

wip- curtains from lab 2

#### Introduction video before game starts

- Use the voice changer effect and using our audio recorded, change the voice
- The screen will show a video of [hacker](#) and our recorded voices will be edited on top of the video
- [bomb sound effect](#)
- [glitch ending](#)
- [Last 10 min timer](#)
- [glitch sound effect](#)

Group name: Bomb hackers union

Location: visitors room

Script:

All my life I have been an outsider secluded from society, judged from people who don't even know what I go through. Everyday I am judged by people just like you. You all can't even begin to imagine the pain I've endured, you don't understand the pain! So I've decided to lock you all up in this escape room. Psychotic?! Do not call me psychotic – I'm simply giving you a taste of your own medicine. And the only way to escape is by correctly answering these questions about my life and what disease I was diagnosed with as a child. Or else, you'll all go poof.

\*bomb sound effect?

The bomb diffusal escape room consists of three rules which are, 1) you will have three call lines using the phone – choose wisely 2) you will have 30 mins to unlock time bomb, and lastly 3) you are not allowed to enter the room with a device. If you have a device, please leave it in the basket outside.

Please collect a flashlight, a glow stick, a piece of paper, and pencil in the basket placed next to the door.

There are 7 different stages you will have to clear. If answered correctly, you will receive a number according to the answer. There will be an anagram that you need to solve that will identify which activity you will proceed to next. At the end of all 7 stages, enter all of the digits acquired into the iPad to defuse the bomb in chronological order.

Now I leave this question with you all: I am under your face and outside your mind, what am I?

\*close video, countdown timer starts

#### Materials needed for players

1. Flashlights
2. Paper w/ pencil → they can keep track of the numbers
3. Glow stick bracelets (Daiso)

#### General rules

The visitors room will be dark and only source of light is the flashlights given to the players

1. You have three call lines.
2. 20 minutes or the bomb goes off

3. You are not allowed to enter with a device

#### Coding

- For every activity, the players will end up with numbers
- To know which activity to proceed to, answer the riddle
- Once you have identified the numbers, you will refer to a code sheet which the number translates to letters
- The final letter code that you end up with will unlock the ipad and players will be able to stop the time bomb

#### Riddles/clues

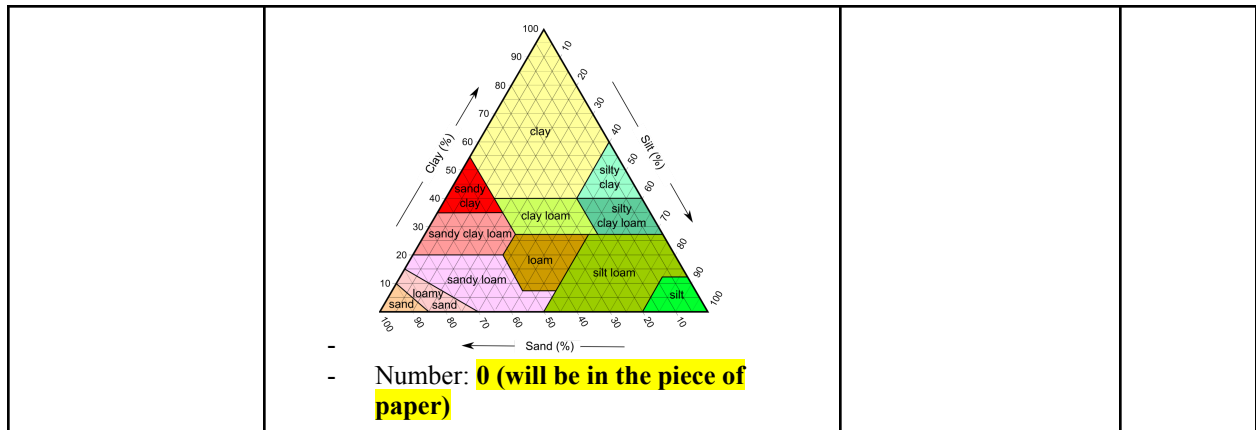
- Have the riddles/clues in between each activity

