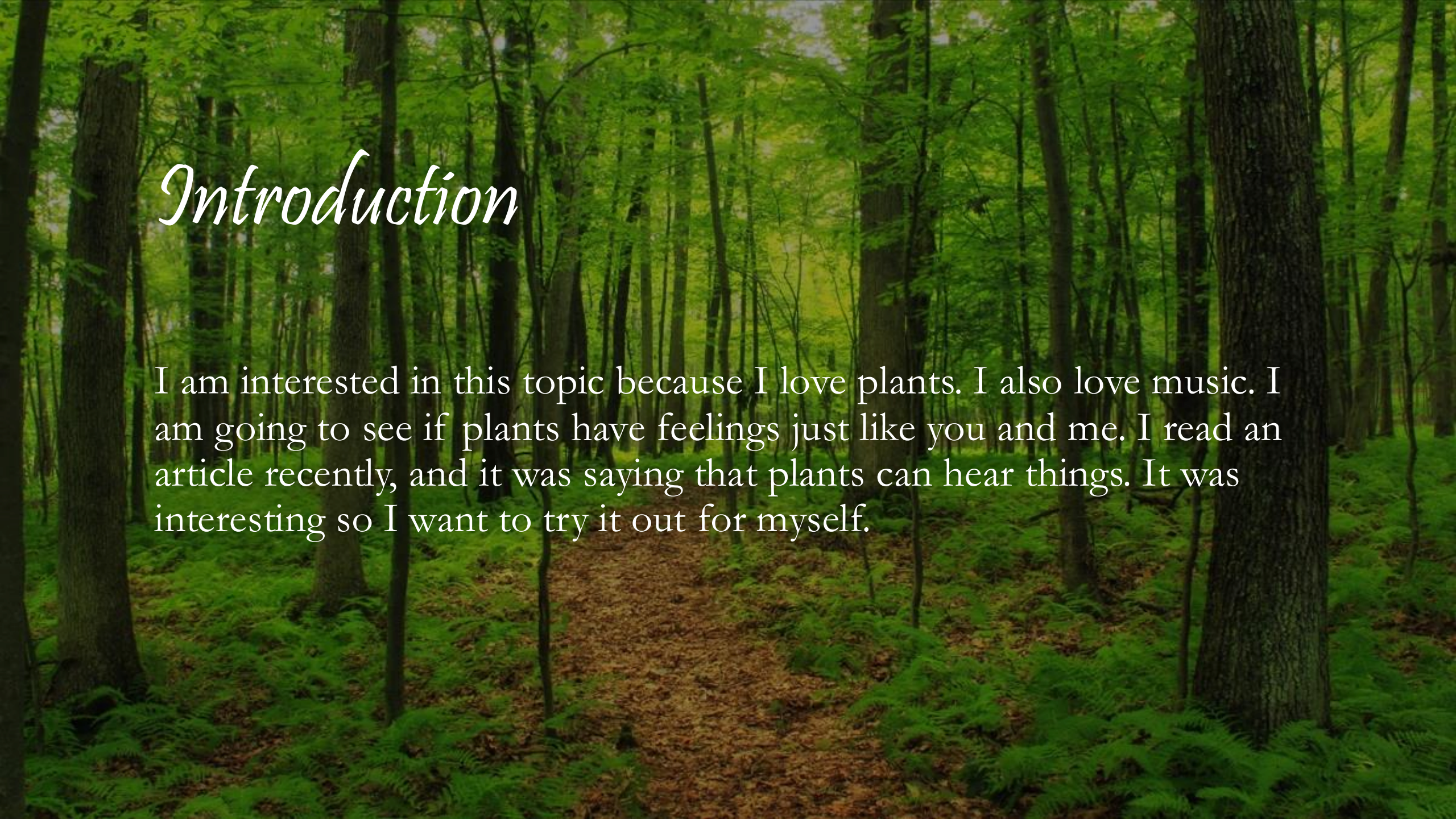
Music and Plants

6th Grade



Introduction

I am interested in this topic because I love plants. I also love music. I am going to see if plants have feelings just like you and me. I read an article recently, and it was saying that plants can hear things. It was interesting so I want to try it out for myself.

Main Question

Does playing music for plants affect their growth?

Research

Music helps plants grow because they respond to the vibrations. With loud harsh and chaotic music, plants grow more poorly and have less change of growing bigger. Sometimes the loudness can affect the growth of different parts of the plants. For example, a different kind of music can affect the length of the roots or the number of leaves. There is also not a lot of research done on what kind of music affects plants negatively. In 1962, an Indian botanist conducted several experiments on music and plant growth. He found that more plants grew an extra 20 in height when it was exposed to classical music.

