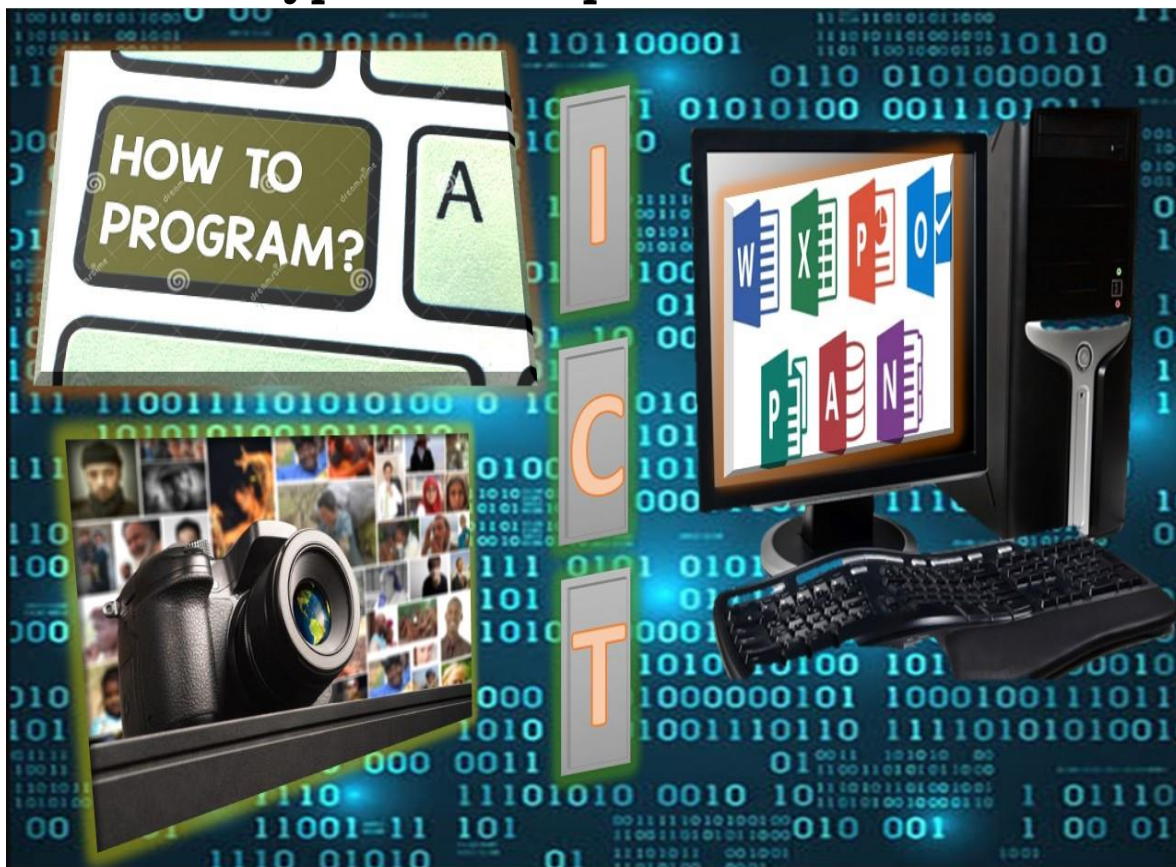


ICT 10 Activity Sheet

Quarter 4 | Week 1

Types of Microphones and Filters



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Introductory Message

Welcome to ICT 10!

The **Learning Activity Sheet** is self-directed instructional materials aimed to guide the learners in accomplishing activities at their own pace and time using the contextualized resources in the community. This will also assist the learners in acquiring the lifelong learning skills, knowledge and attitudes for productivity and employment.

For learning facilitator:

The **ICT 10 Activity Sheet** will help you facilitate the leaching-learning activities specified in each Most Essential Learning Competency (MELC) with minimal or no face-to-face encounter between you and learner. This will be made available to the learners with the references/links to ease the independent learning.