**Main plot:** Identify who is the master behind the escape room and bomb. Find a way to switch it off

| Subject/Activity                                                                                                                             | Description of the activity / how will the players identify a code                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Materials Needed                                                                                    | Estimated time |
|----------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|----------------|
| Riddle to the next stage: I am under your face and outside your mind, what am I?<br><br>Answer: place next clue on the <b>skull/skeleton</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                     | 2-3 min        |
| 1. biology                                                                                                                                   | <p>Instructions: Your first step is to identify the gender of the mastermind! Use the karyogram to determine whether the master is male or female. Once you have determined the gender, take note of the corresponding number. This number will help you in defusing the bomb later!</p> <p>Karyogram: disease/abnormality<br/>Gender ← girl (XX) = 2 boy (XY) = 7</p> <p>→ identify the gender of the master<br/>→ on instruction sheet say girl = 2 and boy (XY) = 7<br/>→ gender is boy</p>                                                   | Internet image of Karyogram                                                                         | 1-2 min        |
| Anagram: invisible ink: EBLISINIV NKI                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                     | 2-3 min        |
| 2. chemistry                                                                                                                                 | <p>The master has left you a secret message, but says it's impossible for anyone to reveal it. Prove the master wrong, and decode the secret message - it might be the only way for you to get out of this room alive. Identify the number of family members in this secret message, in order to get your next number.</p> <p>Invisible ink (invisible ink to draw an image of the master's childhood, something that resonates with his childhood, or it can be words)<br/><a href="#">Invisible Ink With Cornstarch</a>.</p> <p>- 5 people</p> | <ul style="list-style-type: none"> <li>● Iodine</li> <li>● Starch</li> <li>● Paint brush</li> </ul> | 1-2 min        |

|                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                              |         |
|-----------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|---------|
|                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                              |         |
| Anagram: tuning fork : Unscramble these letters: GINNTU KORF<br>Answer: Find the <b>tuning fork</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                              | 2-3 min |
| 3. physics                                                                                          | <p>There are 3 of these:<br/> Length of the tube: round the frequency to the nearest 10th</p> <ul style="list-style-type: none"> <li>• Players will have to identify at which length can they hear sound</li> <li>• They measure the length using a meter stick</li> <li>• The frequency with the shortest tube length will be the code</li> </ul> <p>Question: Which frequency has the shortest tube length?</p> <p>17 cm of water</p> <p>341.3 : 42-17= 25 (no decimal place)</p> <p>480: 35-17 = 18</p> <p>384: 39-17 = 22</p> <p><b>ANSWER: 480</b></p> <p>Round the frequency to the nearest tenth place</p>                                                                                                                                                                                                                                                                                                                                                                               | <ul style="list-style-type: none"> <li>• 3 Tuning Fork</li> <li>• 1 Graduated cylinder</li> <li>• 1 Meter stick</li> <li>• 2 Tube</li> </ul> |         |
| Anagram: Population : UPPOITLANO<br>Answer: Find the <b>population</b> chart/pyramid                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                              | 2-3 min |
| 4. ESS                                                                                              | <p>A natural increase is the difference between the number of births and number of deaths recorded over a period of time. The person responsible for the bomb is from Japan and is the last one alive in their family. The person only had one sibling, and lives a very sad life alone. Determine the exact value of the natural increase of Japan using the attached chart. The formula to calculate natural increase is :</p> <p>Natural increase= (crude birth rate - crude death rate) / 10</p> <p>Human population calculation</p> <ul style="list-style-type: none"> <li>• Players will be given a country's population statistics (different stages)</li> <li>• They will have to calculate the natural increase (will also be given formulas)</li> <li>• Based on the value they calculate, they have to determine the stage the country is in based on the population pyramid shape</li> </ul> <p>Question: Determine Japan's natural increase.<br/> Japan crude birth rate: 7.96</p> | <ul style="list-style-type: none"> <li>- Calculator</li> <li>- Pen/ paper</li> </ul>                                                         | 4       |

