

# ELECTRONIC ESCAPE ROOM AS AN ACTIVE-LEARNING STRATEGY TUTORIAL

## Lilly Conference on Teaching for Active and Engaged Learning - San Diego, CA 2020

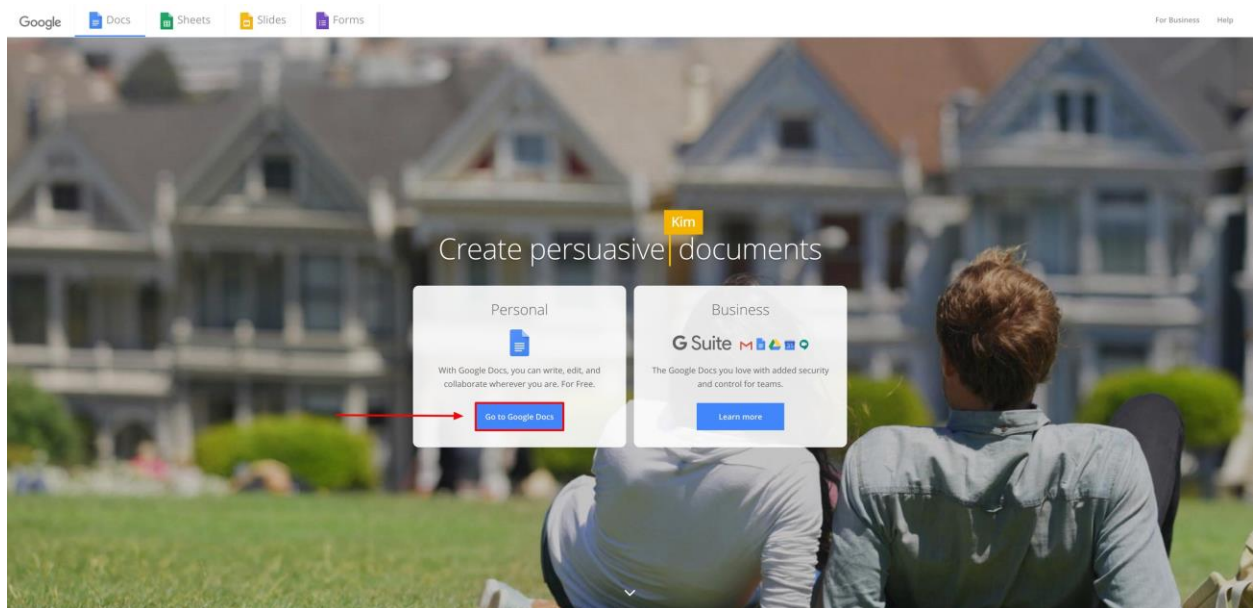
The following is a step-by-step tutorial for the creation of an electronic escape room using Google Docs and Google Forms. Utilizing these tools, the user is able to offer a highly-customizable learning experience and provide a low-stakes assessment using this novel, active learning strategy.

### Websites Required:

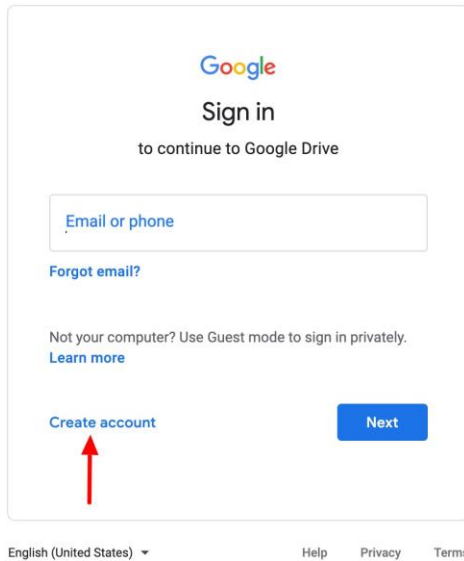
1. Google Docs: <https://www.google.com/docs/about/>
2. Google Forms: <https://www.google.com/forms/about/>
3. Bitly URL Shortener: <https://bitly.com/>

## 1. CREATE GOOGLE DOCS DOCUMENT

- a. In a new internet browser (preferably Google Chrome for compatibility), visit <https://www.google.com/docs/about/> and select "Go to Google Docs."

