

FIRE SAFETY

DIGITAL ACTIVITIES
AND HANDS ON
engineering



STEM
and my
WORLD

CREATED BY:
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BRITTANY WASHBURN

STEM *and my* WORLD FIRE SAFETY

1 BACKGROUND KNOWLEDGE

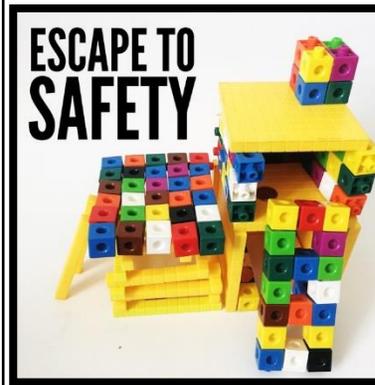
[CLICK HERE for Read Aloud Suggestions](#)



Suggested read alouds are provided for you to spark student interest levels and build background knowledge for the topic.
(20 minutes)

3 STEM CHALLENGE

Pages 10-15



Students work in small groups to complete a hands-on STEM challenge.
(45-60 minutes)

2 DIGITAL ACTIVITIES

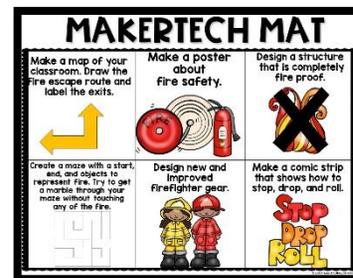
Pages 3-9



Students work independently or in small groups to complete a series of [interactive digital activities](#) using Google Slides on iPads, Chromebooks, or computers.
(20-30 minutes)

4 MAKERTECH EXTENSIONS

Pages 16-17



Students work in a Makerspace to complete extension tasks either with technology or without technology.
(time frames vary)

Fire Safety

STEM and My World

Fire Safety - How Does a Fire Start?

**Fire**

Oxygen 

- In the air

Heat 

- Oven or stove
- Match or lighter
- Spark

Fuel 

- Wood
- Paper
- Gas
- Paint
- Coal



Begin Here:

Thank you for downloading this interactive digital file.

1. To get started, follow these instructions:

[Link to Google Slides File](#)

2. Make sure you have Internet access and a Google account (free).

3. Open the file on your own Google Drive. The link will prompt you to make a copy to get started. This is necessary as to not make changes to the original file. If you're using OneDrive, see pages 6-8

3. Printer access to print out the finished product (optional).

Prep and use with students:

- 1** Make your copy of the file and rename it (so you can keep track of your original). I stay organized by adding the term “original” to the end of the file name. Renaming it means you will be less likely to share the original accidentally, which you don’t want students to alter.
- 2** If there are any slides you want to remove, simply create multiple copies and then delete any slides you don’t want. I do this when I just want students to work on one part of the lesson at a time.
- 3** Share the link of your copy with your students, which will prompt them to make a copy of that file into their drive.
- 4** Each student can now access the file, add their own content by filling in the text boxes or inserting their own slides or images, and move any movable pieces around in the file.
- 5** Once all of the students have completed the activity, they can present their work, save it locally, and add it to their portfolio. If you have segmented the activity into multiple files, have them copy and paste the slides all into one document in the order you specify.

PREP AND USE WITH STUDENTS:

If you haven't created a free Google account, you will need to do that before beginning the project. Each student will need their own account if they will be working on the digital activities using Google Slides.

Before you begin editing/filling in your digital activities, it is **VERY** important to first save a copy of the file, on your own Google Drive, and then share the copy. **You do not want to edit the original file.**

IF USING ON A TABLET

You will need to download the Slides App™ by Google. It is free in the app store.

You can either share the google slides file by sharing your link with your students directly or by assigning it in Google Classroom.