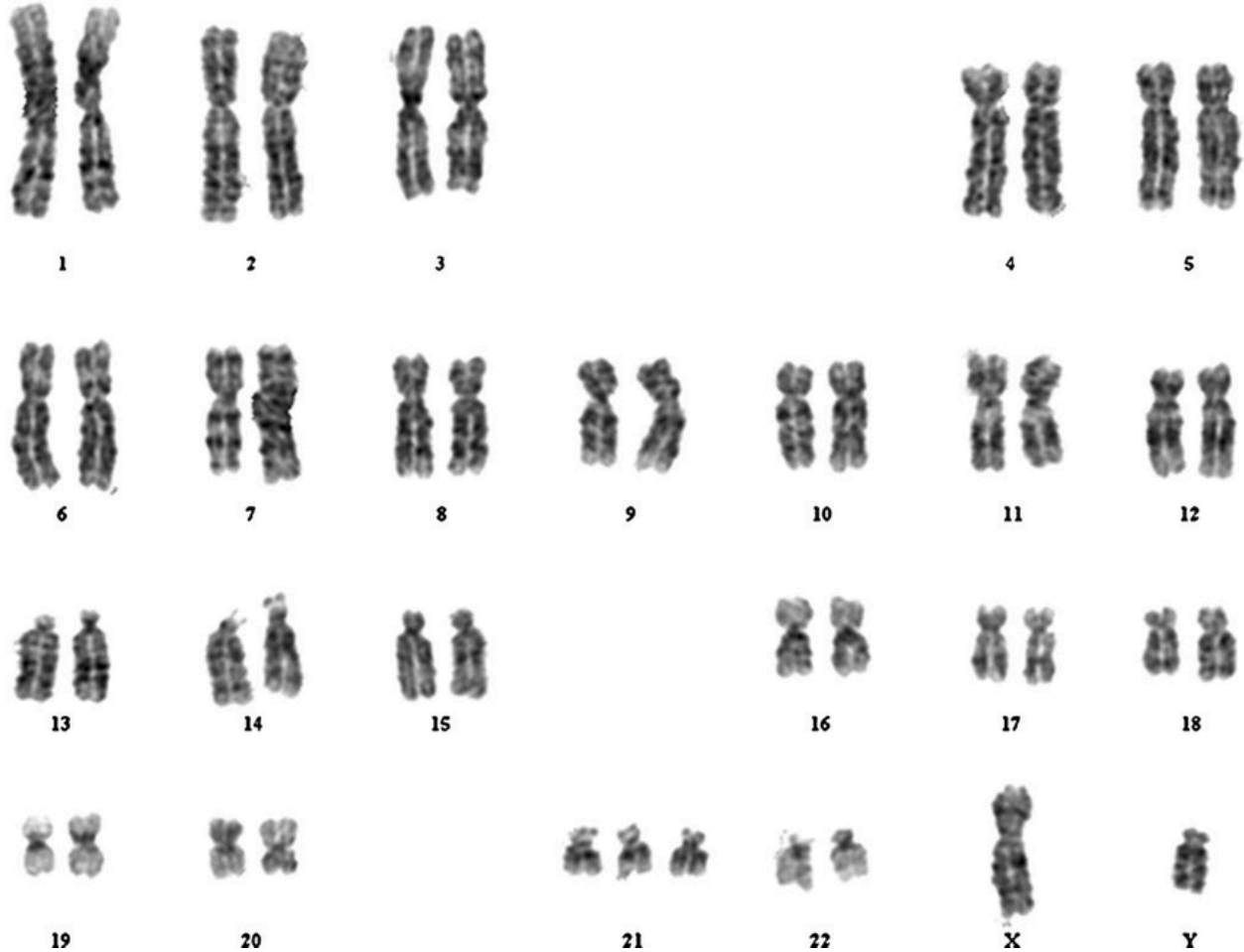
|                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                         |         |
|------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|---------|
|                              | Japan crude death rate: 10.40                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                         |         |
| Anagram: Code: EOCD NQEECUSE |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                         | 1-2 min |
| 5. biology                   | <p>Using the tRNA code sequence and the chart provided, identify how many valine amino acids there are. What disease does the master have?</p> <p>Code breaker activity</p> <ul style="list-style-type: none"> <li>- Give them a code sequence</li> <li>- They have to transcribe it to mRNA</li> <li>- mRNA --&gt; tRNA --&gt; amino acid</li> <li>- Find how many valine amino acids there are: <b>2</b></li> <li>- <b>“What disease does the master have?”</b></li> <li>- TAC/CAA/CTA/GCA/GGA/CAT/ACT</li> <li>- AUG/GUU/GAU/CGU/CCU/GUA/UGA</li> </ul> <p>(master has sickle cell anemia and is psychotic so he wants people to experience his pain)</p> <p>(now identify which suspect is the master)</p> <p>You are almost there! Now, match the DNA strands to identify the DNA that matches the fingerprints on the bomb.</p> | <ul style="list-style-type: none"> <li>- mRNA base sequence</li> <li>- Code chart</li> </ul>            |         |
| Anagram: soil: LSIO          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                         |         |
| 6. ESS                       | <p>Congratulations, you have made it to the final step. In front of you, you will see three buckets of soil. One of the buckets has a piece of paper that will serve as your last clue, that will complete the code for you to stop the bomb from going off.</p> <p>Soil identifier</p> <p>One of the buckets in the soil has a hint that will save you from the bomb.</p> <ul style="list-style-type: none"> <li>- Hide a piece of paper with the number written on it in one of the soil buckets</li> <li>- The instructions will tell them that the slip is in the specific type of soil that they have to identify</li> <li>- Use the composition: 20% clay, 55% silt, and 25% sand to determine the type of soil</li> <li>- Using this info, they can select the bucket and dig into it to find the piece of paper</li> </ul>    | <ul style="list-style-type: none"> <li>- 4 soil buckets</li> <li>- Gloves</li> <li>- buckets</li> </ul> |         |