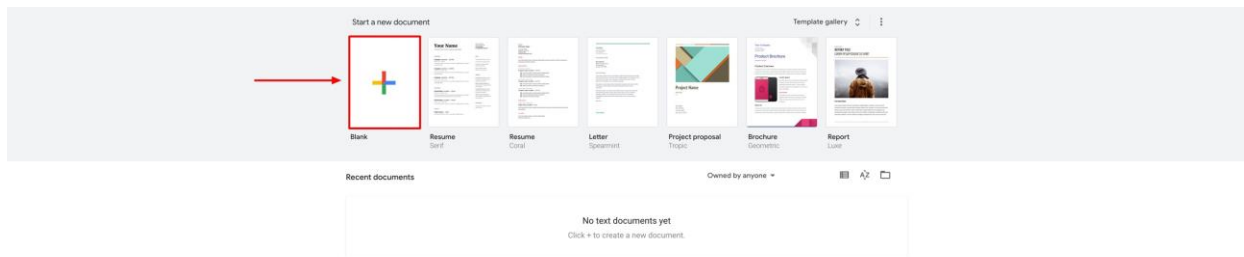


- b. Please sign-in to your Google Account. If you do not have a Google Account, you can create one using the “Create account” button below.



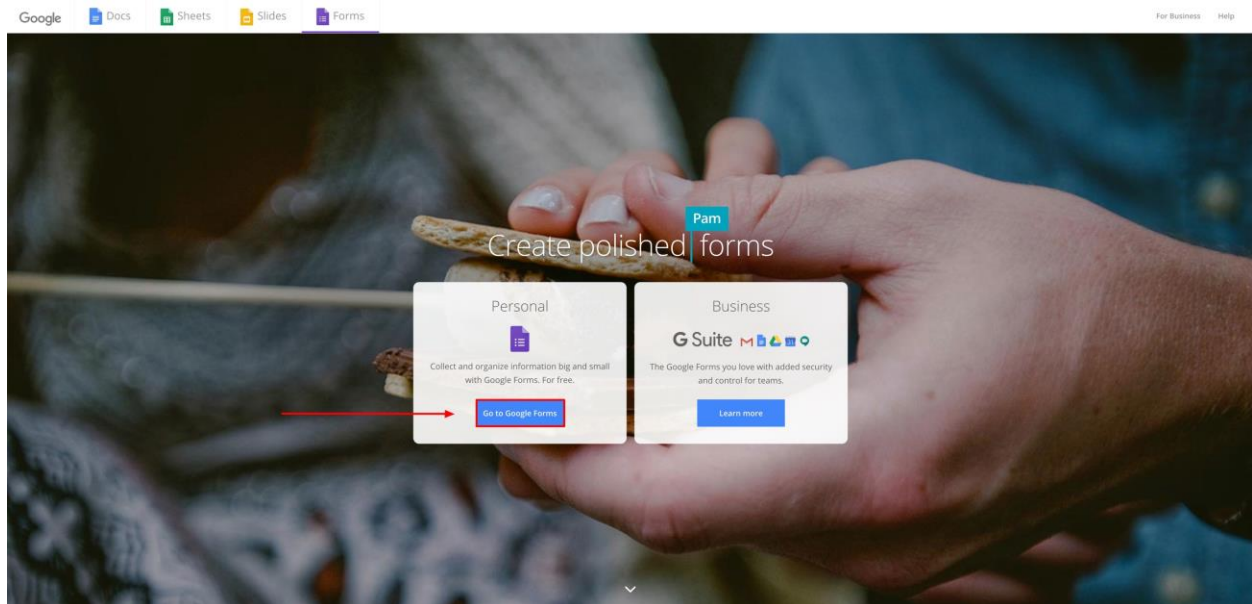
The image shows the Google sign-in page for Google Drive. At the top is the Google logo, followed by the text "Sign in to continue to Google Drive". Below this is a text input field labeled "Email or phone". Under the field is a link "Forgot email?". Further down, it says "Not your computer? Use Guest mode to sign in privately." with a link "Learn more". At the bottom left is a link "Create account" with a red arrow pointing to it, and at the bottom right is a blue "Next" button. The footer contains "English (United States)", "Help", "Privacy", and "Terms".

