

Sleep Escape Room Assembly and In Class Instructions

In this activity, students work together in teams of 2-3. These instructions detail the assembly process of a single escape room, therefore, repeat this process until the desired amount of escape rooms have been constructed to accommodate the entirety of the classroom grouped by threes.

Materials:

- Three “Department of Psychology” stickers (page 15)
- One 9 x 12 brown clasp blank envelope
- Four 5 x 7 white envelopes
- 8.5 x 11 white printer paper
- 8.5 x 11 red card stock
- 8.5 x 11 white printable sticker paper
- Printer
- Scissors
- Stapler with staples
- Laptop or desktop computer
- Classroom projector or smart board

Step 1: Printing

On the **8.5 x 11 white printer paper**, print the following:

- Crossword puzzle (page 5, replace after each use)
- Patient medical records (pages 6 to 10)
- Shape puzzle (page 11, replace after each use)
- Shape conversion grid (page 11, replace after each use)
- Wire module QR code (page 12)
- Defusal manual QR code (page 12)

On the **8.5 x 11 red card stock**, print the following:

- Melanopsin in retina card (page 13)
- Suprachiasmatic nucleus card (page 13)
- Pineal gland card (page 13)
- Melatonin card (page 13)
- Blood stream card (page 13)

On the **8.5 x 11 white printable sticker paper**, print the following:

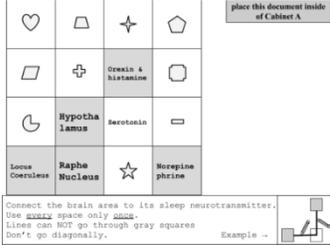
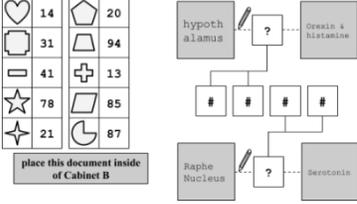
- Cabinet A QR code and label (page 14)
- Cabinet B QR code and label (page 14)
- Cabinet C QR code and label (page 14)
- Cabinet D QR code and label (page 14)

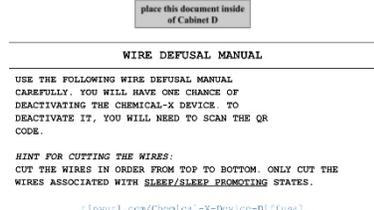
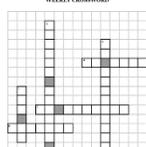
Step 2: Basic Assembly

- Staple the patient medical records (5 pages)
- Cut out the shape puzzle, shape conversion grid, wire module QR code, and defusal manual QR code slips
- Cut out the melanopsin in retina, suprachiasmatic nucleus, pineal gland, melatonin, and blood stream cards
- Cut out the cabinet A, B, C, and D QR codes and labels
- Stick each of the codes and labels to the back of one of the **four 5 x 7 white envelopes**, creating 4 envelopes, A-D

Step 3: Main Assembly

- Place each piece inside of its proper envelope according to the chart below:

<p style="text-align: center;">Cabinet A envelope</p> <div style="display: flex; justify-content: space-between; align-items: center;"> <div style="width: 45%;"> <p>Cabinet A Requires 5 letter word</p> </div> <div style="width: 45%; text-align: center;">  <p>tinyurl.com/cabinet-a</p> </div> </div>	<p style="text-align: center;">Contents:</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="width: 45%;">  <p style="text-align: center;">shape puzzle</p> </div> <div style="width: 45%; text-align: center;">  <p style="text-align: center;">melanopsin in retina card</p> </div> </div>
<p style="text-align: center;">Cabinet B envelope</p> <div style="display: flex; justify-content: space-between; align-items: center;"> <div style="width: 45%;"> <p>Cabinet B Requires 5 digit code</p> </div> <div style="width: 45%; text-align: center;">  <p>tinyurl.com/cabinet-b</p> </div> </div>	<p style="text-align: center;">Contents:</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="width: 45%;">  <p style="text-align: center;">shape conversion grid</p> </div> <div style="width: 45%; text-align: center;">  <p style="text-align: center;">pineal gland card</p> </div> </div>