- > if they pass the escape room they do not have to experience the miserable life of the master
- if they do not pass the escape room they face consequence (bomb goes off) and they do not get the prize

| Code sheet                     |        |
|--------------------------------|--------|
| Number retrieved from activity | Letter |
| 0                              | X      |
| 1                              | B      |
| 2                              | G      |
| 3                              | M      |
| 4                              | N      |
| 5                              | A      |
| 6                              | C      |
| 7                              | F      |
| 8                              | K      |
| 9                              | R      |

**Identify the gender:**



**Solve this anagram for the next stage:**  
**EBLISINIV NKI**

**Find the number on the paper.**

Solve this anagram for the next stage:

**GINNTU KORF**



**Question: Which frequency has the shortest tube length?**

**NOTE: Do not hit the tuning fork on the table.  
Use your wrist.**

Solve this anagram for the next stage:  
**UPPOITLANO**

**Determine Japan's natural increase.**

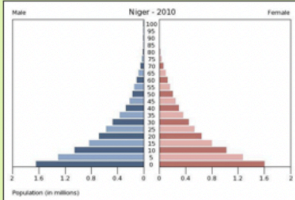
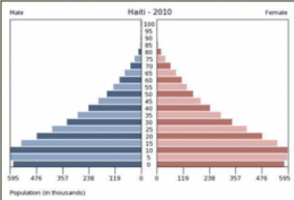
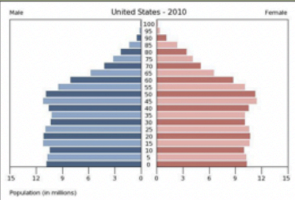
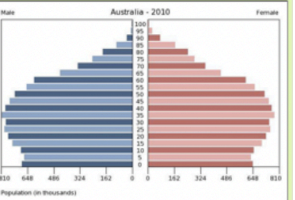
**Formula for Natural increase:**

**(crude birth rate - crude death rate) / 10**

Japan crude birth rate: 7.96

Japan crude death rate: 10.40

**Using the value you calculated to find the natural increase, use the table below to determine the developmental stage of the country.**