- c. Select “Blank” to begin a new Google Docs document. This is where you can build your narrative and give your learners background on the electronic escape room and provide them with the first URL to begin their experience.

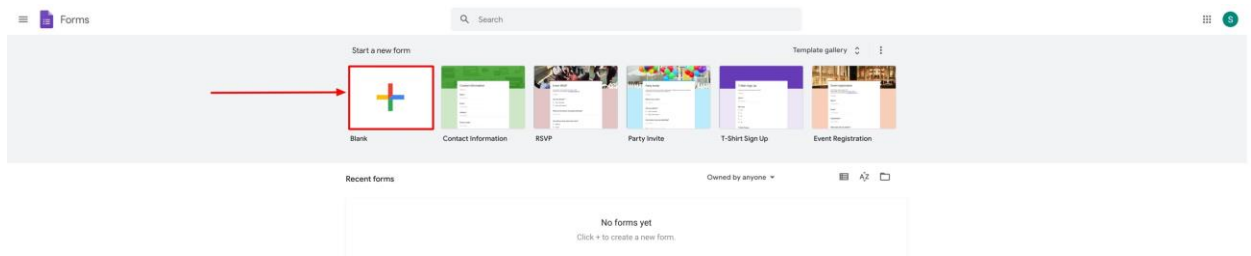


## 2. CREATE GOOGLE FORMS DOCUMENT

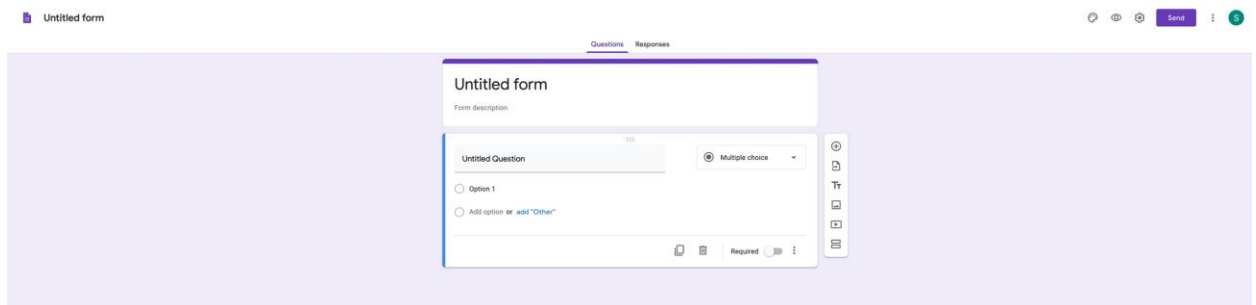
- a. In a new internet browser (preferably Google Chrome for compatibility), visit <https://www.google.com/forms/about/> and select "Go to Google Forms."



- b. Select "Blank" to begin a new Google Forms document. This is where you will create a variety of assessment types to test your learner's knowledge.



- c. This is the default blank form template. All fields are editable by single-clicking on the respective field and customizing the content of each box to suite your needs.



- d. This is an enlarged view of the blank template with information to help you in the creation of your own electronic escape room.

The screenshot shows a quiz creation interface with two tabs: "Questions" (active) and "Responses". The main form is titled "Untitled form" and has a subtitle "Create your title for your escape room here". Below the title is a "Form description" field. The main question area is titled "Untitled Question" and has a subtitle "Type your question here". To the right of the question area is a dropdown menu for "Multiple choice" with a subtitle "Select your assessment type here". Below the question area are two radio buttons: "Option 1" and "Add option or add 'Other'". At the bottom of the question area are three icons: a document, a trash can, and a "Required" toggle switch. To the right of the question area is a vertical menu bar with icons for adding a new question, duplicating, deleting, adding a text box, adding an image, adding a video, and adding a section header. Arrows point from the text annotations to the corresponding elements in the interface.