<p style="text-align: center;">Cabinet C envelope</p> <div style="display: flex; justify-content: space-between; align-items: center;"> <div style="text-align: center;"> <p>Cabinet C Requires 4 digit code</p> </div> <div style="text-align: center;">  tinyurl.com/cabinet-c </div> </div>	<p style="text-align: center;">Contents:</p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  wire module QR code </div> <div style="text-align: center;">  melatonin card </div> </div> <div style="text-align: center; margin-top: 20px;">  suprachiasmatic nucleus card </div>
<p style="text-align: center;">Cabinet D envelope</p> <div style="display: flex; justify-content: space-between; align-items: center;"> <div style="text-align: center;"> <p>Cabinet D Requires 5 directions</p> </div> <div style="text-align: center;">  tinyurl.com/cabinet-d </div> </div>	<p style="text-align: center;">Contents:</p> <div style="text-align: center; margin-top: 20px;">  defusal manual QR code </div>
<p style="text-align: center;">9 x 12 brown clasp blank envelope</p>	<p style="text-align: center;">Contents:</p> <div style="display: flex; justify-content: space-between;"> <div style="width: 30%;"> <p>Cabinet A Requires 5 letter word</p> <p>Cabinet B Requires 5 digit code</p> <p>Cabinet C Requires 4 digit code</p> <p>Cabinet D Requires 5 directions</p> </div> <div style="width: 30%; text-align: center;">  crossword </div> <div style="width: 30%;"> <p style="text-align: center;">Information DO NOT WRITE ON THE PAGES</p> <p style="text-align: center;">patient medical records</p>  blood stream card </div> </div>

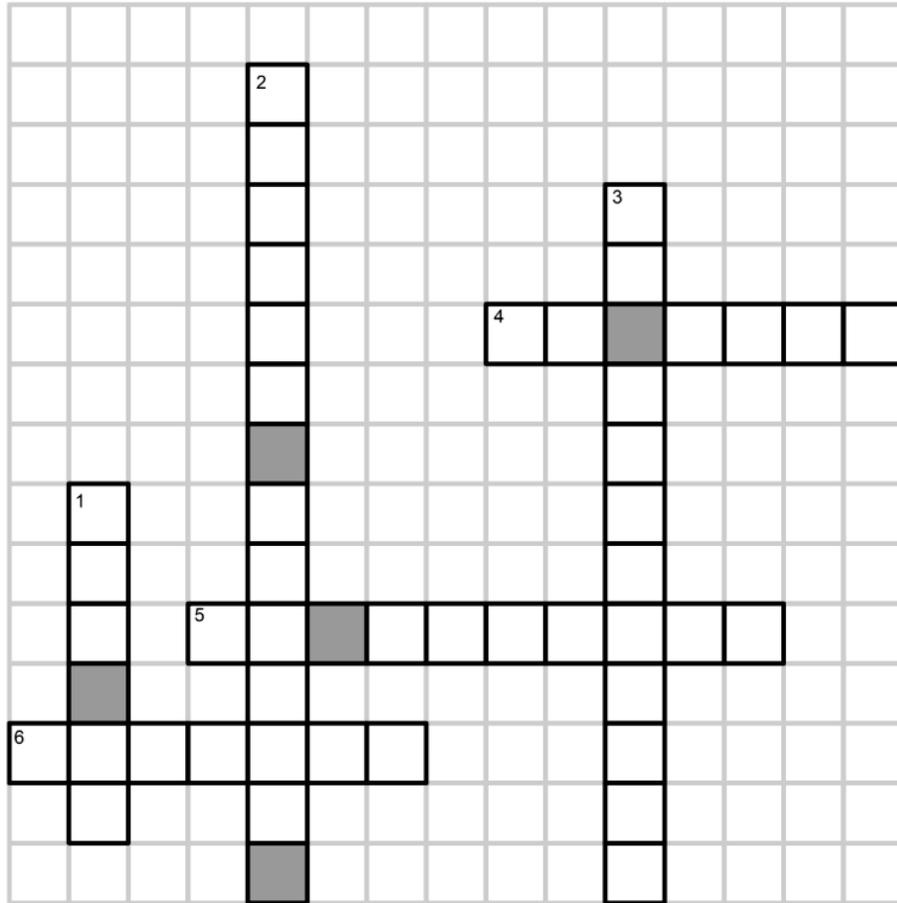
Step 4: Classroom Preparations

- As class starts, distribute the “Department of Psychology” stickers (either as professionally printed stickers or white printer paper cutouts) and present them as a possible design the university is considering. Ask the students for opinions on it to make it seem separate from the class activity. This makes the later use of the sticker in the escape room an exciting surprise.
- Pass out the full brown clasp blank envelopes (1 per 3 students) and instruct the students not to open it.
- Ensure that at least 1 student per group has a device capable of scanning QR codes (such as a smartphone or an iPad).