For the learner:

The **ICT 10 Activity Sheet** is developed to help you continue learning even if you are not in school. This learning material provides you with meaningful and engaging activities for independent learning. Being an active learner, carefully read and understand the instructions then perform the activities and answer the assessments. This will be returned to your facilitator on the agreed schedule.

ICT 10 ACTIVITY SHEET

Types of Microphones and Filters

Learning Competency:

Identify various types of microphones and filters and demonstrates appropriate use of each.

Support Competencies:

Explain what is a microphone.

- Describe what is dynamic, condenser and specialty microphones.
- Explain the use of pop filters to microphones.

Background Information for Learners

Microphones come in all shapes and sizes. Also, different types of microphones may use different technologies. These different types of microphones have different properties, and therefore a knowledge of the various forms of microphone will enable the best microphone type to be chosen for a given application.

When you see photos of vocal recording in a studio, one of the first things you'll notice is that nearly all the photos feature some sort of pop filter on the microphone. Pop filters are an essential part of any vocal recording in a studio.

In this lesson, you will learn the different types and uses of microphones and filters.

Activity Proper.

Activity 1.

Microphone

An instrument capable of transforming sound waves into changes in electric currents or voltage, used in recording or transmitting sound.

Types of Microphones



Dynamic microphones

- Dynamic microphones are versatile and idea for general-purpose use.
- They use simple design with few moving parts.
- They also better suited to handling high volumes levels, such as from certain musical instruments or amplifiers.
- They have no internal amplifier and not require batteries or external power.



Condenser microphones

- Condenser microphones require power from a battery or external source.
- The resulting audio signal is stronger, more sensitive, and responsive than dynamic making them well-suited to capturing subtle nuances in a sound.
- Ideal for high-volume work, as their sensitivity makes them prone to distort.
- Condenser mics are useful tools in the recording studio when you want subtle effects and changes in your acoustic instruments to be heard on recordings.

Specialty microphones



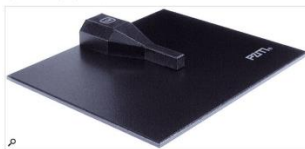
Wireless Mic

- A wireless microphone, or cordless microphone, is a microphone without a physical cable connecting it directly to the sound recording or amplifying equipment with which it is associated.
- Very visible in karaoke bars and stage performances.



Lavalier Mic

A lavalier microphone or lavalier (also known as a lav, lapel mic, clip mic, body mic, collar mic, neck mic or personal mic) is a small microphone used for television, theatre, and public speaking applications in order to allow for hands-free operation. They are most commonly provided with small clips for attaching to collars, ties, or other clothing. The cord may be hidden by clothes and either run to a radio frequency transmitter kept in a pocket or clipped to a belt, or routed directly to the mixer or a recording device.



Pressure Zone microphones

- A general-purpose microphone for amplifying large source of sound, like a choir or stage performance.
- These mics are also often used in conference situations, where they can be placed conveniently and unobtrusively in the middle of the table.



Boom microphone

- Boom microphone is very popular in film and television production. A directional mic is mounted on a boom arm and position just out of a camera frame as shown in the picture.

A. Answer the questions below.

1. What is the importance of knowing the different varieties of microphones?

B. Video demonstration.

Watch a video that will demonstrate how to use the Boom microphone.

Link.

https://www.youtube.com/watch?v=DyGMZZ_mpVQ

Answer the question below:

1. How do you use a Boom microphone?

Activity 2.

What is a Pop Filter?

A pop filter is used to reduce plosives – a plosive is a puff of air from your breath that hits the diaphragm of the microphone and causes it to overload making a large bass pop or thump sound.

Why Do Popping Sounds Occur?

Plosive sounds are those heard on letters like P and B, and they occur naturally in speech.

Popping sounds can be heightened if you have your mouth too close to the microphone when recording. The plosive sounds interact with the microphone's diaphragm, producing an output signal. A pop shield or filter acts as a barrier between these sounds and the microphone, with the aim of eliminating them altogether in the final product.