Questions Responses

Untitled form

Create your title for your escape room here

Form description

Untitled Question

Multiple choice

Option 1

Type your question here

Select your assessment type here

Add option or add "Other"

Required

Click the toggle button to make sure your learners answer each question before moving on

Menu bar to design your layout and add additional question

These fields are all editable and will allow you to create questions for your quiz. Each quiz can be thought of as a separate "escape room" and test knowledge on specific information to each topic. For example, the first quiz or escape room could test your learner's knowledge on Bloom's Cognitive Taxonomy. When the learner completes the first quiz, you are able to tailor a message awarding them the URL to the next escape room which could then assess their knowledge on active learning strategies. The possibilities are endless and the only limit is your imagination.

- e. See below for an example question and respective settings:

The screenshot shows a question editor interface. At the top, there are tabs for 'Questions' and 'Responses'. The main title is 'Bloom's Cognitive Taxonomy Escape Room' with a subtitle: 'This example electronic escape room will showcase the capability of this novel learning strategy'. The question text is 'The "Apply" hierarchical level of cognitive learning includes all of the following outcome verbs except:'. The question type is set to 'Multiple choice'. The options are: Act, Complete, Define, Show, Solve, and 'Add option or add "Other"'. Each option has a radio button and a delete 'X' icon. At the bottom right, there is a 'Required' toggle switch which is turned on.

- f. In order to turn this form into a quiz, click the "gear" icon on the top-right corner of the page.



- g. Next, click the "Quizzes" button.

## Settings

General

Presentation

Quizzes

h. Finally, click the toggle button "Make this a quiz" and select "Save."

## Settings

General

Presentation

Quizzes

☒

**Make this a quiz**  
Assign point values to questions and allow auto-grading.

### Quiz options

**Release grade:**

☒ Immediately after each submission

☐ Later, after manual review  
Turns on email collection

**Respondent can see:**

☒ Missed questions ?

☒ Correct answers ?

☒ Point values ?