|                                                                                    |                                                                                    |                                                                                     |                                                                                      |
|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
|  |  |  |  |
| <b>Stage 1</b>                                                                     | <b>Stage 2</b>                                                                     | <b>Stage 3</b>                                                                      | <b>Stage 4</b>                                                                       |
| Expansive.                                                                         | Expansive.                                                                         | Stationary.                                                                         | Contractive.                                                                         |
| Concave sides.                                                                     | Straight sides.                                                                    | Convex sides.                                                                       | Convex sides.                                                                        |
| High birth rate.                                                                   | Still high birth rate.                                                             | Declining birth rate.                                                               | Very low birth rate.                                                                 |
| High death rate.                                                                   | Falling death rate.                                                                | Low death rate.                                                                     | Low death rate.                                                                      |
| Short life expectancy.                                                             | Slightly longer life expectancy.                                                   | Long life expectancy.                                                               | Longer life expectancy.                                                              |
| Rapid fall in each upward age group due to high DR.                                | Fall in DR so more people living into middle age.                                  | An increasing proportion of the population is in the 65+ age group.                 | Higher dependency ratio.                                                             |

**Solve this anagram for the next stage:**

**EOCD NQEECUSE**

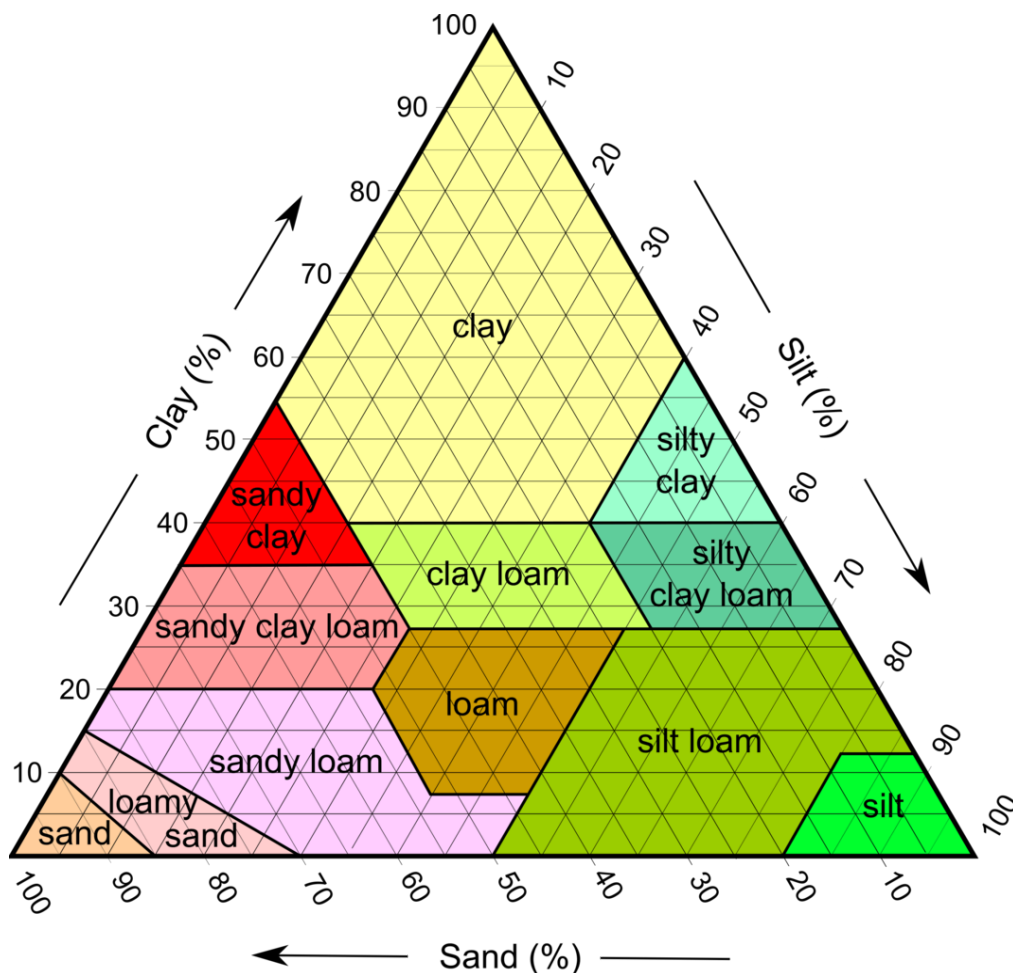
Transcribe the code using the chart given and find how many valine amino acids there are:  
TAC/CAA/CTA/GCA/GGA/CAT/ACT