- Using a classroom projector or smart board, play the video at <https://tinyurl.com/SleepLabER> to introduce students to the activity.
- Start a 1-hour timer on the projector/board, a possible option is linked [here](#).
- Instruct the students to begin working by opening the brown clasp blank envelopes and working with the materials available to them, and to not open cabinet envelopes without first scanning the QR code on the outside of them and entering the proper code.
- Ask students to write down the codes they found/used on their own devices or paper for grading/proof of participation purposes.

For summaries of the puzzles and overall flow of the escape room, see the S2: ESCAPE ROOM ANSWER KEY file. In addition to the correct answers, this document offers possible hints to give to groups that become stuck during key portions of the activity.

WEEKLY CROSSWORD



DOWN

- 1) A researcher who claimed that sleep is a passive process, dependent on stimulation.
- 2) A transection between brain and spinal cord that paralyzed cats but did not disturb sleep functions.
- 3) A midcollicular cut that resulted in permanently asleep cats.

ACROSS

- 4) A researcher who claimed sleep is an active process.
- 5) A _____ transection , performed by Moruzzi and Magoun, resulted in insomniac cats, proving Bremer wrong.
- 6) When Moruzzi and Magoun lesioned vision, olfaction, somatosensory, and auditory info in cats at the level of the brainstem and yet still preserved sleep/wake cycles, they showed that _____ systems are not very important to sleep regulation

Information

On the following pages, you will find the medical records of the 4 admitted patients, including the recordings from tonight's sleep study. All the measuring devices (EEG, EEM, EOG) were left intact while one of the four patients placed the Chemical-X in the sleep lab. So, we hold the records of the state of consciousness for each patient. Your job is to examine the patient history and record data to determine which patient is responsible for the Chemical-X placement AND at what time the patient woke up to carry out their evil plans.

**Patient Clinic ID × the time patient woke up
=**

Medical Patient History | Patient A

General Information

Patient Record: A

First name: Anjali

Patient Clinic ID: 1342

Last name: Alfano

Medical Questions

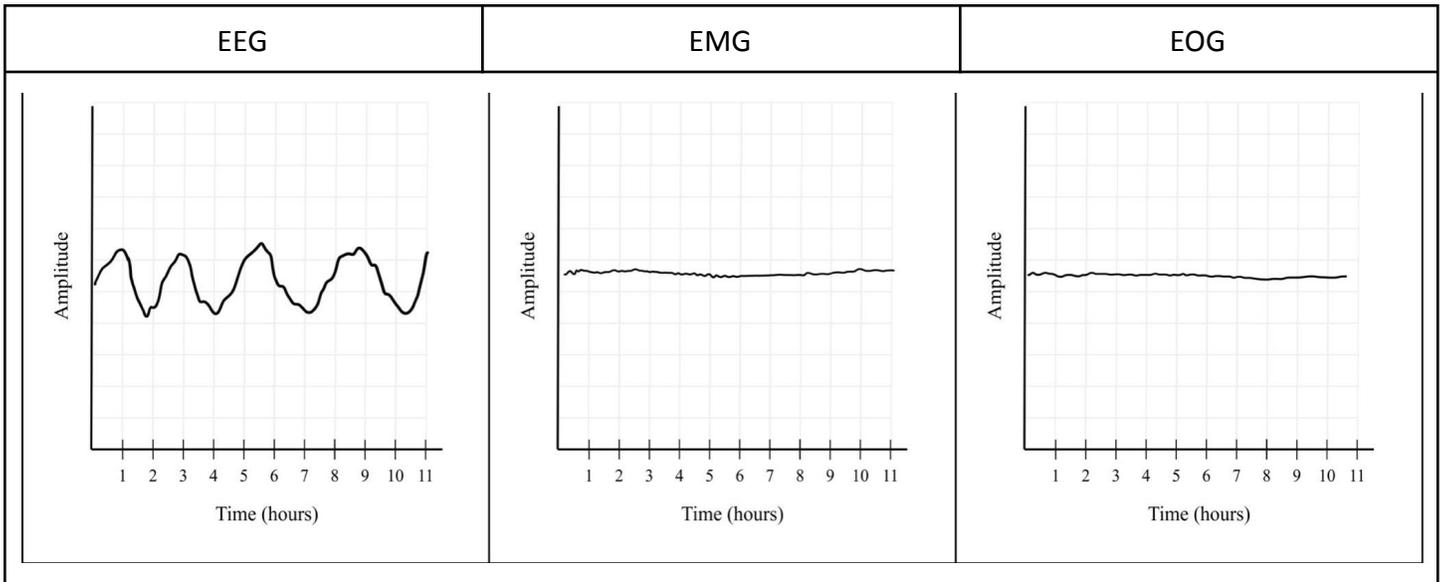
Why did you decide to come to the sleep lab?