Cancel

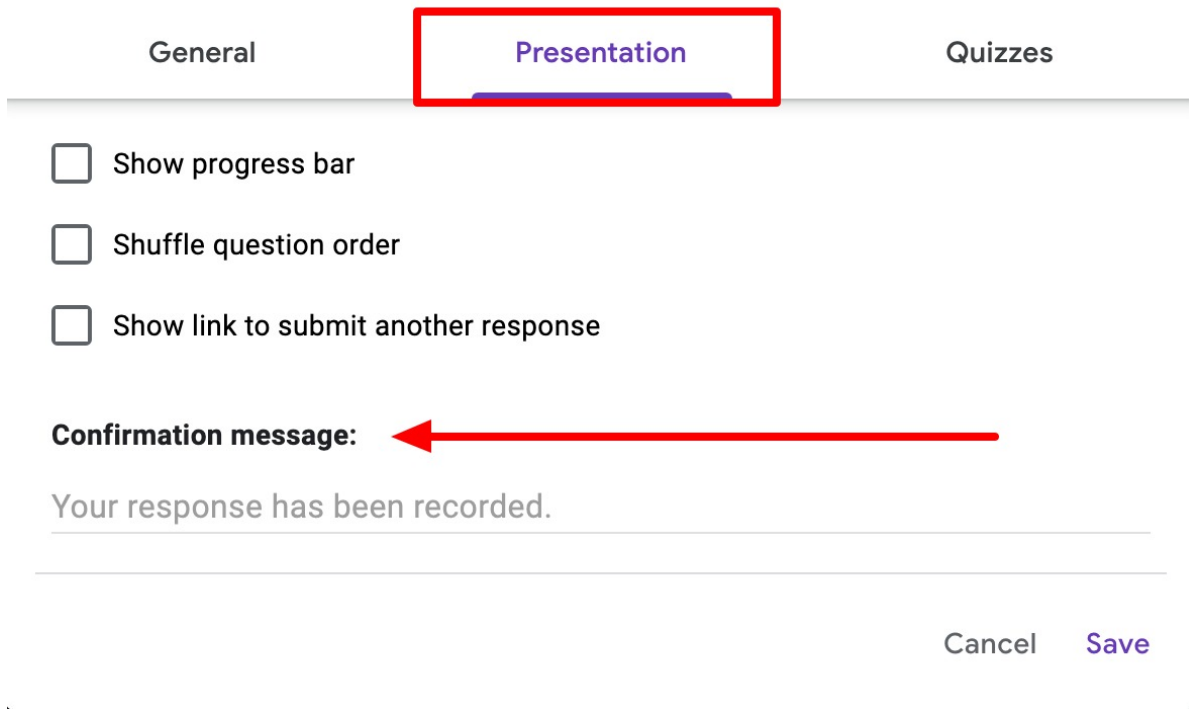
Save

This will enable you to assign points to each question and select the correct option to your multiple-choice and fill-in-the-blank questions and allow you to ensure your learner completes each and every question before moving on to the next.

Suzanne Larson – Director of Experiential Education, Midwestern University College of Pharmacy – Glendale  
Janet Cooley – Director of Experiential Education, University of Arizona College of Pharmacy

- i. Once the learner has completed the quiz, there is an option to have a text box appear with custom information. This is where you will make edits that will allow the user to move on to another URL or escape room. Click the “gear” icon and then select the “Presentation” button. Under “Confirmation message:” you can type custom text including a URL. Once completed, click “Save” and you will have completed your quiz.

## Settings




General **Presentation** Quizzes

☐ Show progress bar

☐ Shuffle question order

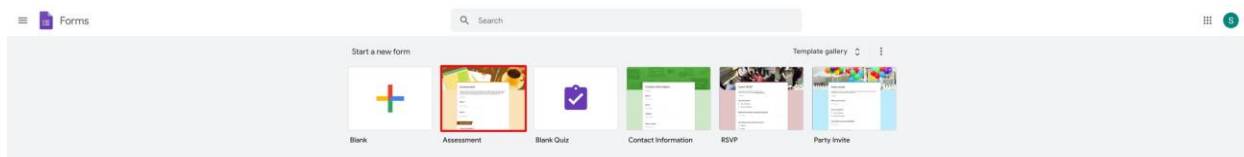
☐ Show link to submit another response

**Confirmation message:** 

Your response has been recorded.

Cancel Save

- j. Additionally, Google Forms offer pre-built template options to make the creation process easier. You can opt to select the template labeled “Assessment” and have the form pre-configured to test your learner’s knowledge.



- k. You are able to preview the form at any time by clicking “eye” icon on the top-right corner of the page. This will open the form in a new window and allow you to preview what your learners will see when directed to the form website.



- l. Clicking on the “gear” icon will allow you to further customize your form. You have the ability to collect the email addresses of every participant and collect statistics of those that have participated in your activity.

### Settings

**General** Presentation Quizzes

☐ Collect email addresses

☐ Response receipts ?

Requires sign in:

☐ Limit to 1 response

Respondents can:

☐ Edit after submit





☐ See summary charts and text responses

Cancel Save

- m. Once the quiz has been built, click the “Send” button on the top-right of the page. This will bring up a dialogue box that will allow you to select options to distribute your quiz. Click the “paperclip” icon to get a unique URL to distribute to your learners.