|                     |   | second base in codon |         |          |          |                     |   |
|---------------------|---|----------------------|---------|----------|----------|---------------------|---|
|                     |   | U                    | C       | A        | G        |                     |   |
| first base in codon | U | UUU Phe              | UCU Ser | UAU Tyr  | UGU Cys  | third base in codon | U |
|                     |   | UUC Phe              | UCC Ser | UAC Tyr  | UGC Cys  |                     | C |
|                     |   | UUA Leu              | UCA Ser | UAA stop | UGA stop |                     | A |
|                     |   | UUG Leu              | UCG Ser | UAG stop | UGG Trp  |                     | G |
|                     | C | CUU Leu              | CCU Pro | CAU His  | CGU Arg  |                     | U |
|                     |   | CUC Leu              | CCC Pro | CAC His  | CGC Arg  |                     | C |
|                     |   | CUA Leu              | CCA Pro | CAA Gln  | CGA Arg  |                     | A |
|                     |   | CUG Leu              | CCG Pro | CAG Gln  | CGG Arg  |                     | G |
|                     | A | AUU Ile              | ACU Thr | AAU Asn  | AGU Ser  |                     | U |
|                     |   | AUC Ile              | ACC Thr | AAC Asn  | AGC Ser  |                     | C |
|                     |   | AUA Ile              | ACA Thr | AAA Lys  | AGA Arg  |                     | A |
|                     |   | AUG Met              | ACG Thr | AAG Lys  | AGG Arg  |                     | G |
|                     | G | GUU Val              | GCU Ala | GAU Asp  | GGU Gly  |                     | U |
|                     |   | GUC Val              | GCC Ala | GAC Asp  | GGC Gly  |                     | C |
|                     |   | GUA Val              | GCA Ala | GAA Glu  | GGA Gly  |                     | A |
|                     |   | GUG Val              | GCG Ala | GAG Glu  | GGG Gly  |                     | G |

Solve this anagram for the next stage: **LSIO**

**A piece of paper with a number is hidden in one of the buckets of soil.**

**The soil has the following composition: 20% clay, 55% silt; 25% sand. Use the image below to determine the type of soil and hence which bucket it is in:**



## General rules

The visitors room will be dark and only source of light is the flashlights given to the players

