children in the classroom and properly leverage their enthusiasm for technology. For more information on the best ways of using EFK, reference section 2 of this guide or the Effective Use of EFK course.

5. RECURRING ACTIVITIES

Following the initial effort to set up the learning lab, engage students and teachers, and launch digital lessons in the classroom, EFK recommends users follow a set of recurring activities to help maximize and sustain success. Recurring activities include technology maintenance (this is vitally important), measuring progress, and reporting offline usage.
5.1 Computer Repairs and Updates

“Rural environments are very hard on computers and sometimes teachers are reluctant to ask for help. In our first year we left the computers for 12 months, came back, and 90% were not functioning. For us it is essential to inspect equipment and update software every few months.”

– NGO partner in Southeast Asia

EFK highly recommends that a qualified IT professional complete a full check-up on each of the personal computers deployed in your learning lab, at least once per year. Our experience is that most costly damage to computers can be avoided through diligent, routine checks of the equipment. If possible, perform checks every 6 months. The check-up should include the following items:

- Install manufacturer updates for operating system, web browser, Flash player, and video / audio drivers
- Update virus scanning software and run full system scan
- Clean hardware of dust and debris
- Inspect hardware for signs of damage or overheating; replace any faulty components
- Test local network equipment and Internet connection (if available)
- Pull up EFK learning software and test a few lessons for correct operation

Children using the Internet are prone to download computer viruses and other malicious software; damage resulting from this can be almost completely avoided by maintaining a quality anti-virus program on any computer with an Internet connection.

Computers operating in areas with high heat, high humidity, exposure to dust or insects, or inconsistent electrical supplies will suffer equipment breakdowns far more frequently. In these conditions, EFK recommends performing the full system check every 3 months to minimize the negative impacts of equipment problems on your learning lab.
5.2 Measuring Progress

As discussed in section 2.2 of this guide, and in the *Effective Use of EFK* course, there are many effective ways to use e-Learning for Kids in the classroom. We recommend that the educators utilizing the lessons reflect on the options for using digital learning, explore the available EFK courses, and create an approach that fits their students’ specific needs and interests.

Many of EFK’s partners find it useful to put into place a regular process for measuring progress of students using the lessons, and for taking feedback from teachers and parents. In this way the effectiveness of the current approach to using EFK can be evaluated, and if required, modified to better suit local needs. A comprehensive method for measuring progress could include the following steps:

1. Before using EFK, assess each student’s mastery of relevant subject(s). This could be through test scores or other academic measures
2. Provide students with EFK lessons to practice skills in the subject(s)
3. After using EFK for some time, assess the students’ academic progress in the subject(s) again
4. Survey students about their views on EFK lessons and usage in the classroom
5. Interview teachers to discuss their satisfaction with EFK lesson content, ability to utilize EFK in the curriculum, observations of their students’ response, and issues with technology (if any)
6. Discuss with parents how their children respond to digital learning, and progress observed in relevant subject areas
7. Prepare a progress report combining all the findings once a year, or more often as desired. Include in the report an analysis of student progress in areas where EFK lessons were used, and feedback from students, teachers and parents. An appendix would identify technology issues to be addressed. Finally, the report would recommend changes to optimize the use of digital learning going forward.
5.3 Reporting Annual Offline Lesson Usage

e-Learning for Kids tracks the usage of lessons in order to understand which lessons are in use, how many students are using them, and where they are located geographically. EFK’s goal is to accurately report usage metrics to the partners, donors and friends of the foundation.

At the end of each calendar year, EFK reaches out to organizations using lessons offline to collect usage statistics (online use is measured automatically). Offline users can help in this process by assembling each November/December a few important details:

- Estimated number of students using EFK courseware, for each language
- Estimated number of schools, organizations, or learning labs using EFK courseware, for each language

Thank you for helping us collect this important information! Once this information is received and processed by EFK, the most recent set of download links and instructions will be sent to each organization that is using EFK offline so that updated lessons can be installed on computers (see section 4.2 for more details on using EFK offline).
6. GETTING HELP AND SUPPORT FROM EFK AND OTHERS

If addition to the implementation guidance offered in this document, e-Learning for Kids provides several other resources to help, including the Effective Use of EFK and Guided Tour lessons, frequently asked questions, and school/NGO case studies, all available anytime on the e-Learning for Kids web site.

6.1 EFK Contact

If the above mentioned online resources do not address your question, contact EFK directly at info@e-learningforkids.org. Please provide details of your specific query or concern so we can route the message to the appropriate person.

