



## 21T4S Teacher Resource Handbook

2025-2026 Updates

[21 Things 4 Students](#)

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## 1. Welcome to the 21 Things 4 Students project

Welcome to this "21 Things 4 Students" project-based site, funded by [REMC Association of Michigan](#). These FREE resources are designed to address a variety of technology and mobile devices (PC, Mac, Chromebooks, iPads, etc.).

## 2. ABOUT the 21 Things

The 21 Things 4 Students is an online resource to help middle school students improve their technology proficiency as they prepare for success in the real world through project-based activities aligned to standards. The target grade levels are grades 5-9, but can be adapted for other grade levels. Teachers value 21 Things 4 Students because it is relevant, applicable, adaptable, flexible, and aligned to state (MITECS) and national technology competencies and standards. We maintain our site resources through annual revisions based on student and teacher feedback. Students say they love this learning!

View the [Introductory Video](#)

**Elementary levels K-5:** This is a related project

A [MITechKids.org](#) site for K-5 features "Taskcard" mini technology integration ideas for each grade level, by standard, and content area. This is being revised and added to each year. \*Remuneration is available for new Taskcard development by interested educators.

### Things and Quests:

The site resources, or Things, are organized around 'big ideas' in technology and learning (such as Cyber Safety, Digital Footprint, Digital Storytelling, Search Strategies, Powerful Presentations, and Global Collaboration). "Things" are chunked into discrete project activities called "Quests."

### Non-sequential:

The Things are non-sequential; however, we strongly recommend starting with Thing 1: Basics to help prepare and orient students to basic technology skills and terms, and to navigate our site resources.

### FREE is good

The activities integrate FREE web resources in projects designed to help address the Michigan Integrated Technology Competencies for Students ([MITECS](#)), the 2016 [ISTE National Educational Technology Standards for Students](#), and the [Partnership for 21st Century Skills](#). This project is supported by funding from the REMC Association.

### Goals

1. To improve technology proficiency for students in grades 5-9 (and all students K-12 are welcome to use these resources) by providing project-based activities that address the MITECS and integrate the [ISTE Technology Standards for Students](#).

2. To provide resources for educators to use with students in virtual or in-person settings.
3. To help students build information literacy and digital citizenship skills and be knowledgeable about being Safe Online.
4. To provide 21st-century resources that are engaging and fun for teaching and learning using technology devices through performance-based activities based on 21st-century educational technology tools (e.g., Google or Microsoft applications, digital citizenship, copyright, presentation tools, etc.).
5. To provide just-in-time and project-based resources online through Quest activities with opportunities for authentic portfolio-based assessment of students' educational technology literacy skills.

## Content Delivery & Flexibility

**Digital Breakout Challenge Activities were added in 2022 to address requests by students for additional “game-like” activities.**

*Digital Breakout may also be called a Digital Escape Room. This is a web-based, game-like activity where students use clues to unlock a series of puzzles or activities to solve a challenge (or to escape a digital room). Students frequently work together (conference, or chat) as they work to locate and solve clues.*

For additional help, view this [short video](#) (3:44) showing how to use clues and hints to solve the [Escape From Tech Basics](#) on [Thing 1. Basics Q6 Email Digital Breakout Quest](#) page.

- **Digital Breakout Activities** have been added to over 13 Quest page activities, found by [filtering the INDEX](#) by Breakout under Applications.

### Non-Sequential

Things do not 'build' on each other and can be used in any order, although we have suggested everyone start with Thing 1 Basics.

Several ways to use the project include:

1. Teachers can use the entire set of '21 things'
2. Teachers can select and use individual Things and individual Quests.
3. Teachers are free to use and customize a Schoology LMS version that is available at no cost, and there is no for-fee commercial use.




### Flexibility

Flexibility is addressed by providing tutorials for various platforms, applications (Google and Microsoft 365), devices (Chromebook, iPad, Mac, PC, Surface), and operating systems.



### **Anatomy of a “Thing” for grades 5-9**

[Anatomy of a Thing and Quest PDF chart](#) for Things and Quests.