Types of Pop Filters



Nylon Pop Filter

- These pop filters use double layered nylon fabric stretched across the inside of a metal or plastic ring.
- They defuse the air from your breath first through the first nylon layer and then through the second nylon layer. By the time the air reaches the diaphragm of the microphone, it should have diffused the air enough to stop the plosives.



Metal Pop filter

- These have a single layer of very thin metal that is stamped in such a way that it's got a very specific pattern and this shape is rounded on the top and triangular at the bottom.
- When your breath goes into shape of the mesh it makes the air deflect in a different direction (almost straight down)



Foam Windscreen

- These often come included when you purchase a new microphone.
- They are about half an inch thick foam `cover that slides over the top of the microphone and it diffuses the air before it gets to the microphone diaphragm.
- They have a similar effect to the nylon design (just not quite as effective), but it does cover the microphone from all directions.

A. Video demonstration.

Watch a video that will demonstrate on how a pop filter is use.

Link.

<https://www.youtube.com/watch?v=amWbTkjfhDk>

After watching the video, answer the question below:

1. What does a pop filter do for a Microphone?

2. In your own opinion, what is the best pop filter to use in recording? Why?

Activity 3.

Multiple Choice. Select the letter of the correct answer.

1. Which type of mic is generally used for live concert performances?

- a. Lavalier c. Boom
- b. Wireless d. Pressure Zone

For numbers 2-4, Select the choices in number 1.

2. A type of mic used in conference meeting?

3. This type of microphones is best for film and television production.

4. Which of the following microphone is use for public speaking applications and theaters.

5. Which of the following statement is TRUE?

- a. Dynamic microphone is better for capturing loud, strong sounds (drums or loud vocals), particularly in a live setting.
- b. Condenser microphone is used to capture more delicate sounds and higher frequencies particularly in a studio setting.
- c. A dynamic microphone also doesn't require power whereas a condenser microphone does.
- d. All of the above.

6. All of the following statements are TRUE, except

- a. A pop filter acts as a barrier between sounds and the microphone.
- b. A pop filter is used to reduce plosives.
- c. A Microphone alone can produce quality recording of sounds.
- d. Pop filters eliminate popping sounds.

7. A type of pop filter that cover the slides over the top of the microphone and it diffuses the air before it gets to the microphone diaphragm.

- a. Foam Windscreen b. Metal pop filter

c. Nylon pop filter

8. Nylon and Foam windscreen have the same effect and effectiveness.

- a. True b. False

9. This type of microphone is called _____



- a. Lavalier c. boom
- b. Wireless d. pressure

10. When should a microphone like this be used?



- a. on stage b. in a studio

Complete the statements below.

I understand _____

I don't understand _____

I need more information about _____



Links and/or Other References

<https://www.slideshare.net/showslides/microphones-6759889>

<https://studiodevices.com/microphone-types/>

https://en.wikipedia.org/wiki/Wireless_microphone

<https://homestudiorecordings.com/what-does-a-pop-filter-do/>

https://www.voices.com/blog/pop_filters/

<https://www.youtube.com/watch?v=amWbTkjfhDk>

<https://www.youtube.com/watch?v=hi4MKL1mzLU>

<https://www.electronics-notes.com/articles/audio-video/microphones/microphone-basics.php>

<https://quizizz.com/admin/quiz/5e463e2bdd8ce7001bc2f5cf/microphones-revisited>

Dynamic Microphones. <https://www.istockphoto.com/search/2/image?phrase=microphone+isolated>

Condenser microphones. <https://www.micreviews.com/guides/top-10-best-condenser-microphones>

Pressure zone Microphone. <https://www.soundonsound.com/glossary/pzm-pressure-zone-microphone>

Lavalier Microphone. <https://mynewmicrophone.com/7-best-lavalier-lapel-microphones-wired-wireless/>

Wireless microphone. <https://musiccritic.com/equipment/microphones/best-wireless-microphone/>

Boom microphone. <https://www.alamy.com/stock-photo/boom-mic.html>