If your question is technical (concerning hardware, software, or networking) please provide details of the PC configuration, operating system, web browser and Flash version you have installed. For highly technical challenges, we may recommend you consult a qualified IT professional in your local area.

If you wish to sign up for the EFK newsletter to receive updates regarding EFK and curriculum updates, please email us and request to be added to the newsletter mailing list.

We also welcome your feedback and suggestions on the over 700 digital lessons available through EFK. If you find a particular lesson or set of lessons to be very helpful in your situation, let us know! EFK is always eager to improve our understanding of how our school and NGO partners utilize lessons most effectively. We may ask you to help us write a brief case study so we can share your learnings and best practices with our current and future partners. Also, our team is always looking to have our users send us pictures or videos of the children, teachers, and parents using our courses!
APPENDIX A: EFK LINKS AND REFERENCES

| e-Learning for Kids Web Site                  | http://www.e-learningforkids.org/ |
| e-Learning for Life Web Site                 | http://www.e-learningforlife.org/  |
| e-Learning for Life is an EFK sister site that provides e-learning lessons for ages 13 and older (including adults), covering topics such as leadership, professional skills, finance, marketing, and technology (e.g. Microsoft Office). |
| EFK Offline Access Page                      | http://www.e-learningforkids.org/offline-access/ |
| How to Use EFK Lessons                       | http://www.e-learningforkids.org/how-to-use/ |
| Effective Use of EFK Course                  | http://lessons.e-learningforkids.org/efk/Courses/EN/Effective_Use/player.html |
| EFK Guided Tour                              | http://lessons.e-learningforkids.org/efk/Courses/EN/Implementation/Guided_Tour/Guided_Tour.htm |
| Safe Internet Usage                          | http://e-learningforlife.org/Courses/Safe%20Internet%20Usage%20Parents/player.html |
APPENDIX B: THIRD-PARTY TECHNOLOGY SUPPORT

Some organizations setting up digital learning labs for the first time require additional technology support, beyond the free learning software EFK provides. Below we have included a list of organizations which may be able to help you access free or low-cost PC hardware, software, networking equipment, Internet access, IT user training, or IT professional advice. The list is not exhaustive; it is a starting point of organizations that we have interacted with. Please contact these groups directly, and search in your local area and on the web to identify other organizations which can help.

<table>
<thead>
<tr>
<th>PC hardware</th>
<th>Software</th>
<th>Network hardware</th>
<th>Internet access</th>
<th>IT support</th>
<th>Organization (Region Served)</th>
<th>Website</th>
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<td><a href="http://www.close-the-gap.org">www.close-the-gap.org</a></td>
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<td>Computers 4 Africa</td>
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<td>Power My Learning</td>
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<td>Electronic Access Foundation</td>
<td>e-access.org</td>
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### APPENDIX C: TRAINING RESOURCES FOR TECHNICAL SUPPORT

**e-Learning for Life**  
Computer-based training on skills including Microsoft Office, Internet safety, programming, and Google search.

**Goodwill Community Foundation**  
[http://www.gcflearnfree.org/technology](http://www.gcflearnfree.org/technology)  
Computer-based training on operating systems, Internet safety, web browsers, social media, and others.

**Professor Messer's Free A+ Certification Training Videos**  
Online video training for the CompTIA A+ certification exam, which covers computer hardware, networking, printers, Microsoft Windows, and general technical support.

**Microsoft Virtual Academy**  
Free online courses and e-books for technical learning of Microsoft products

**Microsoft Free Training Resources**  
Computer-based training on basic computer skills, productivity software, the Internet, computer security and privacy, and digital lifestyles

**Guide to Microsoft donations through TechSoup**  
TechSoup's guide to obtaining donations of software and training from Microsoft
Viafrica


Training courses for various groups, from starting users to network administrators, both for Linux and Windows and for the most common applications. Training courses given in English or Swahili, and locally in parts of Africa

DigitalLearn.org

http://www.digitallearn.org

Collection of self-directed tutorials for end-users to increase their digital literacy, and a community of practice for digital literacy trainers to share resources, tools and best practices

EveryoneOn.org

http://www.everyoneon.org

Internet training classes, information on computer basics, job searches, and accessing government resources
APPENDIX D: SETTING UP THE COMPUTER NETWORK & INTERNET ACCESS

At a high level, setting up the computer network is merely a matter of connecting all of the equipment and making sure it is configured properly. In practice, it is often more complicated. Each type of equipment requires a different approach to configure. Generally, the first step is to connect all of the equipment using the appropriate wiring and making sure it is connected to a power source. A diagram showing how devices are generally connected in a network with Internet access is shown in Figure 1.