The Original Thing Page contains several project-based Quests. Each main Thing page has:

- Introduction
- Learning Objectives
- Links to the Quests
-  Teacher Lesson Overview Guide for the Thing
-  Learning Objectives slide (Google Slides)
-  Student Showcase Portfolio Template
- List of websites and documents
- Link to “Gold Quests” if available
- Link to the Graduation Page
- The Graduation Page contains:
  - Sample image of the Graduation Certificate (original available in the 21T4S teacher resources site)
  - Badge student checklist (badge icons available in the 21T4S teacher resources site)
  - Quizlet Key vocabulary for the entire *Thing*
  - An “I can” statement slide detailing the learning objective
  - Short Quiz (using ProProfs) with the password for access
  - Short survey for feedback from students and teachers

### **Anatomy of a “Quest” for grades 5-9**

- Each Quest opens with a short Animated video or an image as an attention getter
- Introduction
- Key Vocabulary
- Vocabulary Quizlet to practice key vocabulary
- I Can statements
- Steps to carry out the project with some video tutorials as needed
-  Student checklist for the Quest
-  Teacher Guide
- Link to report any issues with mobile device access
- List of websites and documents
- ISTE standards for students and Common Core Standards (where applicable) list
- Completing this Quest information

- Rubric where applicable
- Reminder to check it off on the Roadmap
- Link to the next Quest or the Graduation page
- Additional Resources are occasionally provided

### Gold Quests

Gold Quests are available for some of the *Things* and are either new Quests that are being tried out for the future, past ones we are phasing out but kept at teacher request, or optional Quests that can be used to supplement the curriculum.

## Curriculum and Technology Standards

The 21 Things 4 Students meets all of the Michigan Instructional Technology Competencies for students (MITECS) and the site received the Seal of Alignment from ISTE for 2019-2021, certifying that all of the technology standards are met through these resources and project-based activities. We updated the content to meet the revised 2016 ISTE Standards for students located at: [ISTE Standards](#) and the Michigan [MITECS](#) Integrated Technology Competencies for Students.

Each of the 21 Things and Quests is aligned with these technology standards, and these are listed on the right-hand sidebar of each page as well as in brackets [] with the learning goals. Some of the projects are also identified with some Common Core standards

### STEAM/STEM

Some Quests were added (see [2.Visual Learning Quest 4](#) as an example) to address STEAM/STEM activities, and two are in Thing 21 Computational Thinking for Gold Quests: Ozobots and Sphero.

## 3. Preparing to Teach the 21 Things 4 Students

### Registration

We ask that educators using or planning on using our site resources click on the “Teachers Register Here” link located on the Teacher Resources – Teacher Registration page.

Teachers  
Register  
Here

Please share some basic information about your use (or planned use). This helps us provide statistics to support our grant requests for continued funding to keep the site updated and renewed each year.

### Begin Here:

Begin Here is an overall orientation about the 21 Things 4 Students. It explains the basic idea behind the 21 Things, our goals, highlights some favorite activities students love, and about badges and certificates.

This Page also contains a video about [how to use Quizlet](#) for practicing vocabulary through flashcards and games, and also a section about the Student Portfolio Showcase with a video.

## **1. Basics:**

*Thing 1* is Basic Orientation. We highly recommend that everyone begin with the Basics to help orient students to these project resources, the terminology, and site navigation, while building some basic browser and online skills.

In Basics, students learn how to take a screenshot (Mac, Windows, iPad, and Chromebook specific directions are provided), use shortcuts, and experience helpful tips and tricks.

### **[Basic Begin Here Orientation Video Introduction:](#)**

This page features a short video introduction to the 21 Things 4 Students to help introduce the project to classroom students.

## **COPPA**

If you are a school, district, or teacher, you represent and warrant that you are solely responsible for complying with COPPA, meaning that you must obtain advance written consent from all parents or guardians whose children under 13 will be accessing the Services. You are responsible for understanding how any Publisher Software (defined and described below) that you install on behalf of yourself or other users may collect and use information of users. When obtaining consent, you must provide parents and guardians with a Privacy Policy.