I decided to come to the sleep lab because I've been simply curious to see my sleep data and visualize my sleeping patterns.

Do you have family history of sleep complications?

When I was a child, I remember sleep-walking one time and making a sandwich in the kitchen.

EEG, EMG, and EOG Recording Data



Medical Patient History | Patient B

General Information

Patient Record: B

First name: Boris

Patient Clinic ID: 6742

Last name: Benez

Medical Questions

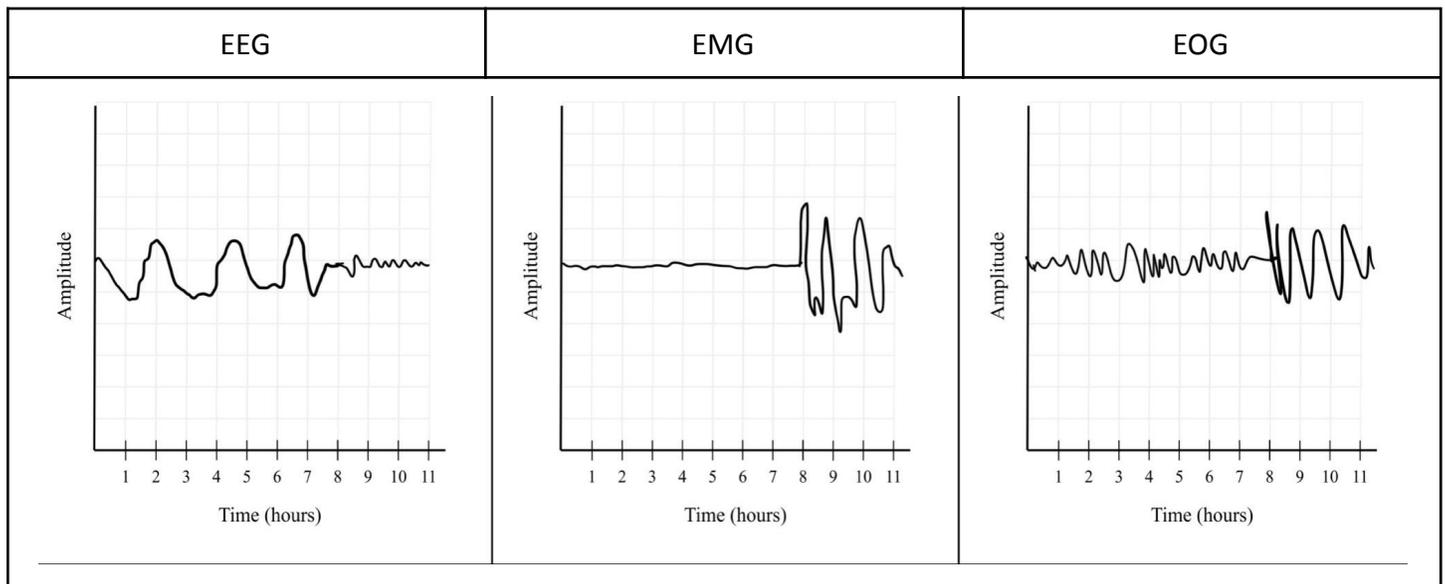
Why did you decide to come to the sleep lab?