Most “small office/home office (SOHO)” routers include several components in one device, such as a firewall, router, Ethernet switch, and a wireless access point that allows laptops to connect to the network. In a network that uses a device with all of these integrated components, the architecture would look more like Figure 2.
By following the diagrams above as a guideline, an organization should be able to connect their devices together. Once they are connected, the manufacturer guidelines should be followed to properly configure each device for the network. One very important step is to secure the wireless access point (or wireless router) with proper security settings (such as WPA2 encryption) and setting a passcode that is difficult to guess. If there are any problems setting up the network, consult an IT professional.
APPENDIX E: PROTECTING LEARNING LAB COMPUTERS

There are several important security controls required for computers that are connected to the Internet. Among them are regular patching, installing and configuring security software such as anti-virus, and applying security best practices. Fortunately, most of these controls are not very difficult to implement.

No application has ever been programmed perfectly the first time. To address this, new versions of software and patches are released often to fix defects in all common software (known as bugs). Many of these patches fix security vulnerabilities that could allow hackers to take control of the computer running the vulnerable software. These patches fix bugs in programs and close security holes. Some attacks against unpatched software may require a person to open a file or visit a web site, while others can occur when a hacker connects to the unpatched computer over the network. Due to the wide variety of bugs, fixes, and related security issues, it is important to patch systems regularly if they are connected to the Internet.

The process of patching computers will differ for each type of organization based on the number of computers. For very small organizations such as independent schools, patching may require visiting each computer and installing the patch manually. For larger organizations, patches are centrally managed on a server and can be distributed to each computer over the network. This process results in a much more automated and timely installation of software patches, which leaves the computing environment much more secure.

Patching can be divided into two separate categories: operating system patching and third-party application patching. Operating systems such as Microsoft Windows include built-in software for downloading and installing patches automatically, and it is important to enable this feature. Centralized patch management solutions such as Microsoft Windows Server Update Services (WSUS) are available to patch the Windows operating system on all network computers, and can also patch other Microsoft software such as Internet Explorer and Microsoft Office.
Third-party applications are applications that are not created by the same publisher as
the operating system. These applications are installed on top of the operating system and
are more difficult to patch because each one must be managed separately. Examples of
commonly installed software that is targeted by hackers every day are:

- Oracle Java SE
- Adobe Reader
- Adobe Flash Player
- Adobe Shockwave Player
- Aftermarket web browsers (e.g. Mozilla Firefox, Google Chrome)

If any of these software packages are installed in your environment, it is important to
patch each computer at least monthly to ensure they are running the latest versions of
each one. It is a trivial task for a hacker to lure someone to their malicious web site that
will run code on the computer to compromise it, often resulting in a malware infection.

There are a few options for deploying third-party application patches from a central
server, including some that are free and others that cost money. Free options include
using a login script, or Active Directory Group Policy Objects (GPOs), while non-free
options include Microsoft Systems Center Configuration Manager (SCCM) or any other
tool that deploys software remotely.

In addition to patching, it is important that security software is installed and healthy on
all systems. Generally this includes anti-virus software, which will remove known
unwanted files from your organization’s systems. However, a growing consensus of
security experts is stating that it is important to install software to prevent unknown
attacks as well, such as the Microsoft Enhanced Mitigation Experience Toolkit (EMET)
software that is available for free on the Microsoft web site. Although patching is still very
important, EMET will make unpatched software much more difficult to attack when
configured using the “Popular Software” profile. This could prevent malware from being
downloaded to your computer during an attack, even before anti-virus has a chance to
clean it.
Another important security control that is especially effective in environments such as schools is using non-administrator accounts to login to computers. Most user accounts in the Windows operating system are given full administrative permissions; however, a best security practice that is fairly simple to implement is to create normal user accounts with restricted permissions instead (this is the default for new accounts on Windows). These users would be unable to make changes to the computers and therefore any attack against them would have no impact on any other users of the system. This concept is called “least privilege,” which refers to granting the least possible privileges that are required for a person’s role. By applying the concept of least privilege to the user accounts on the computers, the computers are protected from changes that would render them unusable. If a single account on a computer has problems, it can simply be deleted and recreated.

These recommendations are a good starting point for making an organization’s learning lab computers more secure. By following these steps, an organization will likely experience fewer computer failures, waste less time with technical support issues, and ensure that children are more productive when using the computers to learn.