

The Escape Room Game

The AHRQ Safety Program for MRSA Prevention

Overview

This is a paper version of an Escape Room Game. There are four “rooms” or parts to this game. To progress from one part to the next, you have to solve two puzzles, which will give you a code. Share the code with the game master to move forward.

Once you provide the correct code, you will get to the next part of the game!

The following topics are reviewed:

1. Skin assessment
2. Hand hygiene
3. Cleaning and disinfection
4. Contact precautions
5. Enhanced barrier precautions

Introduction

You are looking forward to the end of your shift at the nursing home. Your Great-Aunt Sarah is coming for a visit in a few days. She is really proud of you for being a frontline hero and taking care of older adults like her.

She promised to teach you how to make her famous cinnamon rolls—a closely guarded family recipe—when she visits. She emailed you the list of ingredients, which you plan to pick up on your way home.

The last time she planned a visit, you had to cancel at the last minute because there was norovirus in the nursing home. You did not want to risk getting her sick.

You were able to arrange for a couple of days off for her visit. You are looking forward to spending some quality time with her and making good memories over fresh cinnamon rolls. You are being extra careful with your time today so you’ll have plenty of time to carefully select the ingredients she requested.



Improving Skin Care and MDRO Prevention in
Long-Term Care- Teachable Moments



Part 1

Ms. Hina is playing dominoes with a friend in the common area. She asks you to please bring her something soft to put against her face. “These tissues are too rough.” You bring her a soft cloth and notice that the skin on the sides of her mouth looks angry and red. There seems to be gold or yellow discoloration as well. You ask her whether she has any cold or respiratory symptoms. Ms. Hina says she does not. She says that the area around her nose is tender and itchy.



Image source: DermNet. <https://dermnetnz.org/imagetail/6363-perioral-impetigo>. Used under the Creative Commons Attribution-NonCommercial-NoDerivs 4.0 International Deed.

Puzzle 1.1

Directions: Select terms from the Word Bank on the left that describe what you see in the picture. Enter the correct terms into the blank boxes below, one letter per box. Once all of the boxes are filled, the letters in circles will spell out a number.

WORD BANK
blisters
foul smell
gold crust
gross pus
irregular borders
itchy
nasal discharge
superficial
swelling
red
weeping

Answer to puzzle 1.1: The word is

Part 1, continued

You recall that Ms. Hina was visiting with family, (including her great-grandchildren), over the last couple of days. One of the toddlers had a similar rash on his face. What should you do next?



Puzzle 1.2

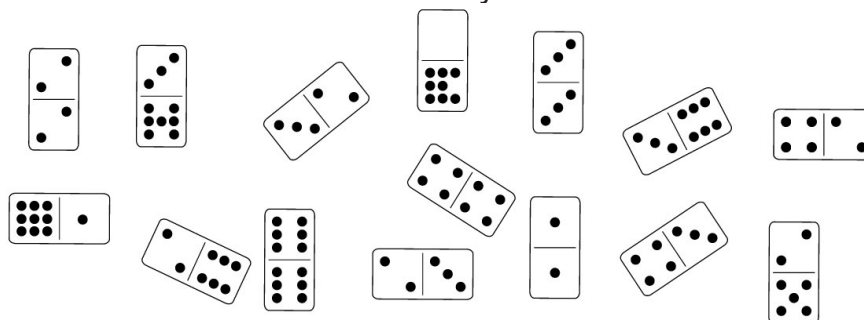
Directions: There are several actions below. Check off those that are reasonable next:

- | | |
|--|---|
| <input type="checkbox"/> Wash your hands | <input type="checkbox"/> Notify the charge nurse (or someone else) about the crusting around her nose |
| <input type="checkbox"/> Wash Ms. Hina's hands | <input type="checkbox"/> Get a different game for Ms. Hina and her friend to play |
| <input type="checkbox"/> Wash the other resident's hands | <input type="checkbox"/> Pull the fire alarm |
| <input type="checkbox"/> See if she is wearing shoes | <input type="checkbox"/> Nothing |
| <input type="checkbox"/> Warm up Ms. Hina's coffee | |
| <input type="checkbox"/> Join the domino game | |
| <input type="checkbox"/> Stop the domino game | |

Key to escape Part 1

Ms. Hina decides she wants to go back to her room, but she can't remember her room number. Follow the steps below to use your answers from the two puzzles and discover her room number.

