Facilitator Guide

Lesson 1

How to Create Strong Passwords

# Introduction

This is a facilitator guide for Lesson 1 in the Practice Using Passwords training material produced by the University of Surrey.

# Session Overview

**Type of session**: in small groups, working in pairs typically an instructor and a person

**Suggested length of session**: 50-80 min session

**Level**: beginners

**Background knowledge**: none

**Physical Resources required**: projector or tablet to play a video and presentation, tables so that the learners can work on their exercises in comfort, some A4 sheets of paper.

**Resources provided in addition to this worksheet**: 1 video, 1 presentation, 1 handout

**Notes**: this does not require a learner to have access to a computer to run the session. The tech support facilitator/demonstrator/technology officer/tech angel is referred to as the facilitator of the session.

# Learning Objectives

To help the learners create passwords that are memorable and secure, by the end of the lesson the learner will understand…

* What is a “password” and what is its purpose?
* Why making a strong password is important?
* Practice creating a memorable password made up of three random words.

# Keywords

password  ·  phrase  ·  unique . random

# Overview of activities

|  |  |  |  |
| --- | --- | --- | --- |
| Timings | Topic | Activity | Notes |
| 10 | Introduction and getting started | * Make sure the learners are sitting comfortably and that they have access to a table * Chat to find out what they know about passwords already * Ask if any learners have accessibility requirements before the session * Run a discussion to see if they know what makes a good strong password | Establish why the learner is there and what fears they have around using passwords |
| 10 | Activity 1 - What is a password? | * This facilitator will run the video created for the session. The video is around 5 minutes long |  |
| 5 | BREAK |  |  |
| 30 | Activity 2- Why choosing a good password is important? (OPTIONAL) | * This will be introduced by the facilitator * The activity will be group based * Lesson 1 Activity 2 Handout is to be distributed to the learners | You can omit this exercise if you feel the group does NOT need to know why they should create passwords that cannot be easily guessed |
| 5 | BREAK |  |  |
| 20 | Activity 3 Summary –choosing good passwords | * Facilitator to summarise using the Lesson 1 summary PowerPoint slides. Have an informal discussion on whether they feel more confident in knowing why strong passwords are important now | Establish whether the lesson has achieved its learning outcomes with the learners |

# Activity 1 – what is a password?

Introduce what is meant by a password by performing the following:

* Play the video created by the University of Surrey to the learners to understand what is meant by a strong password.
* Ask the group of learners, “how comfortable are you with making good passwords if you want to use an account on the internet?”

# Activity 2 – why choosing a good password is important?

**Note: You can omit this activity if you don’t want to go to into too much detail. Or you could just do the first two exercises in it.**

Now facilitate an interactive session that will help the learners understand the importance of creating a strong password:

* Please turn to the Lesson1-Activity2-Handout document and ask the learners to complete the exercises.
* At the end of the exercises ask the following to the group of learners:
  + Why was it easy to guess the password the first time?
  + Do you understand why using unrelated words in passwords makes it a stronger password?
  + Do you understand how to make your password fit the rules of a website?

# Activity 3 – summary of choosing good passwords

Summarise the key points covered so far to learners.

* Step through the provided presentation.
* Ask the learners using the last slide whether they now understand the importance of strong passwords and if they are confident in knowing how to choose a strong password.

# Additional Resources

Here are links to the NCSC website with the government advice on creating a strong password and how to use passwords.

* [Top tips for staying secure online](https://www.ncsc.gov.uk/collection/top-tips-for-staying-secure-online/use-a-strong-and-separate-password-for-email)
* [Three random words or #thinkrandom](https://www.ncsc.gov.uk/blog-post/three-random-words-or-thinkrandom-0)
* [The logic behind three random words](https://www.ncsc.gov.uk/blog-post/the-logic-behind-three-random-words)
* [Improve your password security](https://www.ncsc.gov.uk/cyberaware/home%23action-2)

Appendix A – Solutions for Lesson 1 Activity 2

Exercise 3

There will be 25 combinations to look through.

Exercise 4

Even though the grid is 100 squares, there are only 9 squares that have animals in them. By giving a context this means it is much smaller search space and so it would be easier to pin point the two-word animal passwords.

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | road | pavement | staple | battery | carpet | cheese | umbrella | horse | rabbit | dog |
| cloud |  |  |  |  |  |  |  |  |  |  |
| ocean |  |  |  |  |  |  |  |  |  |  |
| beer |  |  |  |  |  |  |  |  |  |  |
| fearless |  |  |  |  |  |  |  |  |  |  |
| awake |  |  |  |  |  |  |  |  |  |  |
| muesli |  |  |  |  |  |  |  |  |  |  |
| lampshade |  |  |  |  |  |  |  |  |  |  |
| cat |  |  |  |  |  |  |  |  |  |  |
| elephant |  |  |  |  |  |  |  |  |  |  |
| mouse |  |  |  |  |  |  |  |  |  |  |

Exercise 5

Even though the grid is 1000 cubes there are only 3 \* 3 \* 2 animals to consider. There are only 18 squares of interest that give us a three-word animal password. This tells us that focusing on a single context means it will be easier to find the password.

Exercise 6

For a website where the passwords rules require the use of at least one special character, at least one number, at least one upper case letter and at least one lower case letter in any password.

Complete the following, we have provided one example

|  |  |
| --- | --- |
| Password | Is it valid? Answer Yes/No? |
| ocean.elephantcheese | No |
| ocean.elephantcheese2 | No |
| Ocean.elephantcheese2 | Yes |
| OceanelephantCheese2 | No |
| OceanElephant.Cheese2 | Yes |
| Ocean.Elephant.Cheese2 | Yes |
| Ocean.Elephant.Cheese.25 | Yes |
| !Ocean.Elephant.cheese.2 | Yes |