### Send form

☐ Collect email addresses

Send via    

Email

To


Subject

Bloom's Cognitive Taxonomy Escape Room

Message

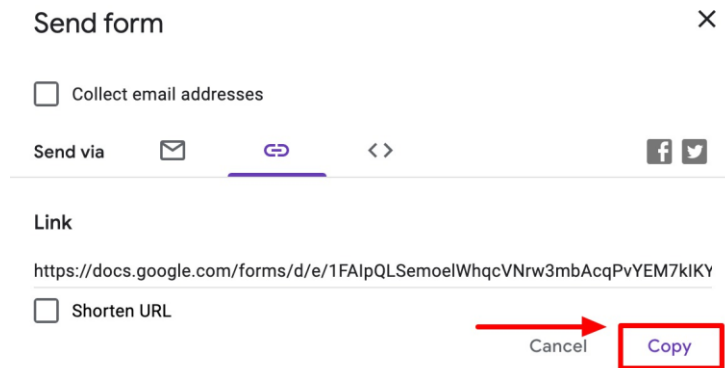
I've invited you to fill out a form:

☐ Include form in email

 Add collaborators Cancel Send



- n. Next, select the “Copy” option. This will automatically copy the long URL to your clipboard and allow you to paste it into a URL shortener like bitly.

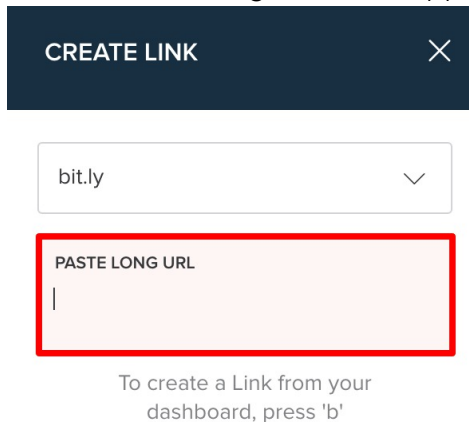


### 3. CREATE BITLY ACCOUNT TO CUSTOMIZE AND SHORTEN GOOGLE FORM URL

- a. In a new internet browser (preferably Google Chrome for compatibility), visit <https://bitly.com/> and select “Get Started for Free.” Proceed to create your free account. This will allow you to customize the long URL and shorten it to something that has meaning for your topic.
- b. Once your account has been created, select “Create” on the top-right corner of the page.



- c. Next, paste the URL from the Google Form into the “Paste Long URL” text box and then another dialogue box will appear.



- d. Next, click inside the “Customize Back-Half” text box to create your own unique URL and click the “Save” button on the bottom-right corner of the screen.

**EDIT LINK** ×

bitly.is/**2UU9G3b** COPY SHARE

---

CREATED FEB 16 Hide Link

**TITLE**  
Add a title.

**CUSTOMIZE BACK-HALF**  
bitly.is/2UU9G3b

PRO TIP: Create Links from any webpage in one click. [Get the Bitly extension →](#)

Add or create tag

- e. Please see below for an example:

bit.ly/**lilly2020** COPY SHARE

---

CREATED FEB 16 Hide Link

**TITLE**  
Add a title.

**CUSTOMIZE BACK-HALF**  
bit.ly/lilly2020

PRO TIP: Create Links from any webpage in one click. [Get the Bitly extension →](#)

Add or create tag

In this example, instead of having the learner go to the Google Form-created long URL that would look something like this,

[https://docs.google.com/forms/d/e/1FAIpQLSemoelWhqcVNrw3mbAcqPvYEM7klKYQn8iZJIW\\_p8MIGgPo9w/viewform?usp=sf\\_link](https://docs.google.com/forms/d/e/1FAIpQLSemoelWhqcVNrw3mbAcqPvYEM7klKYQn8iZJIW_p8MIGgPo9w/viewform?usp=sf_link)

the learner can access the same form or escape room by using the following URL:

<http://bit.ly/lilly2020>

Creating these unique URLs will allow you to be creative by creating different ways for your learners to access the website. Please see the next page for an example of how this was utilized during an in-class activity.

## 4. EXAMPLE ACTIVITY PRESENTED AT MIDWESTERN UNIVERSITY COLLEGE OF PHARMACY-GLENDALE

An in-class activity started with the learners receiving a packet of information informing them of a fictional zombie invasion and a scenario that included them needing to escape from the lecture hall by completing various activities. The first activity involved a paper quiz (shown below). Once completed, they needed to gather their answers and solve the puzzle on page three of their packet.