1. The letters in the circles from puzzle 1.1 spell out a number. What is that number: ____
2. Now, count the number of actions you should take from puzzle 1.2. (How many boxes did you check off?) What is that number: ____
3. Add your two numbers together and you get the sum of: ____
4. Find the only domino with your sum on one side of the domino. Write that number and the other side of the domino's number down below for your answer to Ms. Hina's room number!



Escape Code for Part 1: Her room number is: ____.

* Hint: Both of the answers are odd numbers.

* Share the room number with the game master to move to the next phase of the puzzle.



Part 2

Ms. Hina is back in her room! You use hand sanitizer as you leave her room and head back to the common area.

On your way back to the table with the dominoes, you get clean gloves so you can clear the contaminated table items; mugs, used tissues, dominoes, a tissue box, and the soft cloth you brought her earlier.

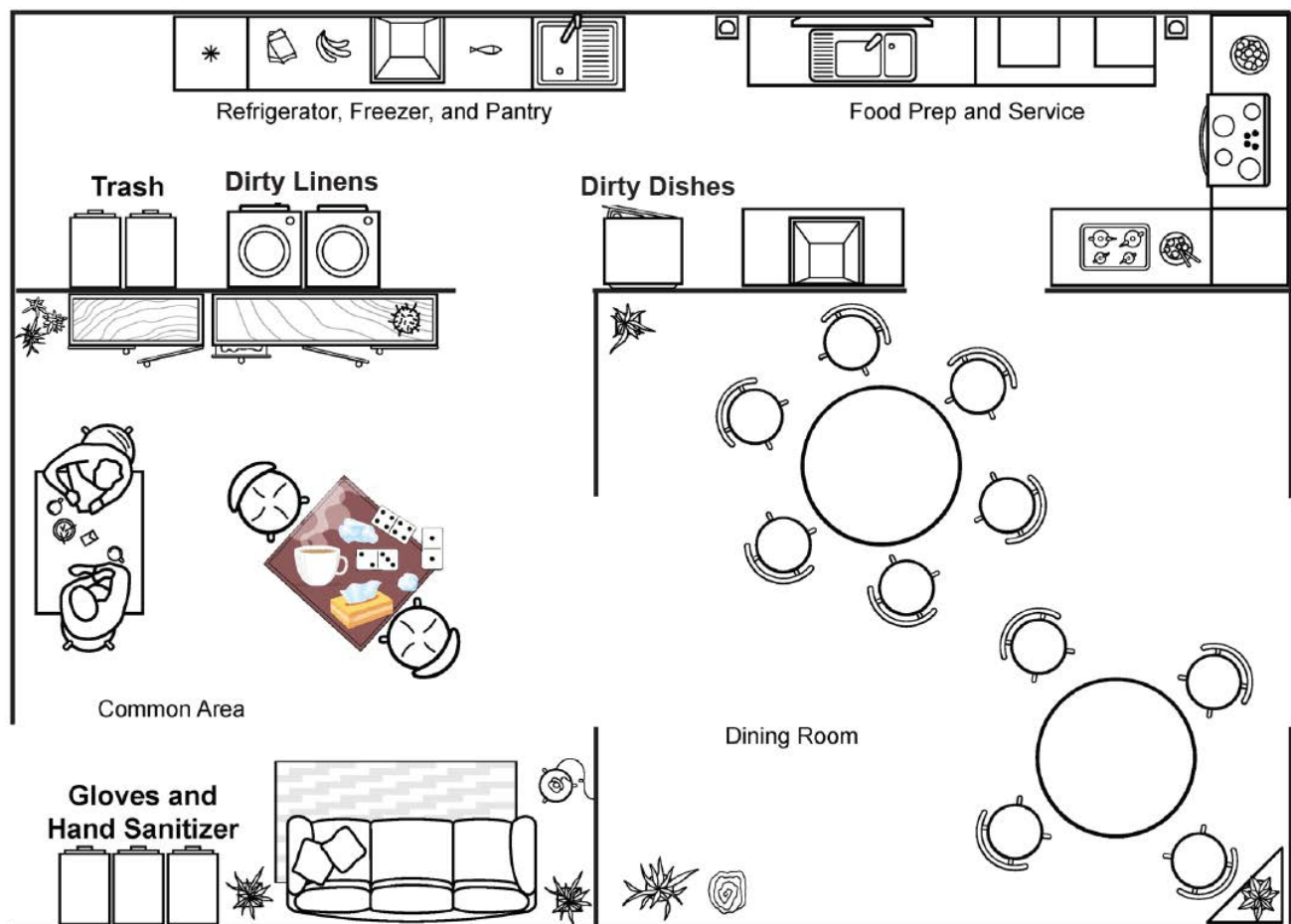


Puzzle 2.1

Directions: Draw lines in the nursing home layout below showing where you walk in order to complete the next steps you take:

Step 1: You walk from the hand hygiene area toward the contaminated table, waiting for the alcohol hand rub to dry before donning clean gloves.