### **[Sample Permission Slip](#)**

Many schools and/or districts have an Acceptable Use Policy that parents and students sign in order to use the Internet and computing equipment. Please check with your administration. You (teacher or district) are required to keep all consents on file. For more information on COPPA, please visit [this link](#). There is additional information on the 21T4S site on this page about [COPPA and FERPA](#).

### **[Student email accounts](#)**

Some of the Web resources and tools used for the Quests require registration online with an email address. Teachers can set up accounts in a Google Classroom, Edmodo, Office 365, or through other district resources with parent/guardian permission.

## **4. Technical Considerations**

### **Audio/Video and Multimedia**

#### **Browsers**

Firefox, Chrome, Microsoft Edge, and Safari have been used successfully to teach this project, as well as Photon (for Flash support) on the iPad.

### Flash

This was discontinued by Adobe, and we have replaced any activity that used Flash.

### Videos

The majority of videos and tutorials have been created by the 21things team and are hosted on the <https://mistreamnet.eduvision.tv/> site and are embedded in the 21things pages. Some videos from YouTube are embedded and linked to, but SchoolTube or TeacherTube alternatives are used when possible.

To play the video **full-screen**, start it playing and then click on the double arrows.



For **closed captions**, click on the cc icon.

Many of the videos are downloadable from our hosting site using the direct URL link provided below it or in the Comprehensive URL listing.

### Audio files

Audio directions are provided for an Introduction to some of the Quests. These have

a built-in player



and are .mp3 files.

## URLs and District Filters

A comprehensive list of the URLs for each Thing is listed on the home page of each Thing in the right-hand side menu.

For each Quest page, the list of URLs specific to that page will be listed for quick access by students.

**Before teaching a Thing, we recommend that teachers check the Quest URLs on a student device to ensure they are accessible and not blocked. It's also helpful to share the list of URLs with the district's Tech Director ahead of time to prevent any access issues when students begin the Thing.**

## 5. Implementation

### Important Decisions for Teaching

#### Student work

- We encourage you to have students complete their work through an electronic portfolio of some sort. The following list is from different teachers:
  1. **Web-based portfolio** using free web page resources such as Edublogs, or student web pages your district provides (please make sure these pages are

either password protected or your students do not provide their full name and contact information)

2. [Student Showcase Portfolio Templates](#) are provided on each “Thing” page as well as the Teacher menu. These are provided as both Google Slide decks and Microsoft PowerPoint PPT files. Feel free to edit and customize these for your classroom use.

3. **Word Processing program** used as an e-portfolio, keeping screenshots or samples of each of the artifacts for the Quests they complete

4. **A Course or Learning Management System** such as Blackboard, Edmodo, or Google Classroom

5. **A local network drive** the district provides, or their own medium, such as a flash drive, if you prefer to house student digital artifacts locally

- Decide in advance where students should **SAVE** their work (file space)
- Decide if you will have them create a **digital portfolio** of their work
- **File format** you want students to use for the 21T4S Roadmap and other downloadable documents (.xls, Google Sheet, and .pdf)
- How do you want students to **SHARE** their work with classmates
- How students should submit their work for your review (via email, upload to an LMS such as Blackboard, upload to a common file space you review, etc. )

#### **Equipment availability**

*Headphones* are helpful (or at least earbuds for listening to video). *Microphones* will be helpful for some of the multimedia activities. *Video recording devices* to record projects (e.g. cell phones, iPad, video cam) may be needed or recommended for some of the more advanced projects in the quests.

## **Teacher Resources**

### **Teacher Overview and Quest Guides**

1. There is an **Overview Teacher Lesson Guide** on each *Thing* page with links to the Quests in that Thing, and each Quest has an individual Teacher Guide. Visit the [Teacher Guides page](#) for more information.