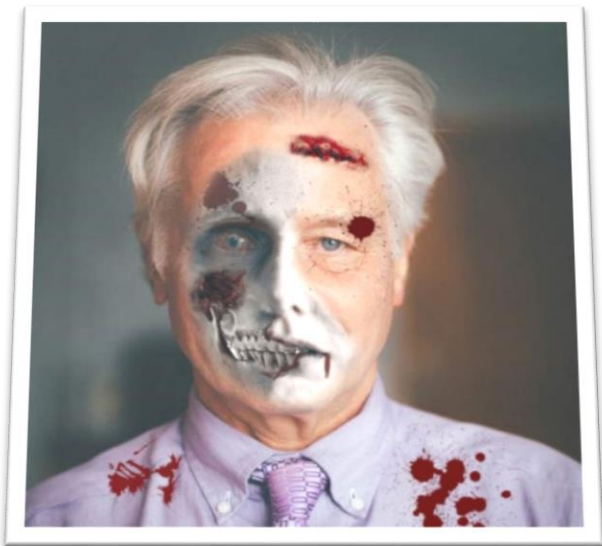
# **ZOMBIES ATTACK: MEDICAL TERMINOLOGY ESCAPE ROOM**

Attention Students of Introduction to Pharmacy Practice: URGENT NOTICE

The year is 2039. Pharmacists have played an integral role in wiping out nearly all vaccine-preventable diseases. They are revered providers able to bill for their time and services--accessible members of the multi-disciplinary healthcare team in a wide variety of practice settings.

Midwestern University College of Pharmacy-Glendale employs tenured professor and scientist Dr. Volkmar Weissig, world-renowned expert on mitochondrial disease. While conducting research in his lab on delivering biologically active molecules to mitochondria, his flux capacitor overloads sending his new mitochondrial supplement "Dr. Weissig's Mito-Cure" into the ventilation system that pumps air directly into faculty offices immediately turning professors into the undead!

First year pharmacy students (you) at Midwestern University College of Pharmacy-Glendale have been hard at work in Cholla Hall listening intently to Dr. Larson lecture when campus



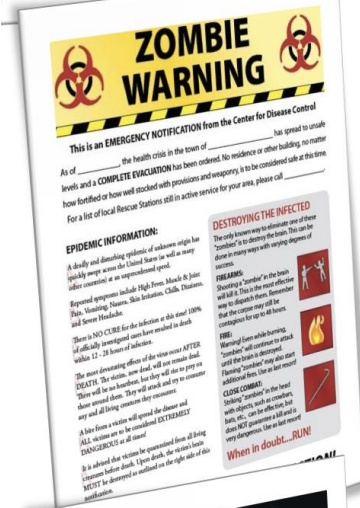
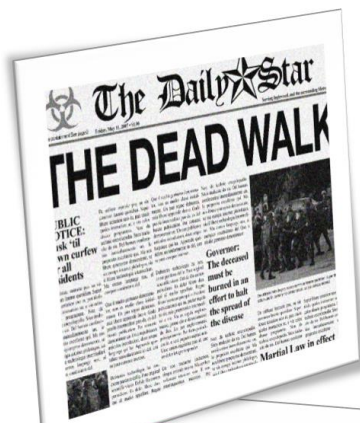
security enforces a building-wide lockdown that seals off the undead in their offices.

It's now day three. Zombies have taken over Arizona and the backup power generator keeping the walking dead out of Cholla Hall are almost drained. Food and water are running low and it's only a matter of time before the doors unlock and zombies enter Cholla Hall. Dr. Weissig, having planned for such a disaster scenario was able to leave clues to find the hidden tunnel out of Cholla Hall (yes, there IS a hidden tunnel) before being brutally attacked by his flesh-eating colleagues. Dr. Larson just found the first clue. Master

medical terminology and find the clues left behind to escape before becoming a meal to some very

hungry professors—professors once interested in expanding your brains, now have an insatiable interest in having them for dinner!

Organize into groups of 5-7 survivors and pick a team leader. Your team leader will be responsible for turning in your group's answers before receiving the next clue.