Step 2: You decide you can carry the coffee mugs, soft cloth, and used tissues all in one trip. With your gloved hands, you pick up items from the table and walk them back to the kitchen. You place the items where they need to go in this order: coffee mugs, soft cloth, used tissues, and tissue box.



Part 2, continued

While you're in the kitchen, you pick up a plastic container for the dominos and also a laminated sign that has "Clean" written on one side and "Dirty" on the other. Returning to the table, you place the laminated sign on the table "Dirty" side up.



You sweep the dominoes into the plastic container and realize you're not sure how to clean them. You decide to ask for some help from Lynne, who works in Environmental Services. As you leave the common area, you remove your gloves and then perform hand hygiene with alcohol-based hand sanitizer.

You quickly find Lynne and let her know that one of the tables in the common area needs to be disinfected. You also ask her for advice on disinfecting the dominos. Lynne says, "The surface is kind of irregular, which makes them hard to clean. But since they are plastic, I think you can just soak them in disinfecting solution for the usual contact time."

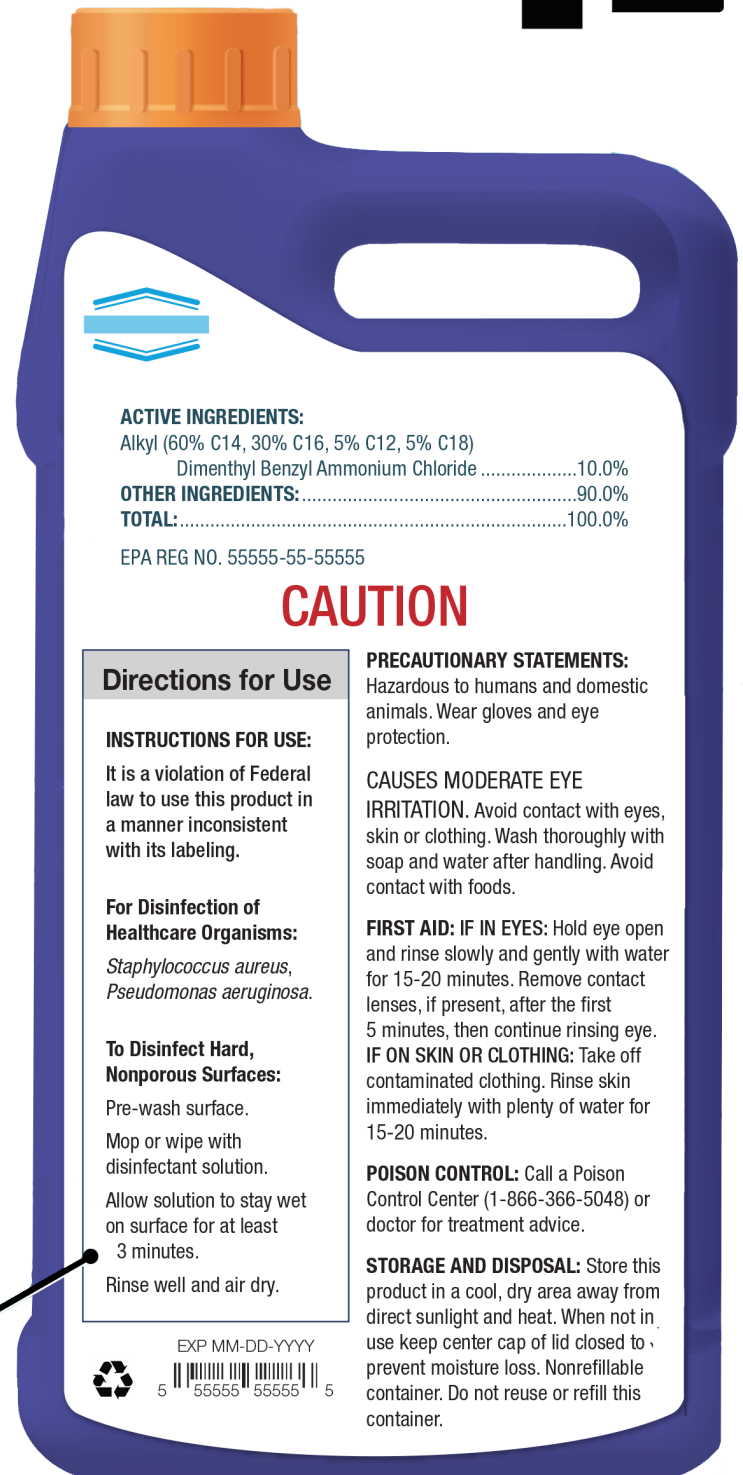
She points you in the direction of the supply closet and explains, "The blue bottles on the back shelf are for disinfection." As you walk down the hallway, she calls after you. "Sometimes that door sticks. Just use the keypad code to get out." You use the keypad to open the door, turn on the light, and find the disinfectant. You pour the solution into the bin with the dominos and note the time.