The Guides contain:

- A summary of the *Thing*
- Learning Objectives
- Link to the vocabulary Quizlet
- Key vocabulary
- Pre-planning suggestions
- Link to the Complete Student Checklist
- List of the linked resources, videos, and documents.
- Suggested assessment ideas
- Additional Resources, if applicable



2. **Digital Breakout Challenge Activities** were designed to meet requests by students for more game-like or interactive content. View this [Digital Breakout Overview Presentation](#).

### [Syllabus](#)

The Syllabus is located in the Teacher Resources section of our website. This is a direct link to the document housed in our 21 Things 4 Students site.

## Learning Objectives

A link to a Learning Objectives slide is provided on each main *Thing* page.

## Accessibility

### Mobile and alternative devices

- Expand and contract content sections to make pages easier to manage
- Modifications and directions for alternative devices and platforms can be found on the site

### Special Needs 504 Compliance

- 504 compliant
- Closed captioning is provided for 21T4S-created videos
- Student checklists are provided for the activities
- [Student accommodation](#) suggestions
- The Teacher Resources section includes some information on UDL compliance

## Resources for Students

### 21T4S Roadmap

A Thing/Quest roadmap document is provided for students to keep track of the Things and Quests they have completed. These versions are provided **on the first Basics Quest 1 21T4S Student Index & Roadmap** page. Students and teachers can use these documents to check off overall progress, track quiz scores, notes/reflections, as well as badges and awards, as supplied by you. Some versions have a notes field for feedback or comments. Options include:

1. A *spreadsheet document*, Roadmap - tracking document.xls
2. A *Google spreadsheet* that can be copied (you will only have viewing rights until you copy and save it as your sheet). It can then be edited and shared. iPad users should use this option with Google Drive installed.
3. An *editable Word document* in a table and 3-column format.

Please review each version and decide on the one to have your students copy or download and use in advance.

### Student Checklists

[Directions for using the checklists](#) (Please read this first if you are going to use them).

[Video about the Student checklists \(1:31 mins.\)](#)

### Key Vocabulary Quizlet ([see the demo video](#))

Quizlet (a flashcard web resource) has many different options for learning vocabulary. Each Quest has a key vocabulary list and definitions of words that students may have difficulty with while going through the Quest. At the beginning of each *Thing*, there is a Quizlet for all the vocabulary in that *Thing*. Quest Quizlet - When you go to each Quest, there is a Quizlet for the key vocabulary in that Quest. There is a link to the complete *Thing* Vocabulary on the Graduation page.

## Professional Development for the teacher

### Are you Prepared?

Are you an educator assigned to teach the 21 Things 4 Students and want to know more about the curriculum and materials?

Is your district using 21 Things 4 Students to teach 5th-9th grade technology, but you're not sure what resources are available?

Do you need help getting started with having your students create digital portfolios and build technology proficiency?

## 6. Index

An [Index to the site](#) was added during the summer of 2018. A link is found on the main menu.



The Index is filterable, downloadable, and printable (lots of pages!).

The fields that can be filtered are:

- Thing
- MITECs & ISTE Standard
- Interactive/Self-Guided
- Key Vocabulary
- Content Area
- Applications

0	Thing +	MITECs & ISTE Standard ▼	Interactive/ Self-Guided ▼
Key Vocabulary ▼	Content Area ▼	Teacher Guide	Applications ▼

The three dots on the right-hand side of the top let you:

- Clear the filters
- Get a filtered URL
- Print
- Download as a CSV file

## 7. Providing Recognition

## **Badges and Graduation Certificates**

There are 21 digital badges for completion of each *Thing*. The badges are JPG images available for download from the Teacher Resource Logon section. PowerPoint slides that can be used as Graduation Certificates can be downloaded from the Teacher Resource page. You can type in student names and print these out, and sign them as desired.

### **Special Achievement Awards**

There are four special awards available for teachers to assign to students for exceptional work: the Gold Medal Award, the Helping Others Award, the Problem-Solver Award, and the Tech Assistant Award, if you choose to use them.