Instructions: Scratch off ONLY one (1) answer choice on your answer card and have the team leader present the card to the front of the room once the team has finished. You will receive your next clue when complete.

Match the following conditions to the class of drugs most commonly used in their treatment.

- |                   |                 |
|-------------------|-----------------|
| 1. _____ pain     | a. antiemetic   |
| 2. _____ vomiting | b. antipyretic  |
| 3. _____ fever    | c. analgesic    |
| 4. _____ itch     | d. antipruritic |

Select the meaning of the following prefixes.

- |                 |                 |              |              |              |
|-----------------|-----------------|--------------|--------------|--------------|
| 5. _____ per-   | a. across       | b. abnormal  | c. by        | d. alongside |
| 6. _____ an-    | a. half         | b. deficient | c. with      | d. without   |
| 7. _____ syn-   | a. below        | b. above     | c. together  | d. without   |
| 8. _____ hyper- | a. above        | b. small     | c. abnormal  | d. large     |
| 9. _____ macro- | a. excessive    | b. large     | c. deficient | d. above     |
| 10. _____ para- | a. alongside of | b. through   | c. around    | d. across    |

Match the surgical terms with definitions.

- |                        |   |
|------------------------|---|
| 11. _____ paracentesis | a. surgical repair of nose                |
| 12. _____ myringotomy  | b. incision in eardrum                    |
| 13. _____ oophorectomy | c. excision of ovary                      |
| 14. _____ rhinoplasty  | d. puncture for aspiration of the abdomen |

Complete the following sentences.

15. An expectorant is a drug that breaks up mucus and promotes \_\_\_\_\_  
a. draining      b. drying      c. coughing      d. dilating
16. A hypnotic is an agent that induces \_\_\_\_\_  
a. nausea      b. sleep      c. diarrhea      d. urination
17. Cryosurgery destroys tissue by \_\_\_\_\_ it.  
a. heating      b. puncturing      c. freezing      d. preserving
18. Pharmacotherapy describes the treatment of disease using \_\_\_\_\_  
a. radiation      b. machines      c. formularies      d. medication

Match the meaning of the following prefixes.

- |                   |               |
|-------------------|---------------|
| 19. _____ contra- | a. opposed to |
| 20. _____ ec-     | b. out        |
| 21. _____ intra-  | c. against    |
| 22. _____ anti-   | d. within     |

Congratulations. Hurry up for your next clue. You're still alive: for now.



The learners gathered their answers from part one and completed the puzzle below to obtain the first website using the bitly.com/ website URL shortener.

**Zombies Attack:**  
**Escape room part 2**



The **scratches** and **pounding** on the doors outside are your hungry professors trying to get in. Hurry while you still have a brain to study with!

Take out your electronic devices. Dr. Weissig knew that students are tech savvy and would be able to find his next clue hidden on the internet. Go to the following website:

bitly.com/\_\_\_\_

Fill in the blank spaces above with the **capitalized** letter to the answers of the questions below (no spaces in between letters):



This will take you to an online quiz where you will continue your quest to escape Cholla Hall. Good luck!

Once the puzzle was solved, the learners were directed to the following website where they began their first escape room.



## PPRAG 1591 Escape Room: Medical Terminology - Room

2

You and your team have done so well. Complete this quiz to obtain the secret code to escape Cholla Hall! You're almost there: keep going!

A classmate running from the zombie professors experiences fight or flight response symptoms including increased heart rate. Increased heart rate is also known as: \*

- ☐ bradycardia
- ☐ myocardial infarction
- ☐ tachycardia
- ☐ cardioplegia

What is the combining form for vomiting? Format answer as follows: \_\_\_/o (example: rhin/o) \*

Short answer text

What is the medical term for low blood pressure? \*

Short answer text

Rare, but serious reaction to ACEi therapy





Thank you for your viewing our tutorial and listening to our presentation. This novel approach to active learning is engaging and will provide your learners with a unique and fun way to gain valuable knowledge. We hope you enjoyed your time with us and look forward to hearing about all the ways you're incorporating this active learning strategy in your setting.