Puzzle 2.2

Look at the label on the disinfectant solution. What is the contact time (also called dwell time) needed for the disinfectant solution to be effective?

Contact Time:

How long does the surface have to stay wet with the disinfectant to kill germs?



Answer to puzzle 2.2: Write the number of minutes the dominoes need to be in contact with the disinfectant solution here: _____



Key to escape Part 2:

The door shuts behind you. You cannot open the door. Your cell phone is not getting reception in here either. You know someone will walk down the hall soon but wonder if you can figure out the code before then. Follow these steps below to use your answers from the two puzzles and discover the three-digit keypad code.



1. Look at the lines you drew in puzzle 2.1. They make the shape of a number. That number is the first digit of the code.
2. The dwell time on the label of the disinfectant is the second number of the keypad code.

Escape Code for Part 2: The keypad code is: ____.

* Share this code with the game master to move on to Part 3!

* Hint: In the nursing home layout, how many chairs are in the dining room? Your two-digit keypad code should add up to that number.



Part 3

You leave the closet with the bin of dominoes, which have been in the disinfecting solution well beyond their required dwell time. You take them to a sink and rinse away the solution. As you are doing this, Soo, the infection preventionist, walks up to you.



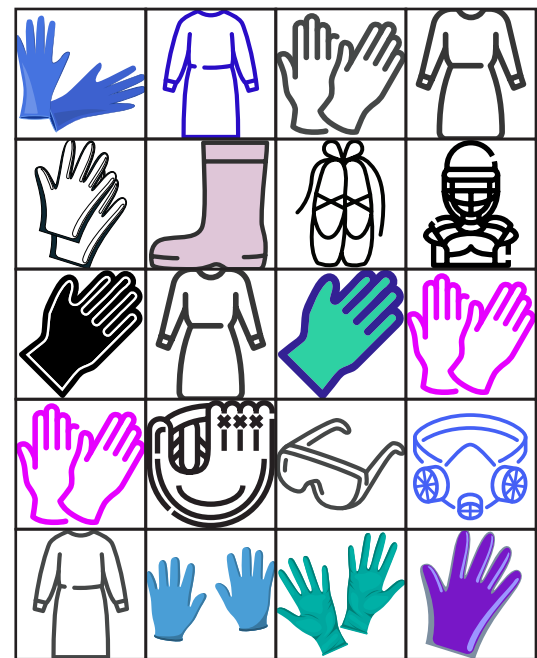
Soo takes a deep breath in through her nose and says, “I love that smell! Did you just disinfect those dominoes? Wow! Good for you!” She continues, “I heard that Ms. Hina has a rash on her face. I’m going to see her now.” You like working with Soo. She usually has something interesting to teach you. You ask if you can join her. Soo says, “Of course! And since you already knew to disinfect the dominoes, you also know we’ll need to put on our personal protective equipment before going in to see her. She will be on contact precautions for now. I’ll see you there shortly.”

As Soo walks away, you find a place to spread the dominoes out to dry and then head to Ms. Hina’s room. There are two over-the-door hangers that contains several different items, including personal protective equipment (PPE).

Puzzle 3.1

The pictures below show PPE that is available outside of Ms. Hina’s room. The purpose of contact precautions is to prevent healthcare workers from picking up pathogens directly from the resident and from their environment.

Directions: Color in (completely) the boxes with PPE that **IS** needed for someone on contact precautions.



Part 3, continued

With your PPE on, you enter the room. Soo smiles at you and says, “So, what do you think this rash on Ms. Hina’s face is?” Turning to Ms. Hina, she says, “You, called them ‘school sores’ but I know this by a different name.”