As an English professor that spends most of my time researching Shakespeare's old works and working at a sticker company, I've been struggling a lot with sleep. I wanted to come to the lab to check it out.

Do you have family history of sleep complications?

My family has severe insomnia running through it, and I think it was passed down to me.

EEG, EMG, and EOG Recording Data



Medical Patient History | Patient C

General Information

Patient Record: C

First name: Cindy

Patient Clinic ID: 1489

Last name: Charleston

Medical Questions

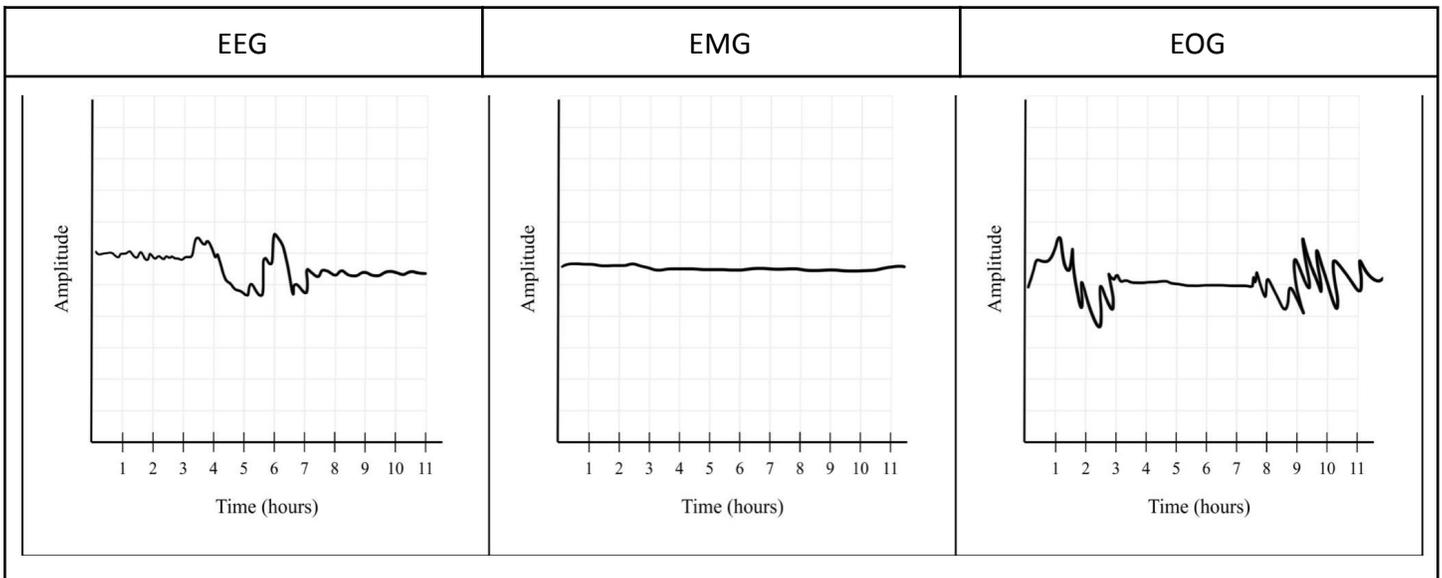
Why did you decide to come to the sleep lab?

I've been experiencing extremely vivid dreams that have been stressing me out.

Do you have family history of sleep complications?

My family enjoys organizing sleep parties where we strive to get recommended amount of sleep.

