**GENERAL LAYOUT FOR AN EXPERIMENTAL DESIGN DIAGRAM**

**TITLEThe Effect of magnets on speaker volume**

**HYPOTHESISIf I place a magnet on the top of my speaker , then it could decrease or increase or do nothing to my speaker volume because there are magnets already in speakers to increase and decrease the volume**

**INDEPENDENT VARIABLEMy independent variable is different types of magnets like a fridge magnet a normal magnet**

**LEVELS OF INDEPENDENT VARIABLE AND NUMBERS OF REPEATED TRIALS**

|  |  |  |  |
| --- | --- | --- | --- |
| **Fridge magnet Number of trials 3** | **Normal magnet Number of trials 3** | **Two magnets** **Number of trials 3** | **4 magnets** **Number of trials 3** |

**DEPENDENT VARIABLE AND HOW MEASURED**

**The dependant variable is the speaker and will be measured by dBA recorder app on my phone**

**CONSTANTS/CONTROLS (Number of constants depends on experiment)**

**1.new speaker**

**2.the room**

 **3.the duration of the song**

**4. No contact with the speaker and magnet together before experiment**

**PROCEDURE:**

 **1. go in to a sound proof room with a speaker and at least three different magnets.**

**2.Place the speaker down on the floor .**

**3. Use a phone that is 50m away from speaker to play one song for 30 seconds without the magnet on the speaker the sound will be recorded by an app on my phone called dB volume meter**

 **4. place the first magnet on top of the speaker and repeat step 3 the record on a chart**

 **5. switch between the different magnets and repeat step 1-4**

**6. then the second day do the exact same thing to see if the magnets have any long term effects on the speaker like if it ruins the original sound or breaks the speaker. And you have to do this for a minimum of three days.**

**in conclusion from the observation the speakers volume was not affected and after more use the speaker was not damage from contact with the magnet in trial to with the second speaker had a change of 1Db increasing the volume slightly. the sound did change from the magnets on some speaker so that means you can increase the volume by bit but not enough to bring a magnet with your speaker everywhere so after multiple trials it will not increase that much. in the end you can increase your volume by a bit because in this experiment it showed you can increase the volume the change I the volume is so little that if you do this it probably wot help you as much as you want but if there is a way to do the trail with the magnet on the inside it may actually increase the volume by a reasonable amount.**

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| --- | --- | --- |
| **Trial one magnet one 120Db no affect**  | **Trial one magnet two 120Db no affect**  | **Trial one magnet three 120Db no affect**  |
| **Trial two 120Db No affect**  | **Trial two 120Db No affect**  | **Trial two 120Db No affect**  |
| **Trial three 120Db no affect**  | **Trial three 120Db no affect**  | **Trial three 120Db no affect**  |

**Original sound level 120Db**

|  |  |  |
| --- | --- | --- |
| **Trial one magnet one speaker two 121Db 1Db increased**  | **Trial two magnet one speaker two 121Db 1Db increased**  | **Trial three magnet one speaker two 121Db 1Db increased**  |
| **Trial one magnet two speaker two 121Db 1Db increased**  | **Trial two magnet two speaker two 121Db 1Db increased**  | **Trial three magnet two speaker two 121Db 1Db increased**  |
| **Trial one magnet three speaker two 121Db 1Db increased**  | **Trial two magnet three speaker two 121Db 1Db increased**  | **Trial three magnet three speaker two 121Db 1Db increased**  |
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