You note that the skin around Ms. Hina’s mouth is red, and crusted and looks sore. The superficial layers of skin are broken and have irregular borders. There is also a honey or gold-colored crust over the broken skin. Soo says, “this looks like impetigo.”

With her usual friendly smile, Soo continues, “Impetigo is a contagious bacterial infection that can spread between people. There are a couple of different kinds of bacteria that cause impetigo, and they can all be found on environmental surfaces. So, your idea to disinfect the dominoes was spot on! For now, I’m going to place Ms. Hina on contact precautions until her the skin around her mouth is dry and scabbed over.”

Ms. Hina says, “Is that why you’re both wearing gloves and gowns? Do I need to tell other people to wear those when then come in?” Soo beams at Ms. Hina and says, “Yes. There are a few things healthcare workers should do when a resident is on contact precautions.”

Puzzle 3.2

Think about what a healthcare worker should do before, during, and after being in the room of a resident on contact precautions.

Directions: Circle one item from each column that is part of contact precautions.

Before entering a room	Putting on (donning) PPE	Activities while in the room	Taking off (doffing) PPE	When leaving the room
Perform hand hygiene.	Put on a yellow hat and sunglasses.	Take off your gown and gloves before having any contact with the resident, their belongings, or their environment.	Take off your gown and wave it all about. That’s what it’s all about.	Perform hand hygiene.
Review your time card.	Put on winter gloves and a scarf.	Pull your cell phone out and check your messages.	Take off your gown and gloves. Shove them in your pocket so you can use them for the next room.	Put on a new isolation gown and gloves. The color looks good on you so wear them all day!
Double-knot your shoelaces.	Put on a mask that hides the upper part of your face—super-hero style.	Help the resident with dressing and grooming.	Take off the isolation gown, turn it inside out and hang it on the back of the door so you can use it again tomorrow.	Put on a surgical mask. The resident commented on your breath.
Wash the door-knob with bleach	Put on an apron and grab some cleaning supplies.	Take off your gloves so you finish your coffee. Leave the gown on in case you spill something on your clothes.	Keep wearing the gown but take off the gloves. You like the crinkly sounds the gown makes while you go about your day.	Just leave the room. You had on gloves the entire time you were in the room so there’s no need for hand hygiene.
Spit out your gum.	Put on an isolation gown and gloves.	Pull the front part of the gown down so it’s around your waist like an apron. You only need to cover from the waist down and wrists down.	Take off the isolation gown and gloves. Avoid touching your clothes.	Don’t leave the room after removing your PPE. Go back and play cards with the resident.



Part 3, continued

Soo says, “I’m going to step out and find Dr. Lopez so she can confirm our suspicions and decide what kind of treatment might be needed. I’ll be back with her shortly.”

On her way out, Soo notices that there are no more gowns outside of Ms. Hina’s room. “I’ll do a quick restock. Remind me of the code to the clean supply room?”



Key to escape Part 3:

1. The boxes you colored in for puzzle 3.1 created two letters. Write them in the first two answer blanks below.
2. From the table in puzzle 3.2, draw a line that connects the correct five circled answers (from left to right). The line makes a letter. That is the third letter of the code to open the clean supply door.

Escape Code for Part 3: The code to enter the cleaning supply closet is: _ _ _

- * Share this code with the game master to move on to Part 4!
- * Hint: The three-letter code spells a word to describe the type of materials that should be in cleaning supply.



Part 4

Ms. Hina asks you to help her change her clothes—she thinks she might want to go to bed early. After a few minutes, Dr. Lopez walks in, wearing a crisp blue shirt with her stethoscope around her neck. She greets Ms. Hina and starts to ask about her symptoms as she walks towards the bed.



You realize with a start that Dr. Lopez is not wearing any personal protective equipment (PPE). Soo is nowhere to be seen. You recall that Dr. Lopez has always been kind. You take a deep breath and begin to speak.

Puzzle 4.1

Directions: Use the words from the right side of the page to fill in the blanks in the dialogue.

“Excuse me, Dr. Lopez. Soo Yung told me that she was going to put Ms. Hina on _____. She said that the _____ on her face is a _____ caused by _____. If we get that bacteria on our skin we could get sick or get other _____ sick. I think we are all supposed to wear a _____ and _____ when we are in the room with a resident who is on contact precautions.”

WORD BANK

contact precautions
special assignment
rash
clown nose
icicle
teddy bear
bacteria
insects
hat
people
skin infection
gloves
gown
mittens

Part 4, continued

Dr. Lopez’s eye gets big and she says, “Oh! You’re right! Let me step out and put on PPE.” She comes back in, securing the ties on the gown, looks you in the eye and says, “Thank you for saying something. We all forget things sometimes. I appreciate you letting me know.”