## **Student Portfolios**

We highly recommend you provide a system for students to compile their work into digital portfolios to showcase their work, whether you use our templates or your own. We would love to showcase student work on our site if you want to send in some completed samples and give credit to the class, school, and/or student as appropriate for privacy.

# **8. Assessment and Managing Student Work**

## **The Roadmap**

This document is provided in a variety of formats in Thing 1. Basics Q1 Navigation for download. Students can track their progress during the course, across the school year, and across several years. It is provided as a Google Doc file, a Microsoft Word doc, an Excel file, and a PDF document. It is updated annually.

## **Student Checklists**

These can be used to monitor progress through a project activity. These are all Google documents that can be downloaded in other formats or just copied.

## **Student Showcase Portfolio Templates**

[Demonstration Video about the Student Portfolio \(7:39\)](#)

## **Assessments (can also be used for Pre/Post Assessments)**

### **Vocabulary Practice using Quizlet**

As mentioned in section 6, **each Quest has a Quizlet** and one on the “Thing” graduation page for vocabulary introduced throughout the Quests.

### **Proprofs Quizzes**

These ProProfs are multiple-choice quizzes covering information across all the Quests in a Thing. Students can check their understanding of either the terms used

or the specific information presented. Please view the short video on the Teacher Start page for a tour of the Quiz.

**Logging Into the Quiz:** The student uses the link provided, which takes them to a login page for ProProfs. They enter a name or initials which is not saved, and the password is provided to them on the graduation page. They can retake these as many times as they wish. The password is always the first name of the Thing plus 21. Example: Cloud Management quiz password is cloud21.

**Quiz Process:** The questions automatically move to the next one as they pick their answer. They select submit when done.

**The Results begin with this message:**

"If you scored 70% or higher, you will have a certificate of achievement.

Use the **TRY AGAIN button** to improve your score.

1. It helps to look at any questions you missed (if any).
2. Set a learning goal and try to improve your score.
3. Check with your teacher to see how they want you to share your results."

**Note:** Students receive a one-page report that shows only the questions they missed, along with the correct response.

**Saving the results:** The report page contains an icon that allows them to print (to PDF) their report, or print it.

**Quiz answers:** Teachers are able to access a list of the quizzes and answers on the password-protected page in the Teacher Resources section after registering.

## Rubrics

We have provided (or are in the process of adding) rubrics to help guide the evaluation of student work for the different Quests. We welcome any submissions by you to help complete them or to provide additional options. Please title them with the Thing and Quest name and send them to [21 Things 4 Students@remc.org](mailto:21 Things 4 Students@remc.org).

## 9. Teacher Training Institutions

Post-secondary institutions wishing to use these resources as part of a course need to contact the executive director of REMC at [executivedirector@remc.org](mailto:executivedirector@remc.org) for specific permission to use the content.

## 10. Funding and Support

The 21 Things 4 Students.net project is supported by funding from the [REMC Association of Michigan](#). It was created as an educational and online resource to help students improve their technology proficiency as they prepare for success in the 21st century. This project focuses on helping students build information literacy and digital citizenship skills and be knowledgeable about Internet Safety and Cyberbullying. The team continuing this project:

Tina Tribu, Project Manager  
Carolyn McCarthy, Project Specialist  
Melissa White, Project Specialist  
Annette Hritz

### ***Contact information***

Contact: [21Things4Students@remc.org](mailto:21Things4Students@remc.org)

No vendors, please! Questions, non-working link information, suggestions, and ideas are welcome.

## **11. Miscellaneous**

### **Updates, Bad links, Inappropriate content**

We do annual revisions/updates with a team of teachers during the summer, each year. We use student and teacher feedback to target what we need to revise, replace, or update. Visit the Updates page during the year for notices. The goal is to have all updates complete by the end of September so as not to interfere with planning during the school year.

Use the [“Report bad link”](#) whenever you run into a link that isn’t working or content that goes to an inappropriate site. We fix or replace them quickly, sometimes within minutes.