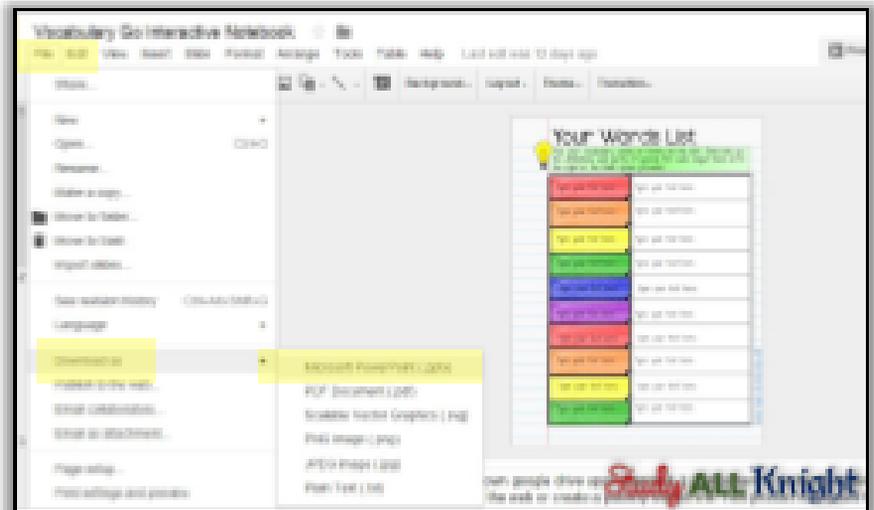


Microsoft OneDrive Users

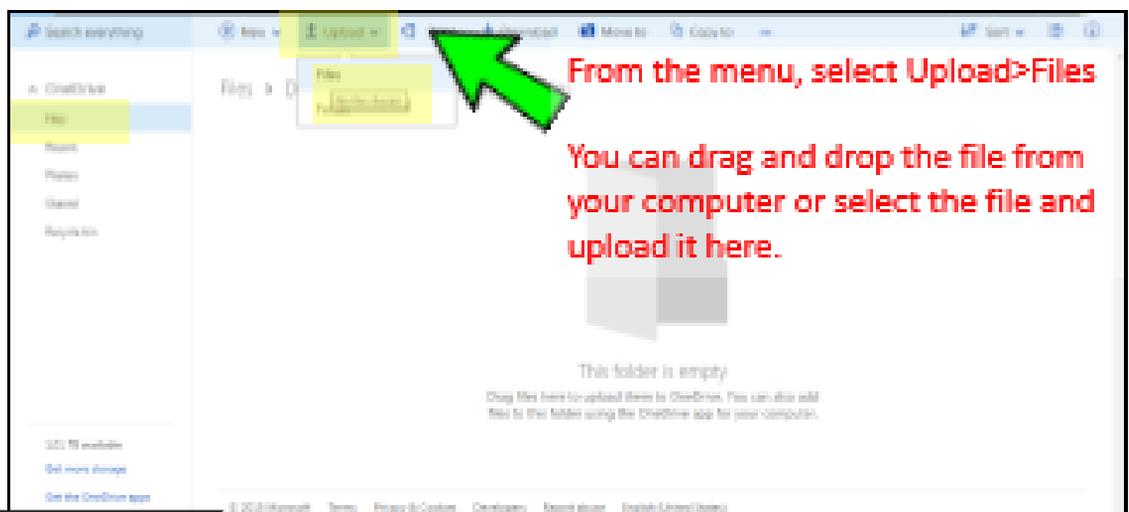
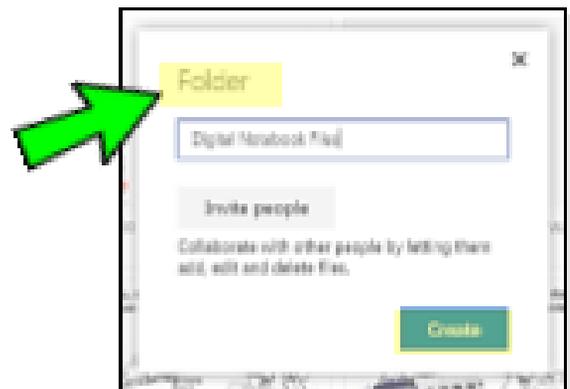
Go to the shared link you received in your product file. This link will bring you to the digital notebook. Open the Google Slides file.

From the menu go to **FILE> Download as> Microsoft PowerPoint (.pptx)**

You will need to download the file to your own computer before the next step.