1. You have three call lines.
2. 20 minutes or the bomb goes off
3. You are not allowed to enter with a device

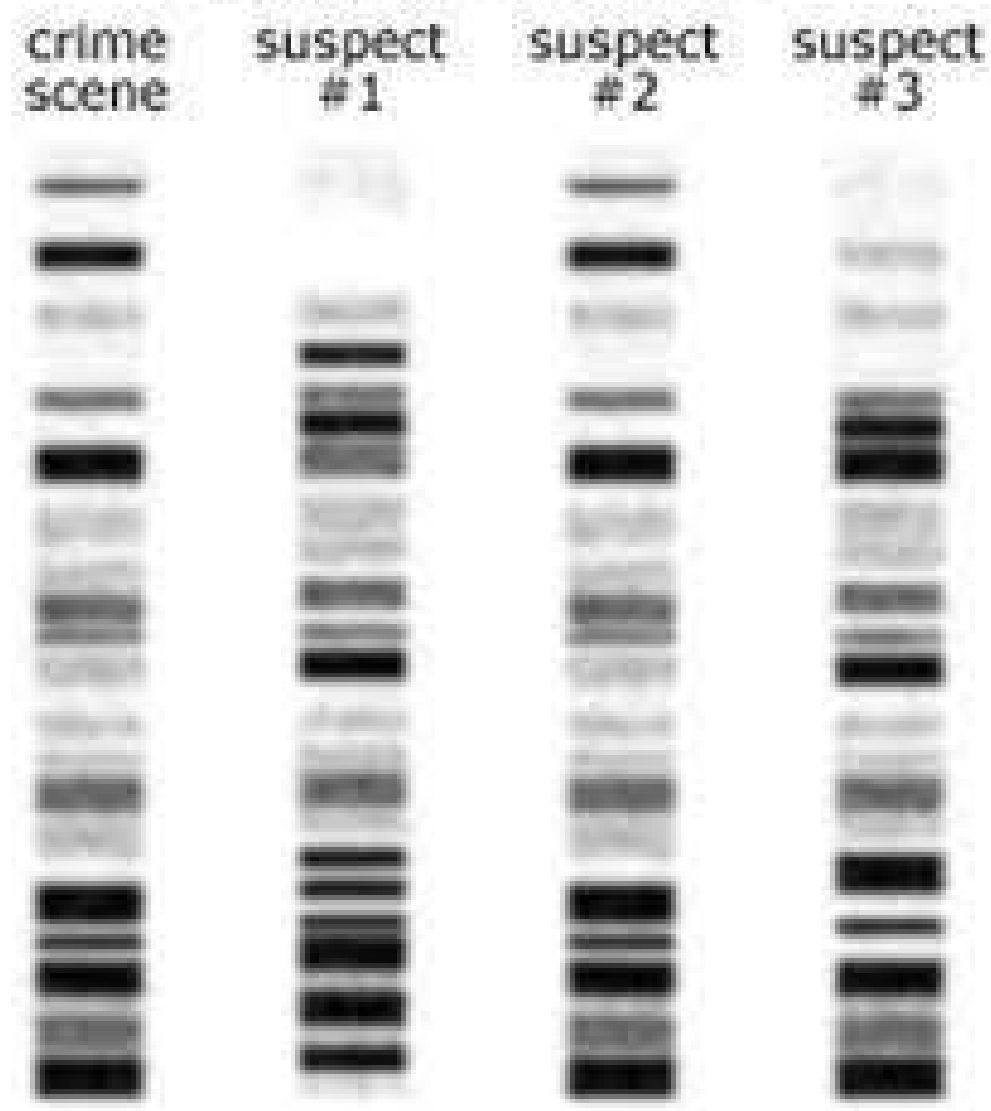
## Coding

- For every activity, the players will end up with numbers
- To know which activity to proceed to, refer to the clue in the envelope
- Please take note of all the numbers you collect
- Defuse the bomb through the ipad.
- Good luck.

**MATCH THE DNA OF THE SUSPECTS WITH THE ONE AT THE CRIME SCENE, TO FIND OUT WHO IS BEHIND THIS!**

**MATCH THE DNA OF THE SUSPECTS WITH THE ONE AT THE CRIME SCENE, TO FIND OUT WHO IS BEHIND THIS!**

## DNA samples from:



**THE MASTER HAS LEFT YOU A SECRET MESSAGE, BUT SAYS IT'S IMPOSSIBLE FOR**

**ANYONE TO REVEAL IT. PROVE THE MASTER WRONG, AND DECODE THE SECRET MESSAGE- IT MIGHT BE THE ONLY WAY FOR YOU TO GET OUT OF THIS ROOM ALIVE. HINT: IODINE AND PAINTBRUSH.**

**HINT: THIS CODE SEQUENCE TELLS YOU WHAT DISEASE THE MASTER HAS.**

**THE MASTER PLAYED A SONG WITH A SPECIFIC FREQUENCY WHILE HE WAS KILLING HIS FAMILY. DETERMINE WHICH FREQUENCY HAS THE SHORTEST TUBE LENGTH.**

**A NATURAL INCREASE IS THE DIFFERENCE BETWEEN THE NUMBER OF BIRTHS AND DEATHS RECORDED OVER A PERIOD OF TIME. THE MASTER RESPONSIBLE FOR THE BOMB IS FROM JAPAN AND IS THE LAST ONE ALIVE IN THEIR FAMILY. THE MASTER NOW LIVES A VERY SAD LIFE ALONE. FIRST, DETERMINE THE EXACT VALUE OF THE NATURAL INCREASE OF JAPAN.**

**I CAN'T BELIEVE YOU HAVE MADE IT THIS FAR. NOW, USING ALL THE NUMBERS YOU HAVE COLLECTED, ENTER THEM INTO THE IPAD TO DEFUSE THE BOMB. IF ENTERED CORRECTLY, YOU WILL ALL BE FREE FROM THE BOMB!**



**ENTER AT YOUR  
OWN RISK -  
PLEASE LEAVE  
ALL YOUR  
DEVICES  
OUTSIDE.**