Turning to Ms. Hina she says, “I am so glad to have smart, thoughtful people working here.” Dr. Lopez explains that she is going to get a culture of the rash, in hopes that the microbiology laboratory can figure out what the bacteria might be. She turns to you and says, “We don’t usually get cultures from skin, but there are only a few kinds of bacteria that cause impetigo. Knowing which kind will help us know what to do for Ms. Hina and reduce the risk of this spreading to other residents.”

You leave Ms. Hina’s room, carefully removing your gown and gloves without touching your own clothes. Then you apply alcohol-based hand rub from the dispenser by her door and spread it over all the surfaces of your hands as you prepare to end your shift.



Part 4, continued

Two days later, you are in the break room, counting down the minutes to the end of your shift. Great-Aunt Sarah just sent a text that her plane is leaving on time. Her flight arrives about an hour after your shift ends, so you will have plenty of time to meet her at the airport. Soo pops in and tells you in passing that the culture Dr. Lopez took came back showing methicillin-resistant *Staphylococcus aureus*, which we also call MRSA.



Soo says, "We have placed Ms. Hina on enhanced barrier precautions. Her impetigo is no longer draining." Residents are placed on enhanced barrier precautions when they are infected with or carrying a multidrug-resistant organism (MDRO) to reduce the risk of it spreading to other residents. Staff will only wear gown and gloves when providing close contact care.

After your break is over, you go to help Ms. Hina get dressed for the day. You enter her room after performing hand hygiene and putting on a gown and gloves. Now that the rash has scabbed over and she has been treated, she looks more like herself. Her color is better and her rash is nearly gone! She lights up when she sees you, but then looks puzzled because you are still wearing a gown.

You tell her "We have placed you on enhanced barrier precautions due to the recent culture identifying MRSA, an MDRO. Residents are placed on enhanced barrier precautions when they are infected with or carrying an MDRO to reduce the risk of it spreading to other residents. Staff will only wear gown and gloves when providing close contact care." You let her know that she is now on enhanced barrier precautions. This means she can be out of her room but that you, and anyone else who will be in close contact with her, needs to wear a gown and gloves for most in-room care activities."

Puzzle 4.2

Directions: Check the box indicating whether PPE is required for the following activities when caring for residents on enhanced barrier precautions.

Activity	PPE Required	PPE Not Required
General grooming (brushing hair, brushing teeth, washing face, shaving)		
Helping the resident use the toilet		
Helping to dress or change clothes		
Cleaning up after stool incontinence		
Changing bed linens		
Transferring from bed to wheelchair		
Transferring from wheelchair to bed		
Transferring from wheelchair to chair in dining room		
Transferring from chair to wheelchair in dining room		
Administering medications		
Assisting with meals in the resident's room		
Dressing changes		
Assisting with meals in the dining room		
Dropping off mail		



Part 4, continued

Ms. Hina is the last resident for whom you provide care today. You finish up your charting and then head out to meet Aunt Sarah at the airport. Yikes! She did not remind you of her flight number. Maybe it was in an email she sent?



Use your answers from the two puzzles in this section to find the her flight number.

Key to escape Part 4:

1. Count the number of words used to fill in the blanks for puzzle 4.1. This is the first number of the code. (Hint: The number of words is more than the number of blank lines).
2. From puzzle 4.2, count the number of activities that **DO** require PPE. This is the second number of the code. Count the number of activities that **DO NOT** require PPE. This is the third number of the code.

Escape Code for Part 4: Aunt Sarah's flight number: ____ ____ ____.

* Share this code with the game master to complete the game!

* Hint: All of the digits in her flight number are odd numbers.

Escape Room Conclusion

You can't wait to see Great-Aunt Sarah and enjoy some of her cinnamon rolls. And, because you were so careful and thoughtful about infection prevention, you know there is no risk of you getting Great-Aunt Sarah sick with Ms. Hina's rash.

References:

- Nardi NM, Schaefer TJ, Espil MO. Impetigo (Nursing) [Updated 2023 Jul 31]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2023 Jan-. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK568809/>.
- Jump RLP, Crnich CJ, Mody L, et al. Infectious Diseases in Older Adults of Long-Term Care Facilities: Update on Approach to Diagnosis and Management. *J Am Geriatr Soc*. 2018 Apr;66(4):789-803. PMID: PMC5909836.