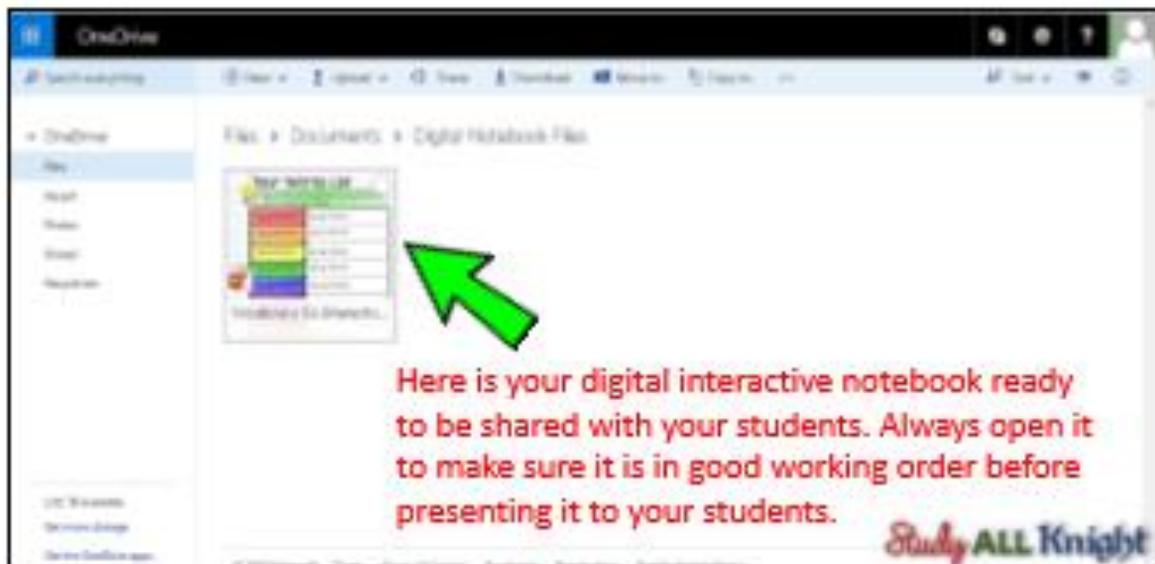
Open your OneDrive. Create a folder for your new digital interactive notebook. This step is recommended to keep you and your students organized



From the menu, select **Upload>Files**

You can drag and drop the file from your computer or select the file and upload it here.

Microsoft OneDrive Users



The screenshot shows the OneDrive web interface. The breadcrumb path is "Files > Documents > Digital Notebook Files". A file icon for "Your Words List" is highlighted with a green arrow. The file icon is a colorful grid with text. Below the screenshot, there is a red text box with instructions and the Study ALL Knight logo.

Here is your digital interactive notebook ready to be shared with your students. Always open it to make sure it is in good working order before presenting it to your students.

Study ALL Knight



The screenshot shows the PowerPoint Online interface. The breadcrumb path is "OneDrive > Digital Notebook Files > Your Words List". A green arrow points to the "Edit" button in the top left corner. The main content area shows the digital notebook in edit mode, with a green arrow pointing to the "Your Words List" slide. The slide contains a table with colored rows and text. Below the screenshot, there is a red text box with instructions and the Study ALL Knight logo.

Instruct your users to interact with the digital notebook in the "edit mode." This is allow your students to add their own text and move pieces.

The user will be prompted to choose to edit the file in PowerPoint or online. Select online. It will then open in a browser.

Study ALL Knight

Microsoft OneDrive Users



Follow your normal steps in sharing the file with your students. Go to Share> Share with people



Choose the option to View only. Then require your students to make a copy on their own drive before editing the file. This ensures your students do not edit your file.



ESCAPE TO SAFETY

NGSS Standard Alignment: 2-PS1-3: Make observations to construct an evidence-based account of how an object made of a small set of pieces can be disassembled and made into a new object, K-2-ETS1-1: Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool, K-2-ETS1-2: Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem.

Challenge Description: Working in groups of 3-4, Students will use simple building materials to construct a shelter that is prepared for a fire. They may choose to create multiple rooms and/or stories. Each room must have at least one method of escape (i.e. doors, windows, windows with ladders or poles), Each room must also have a smoke detector (penny).

