**USER’S**

**MANUAL**

*Radiation Escape Room*

**for users who wish to diffuse the bomb**

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**Revision Sheet**

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**USER'S MANUAL**

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# GENERAL INFORMATION

## 1.1 The Tasks

I’m delighted that you’ve picked up the instructions and started to read. I hope that it will give you the edge on those groups that have left them in the box.

***Always read the instructions***.

## 1.2 Terminology

*Parts of a padlock*

They are comprised of three basic components: the shackle, body and locking mechanism.

*Shackle*: Most often a loop of metal (u-shaped bar) that opens up to lock and unlock the padlock.

*Body*: The solid part of the padlock that contains the locking mechanism.

*Locking mechanism*: Locks usually have a keyway where the key is inserted, or they may use a type of rotary mechanism or dial.

*Combination*: A lock that uses a rotary dial or series of buttons to unlock the device rather than a conventional key.

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Shackle

Body

Locking Mechanism

# GETTING STARTED

## 2.1 Order of Opening the Padlocks

Well you’ve obviously correctly completed Task 1 or you wouldn’t have found these instructions, so you have some idea of what you need to do. Here is a table of task number and which lock is opened from the clue to each task. Keep it quiet if some teams are trying to work it out.

*Remember: Always read the instructions!*

|  |  |  |
| --- | --- | --- |
| Task No. | Task | Lock |
| 2 | Receipt for my shopping | Black |
| 3 | Questions on Dosimetry | Red |
| 4 | Half life | Green |
| 5 | Guess Who, well Guess What! | Grey |
| 6 | Chain Reaction | Blue |

## 2.2 Opening the Padlock

Where the padlock is a 4-digit combination lock and the answer is a 3-digit code then the first digit will be the number of the task, followed by the three digit code. If your answer is a 2-digit code, then the first digit is the task number and the second is a zero

The first digit of the combination is always the closest to the shackle.



If you have a 3-digit code and you have a 4-digit lock this top dial will be the task number.

The dial closest to the shackle is the first digit

If your answer is a 2-digit code, then the first digit is the task number and the second is a zero

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# MORE IMPORTANT INFORMATION

## 3.1 How to win the prize

If one of your team is just going through and trying all the numbers to open the locks you might stop the bomb, but you won’t win the reward money. So keep all of your working and your logic.

**Don’t break, force or otherwise destroy any item or you’ll not only forfeit the reward, but you’ll be sent the bill for a replacement**.

## 3.2 Diffuse the bomb

To diffuse the bomb, carefully disconnect the timer from the bomb. This will disarm the bomb. Carefully take the timer to the teacher to claim the reward for saving the world. If you’re the first team to do this it looks like you’ve good teamwork skills and plenty of Physics knowledge, well done. If you complete the tasks correctly but don’t manage it first feel very satisfied that you know plenty of N5 Physics on the topic of Radiation.

# CREDITS

## 4.1 Thanks

*Mrs Physics and all those who use this resource would like to acknowledge the assistance of the Institute of Physics for paying for the resources for this Escape Room. Without their help it would be quite a boring piece of classwork- well hopefully not that boring!*

*Remember always read the instructions, and good luck!*