EEG, EMG, and EOG Recording Data



Medical Patient History | Patient D

General Information

Patient Record: D

First name: Donald

Patient Clinic ID: 8420

Last name: Davenport

Medical Questions

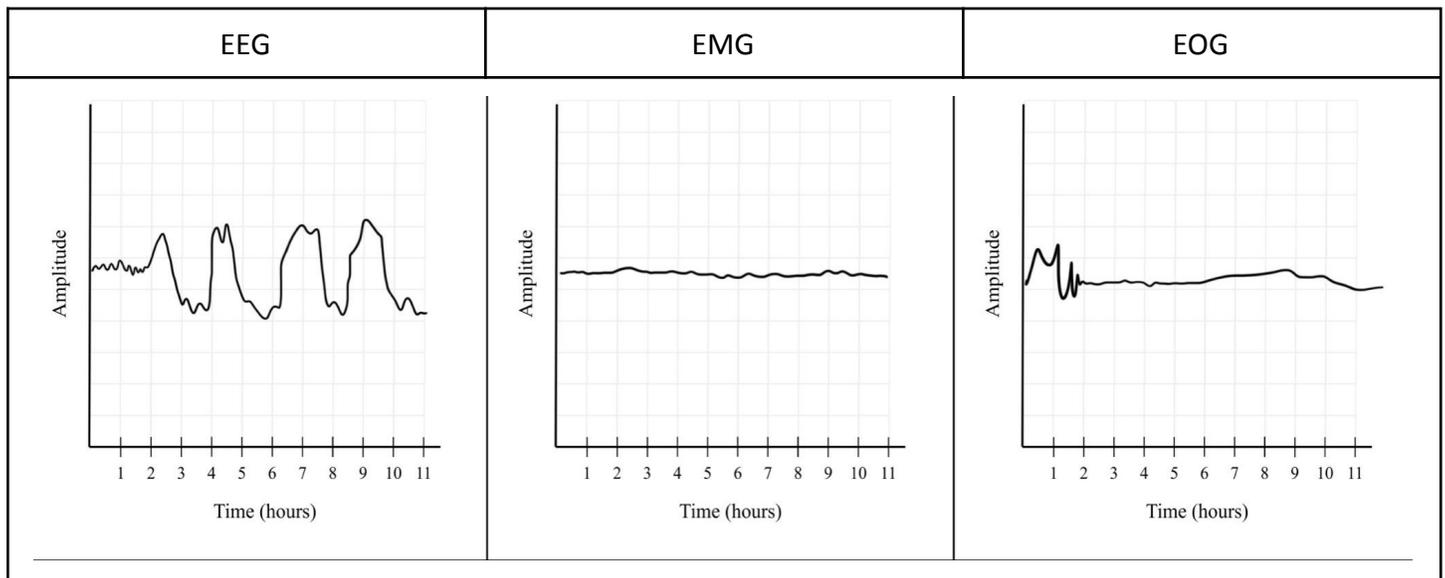
Why did you decide to come to the sleep lab?

I decided to come to the lab because I've been struggling to fall asleep because of caffeine intake because of my job and jetlag.

Do you have family history of sleep complications?

Not that I am aware of.

EEG, EMG, and EOG Recording Data

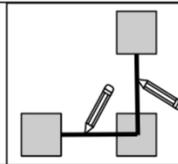


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		Orexin & histamine	
	Hypothalamus	Serotonin	
Locus Coeruleus	Raphe Nucleus		Norepinephrine

Connect the brain area to its sleep neurotransmitter. Use every space only once. Don't go diagonally.

Example →



	14		20
	31		94
	41		13
	78		85
	21		87

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Nakashyan & Clabough, 2023

place this document inside
of Cabinet C

Wire Module

Scan the QR code to view



tinyurl.com/device-x-image

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place this document inside
of Cabinet D

WIRE DEFUSAL MANUAL

USE THE FOLLOWING WIRE DEFUSAL MANUAL CAREFULLY. YOU WILL HAVE ONE CHANCE OF DEACTIVATING THE CHEMICAL-X DEVICE. TO DEACTIVATE IT, YOU WILL NEED TO SCAN THE QR CODE.



HINT FOR CUTTING THE WIRES:

CUT THE WIRES IN ORDER FROM TOP TO BOTTOM. ONLY CUT THE WIRES ASSOCIATED WITH SLEEP/SLEEP PROMOTING STATES.

tinyurl.com/Chemical-X-Device-Defusal

Blood stream



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Melanopsin in retina



Place this in Cabinet A

Pineal gland



Place this in Cabinet B

Melatonin



Place this in Cabinet C

Suprachiasmatic nucleus (SCN)



Place this in Cabinet C

Cabinet A

Requires 5 letter
word

Cabinet B

Requires 5 digit
code

Cabinet C

Requires 4 digit
code

Cabinet D

Requires 5
directions



tinyurl.com/cabinet-a



tinyurl.com/cabinet-b



tinyurl.com/cabinet-c
tinyurl.com/cabinet-d

Scan the QR code to
view

tinyurl.com/device-x-image