Suggested Materials: building bricks, linking/unifix cubes, and/or base ten blocks (small tub per group of students), pennies (4-6 per group).

STEM CHALLENGE LESSON PLAN

1. Ask students to share some different ways that we can make a shelter prepared for a fire, such as smoke detectors, fire extinguishers, and multiple escape routes. Discuss ways that people might need to escape from buildings with multiple stories. Ask students to share how our school is prepared for fires. Record student ideas on the provided teacher chart and have them add ideas to their individual booklets. Refer to the provided vocabulary chart as needed throughout the lesson.
2. Introduce permitted materials and share the challenge instructions and rules. Brainstorm different ways that students can design and create a shelter that is prepared for a fire. Allow students time to brainstorm design ideas, assemble their shelters, and record on their student templates.
3. Hold a whole class closing discussion and reflection, allowing students to present their shelters and point out different escape routes for each room and/or story.

ESCAPE TO SAFETY

Possible Product



ESCAPE TO SAFETY

Can you create a shelter that is prepared for a fire?

YOUR SHELTER MUST HAVE:

- a way to escape from each room
- a smoke detector in each room



YOU MAY USE:

- Building bricks, linking cubes, and/or base ten blocks
- pennies (smoke detectors)

ESCAPE TO SAFETY

What are some ways to make a shelter prepared for a fire?

How is our school prepared for a possible fire?

What are some ways that we can escape during a fire?
What about buildings with more than one story?

Our Shelter Design Ideas



WORDS TO KNOW

SHELTER



a dwelling
or home
designed for
protection

PREPARE



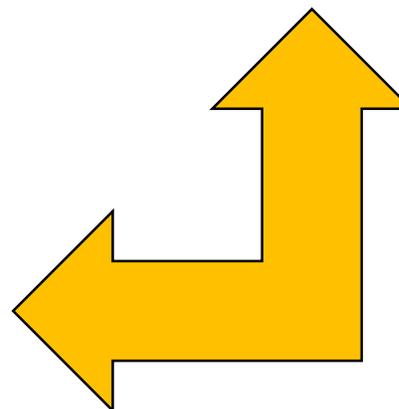
to
make
ready

ESCAPE



to
get away
or
get out

ROUTE



a way
to get
somewhere

MAKE IT WITH TECH

Animation



ANIMATE IT

Scratch Jr



CODE IT

Google Draw



DESIGN IT

Pic Collage



LABEL IT

iMovie



FILM IT

Apple Notes



DESCRIBE IT

Stopmotion



RECORD IT

Tellagami



TELL IT

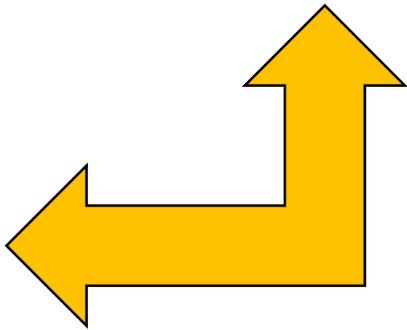
Paper



DRAW IT

MAKERTECH MAT

Make a map of your classroom. Draw the fire escape route and label the exits.



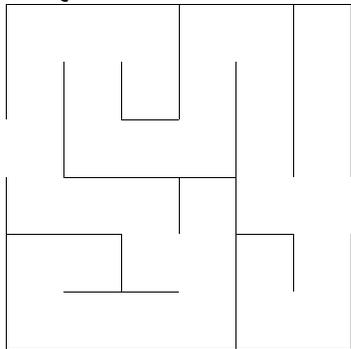
Make a poster about fire safety.



Design a structure that is completely fire proof.



Create a maze with a start, end, and objects to represent fire. Try to get a marble through your maze without touching any of the fire.



Design new and improved firefighter gear.



Make a comic strip that shows how to stop, drop, and roll.



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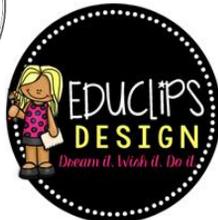
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credits



[Danielle Knight](#)