Research

As we know, plants don't have brains, or ears, or a nervous system like people and animals do. Although they do not have our features, they can still perceive light, scent, touch, wind and gravity. A German biologist believes that plants may have organs that distinguish noises too. Mechanoreceptors are receptors in humans that are able to detect sound waves in form of pressure. So if plants have similar receptors, then maybe they, too, can hear music.

Materials

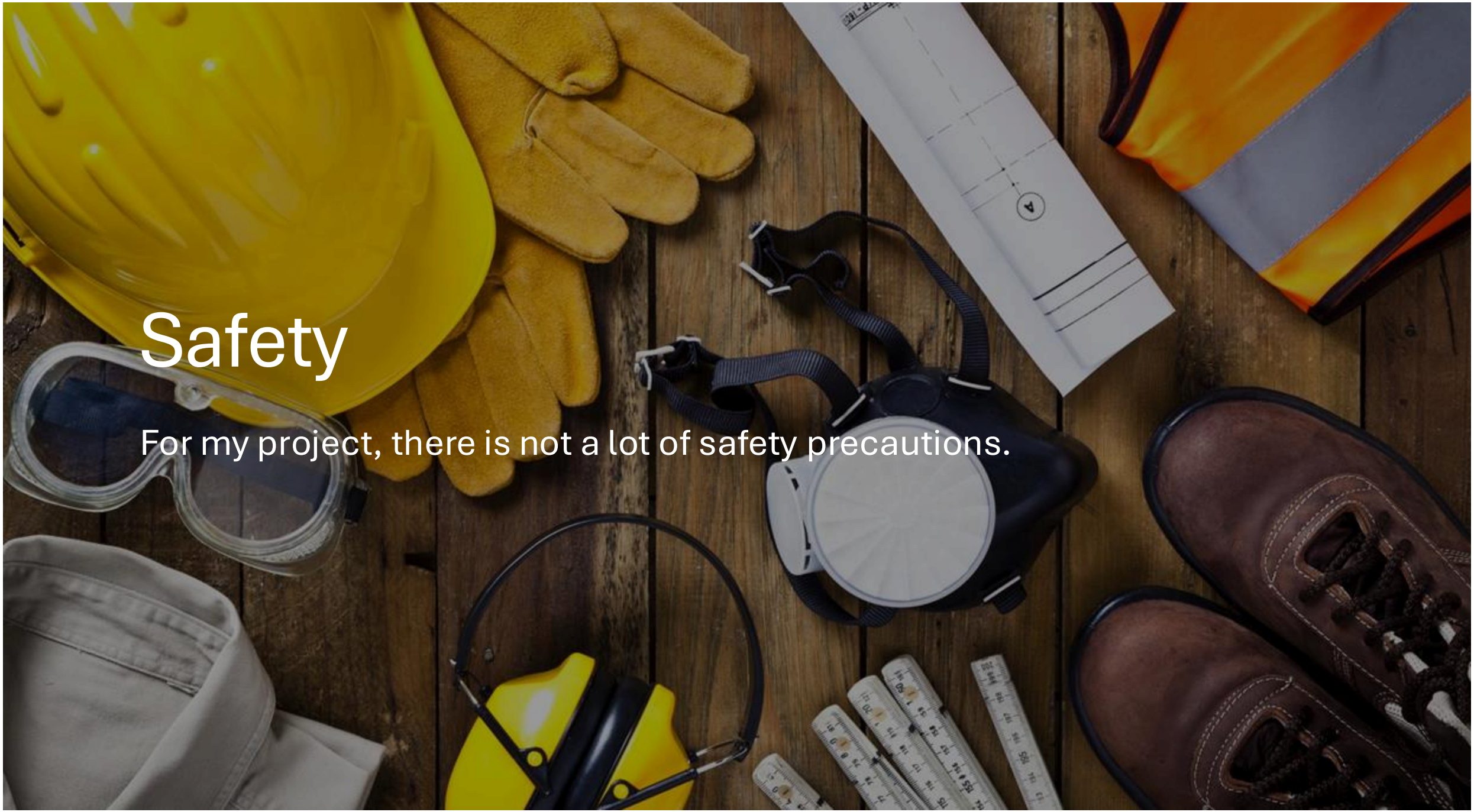
THREE PLASTIC BAGS

RADISH SEEDS

DAMP PAPER TOWEL

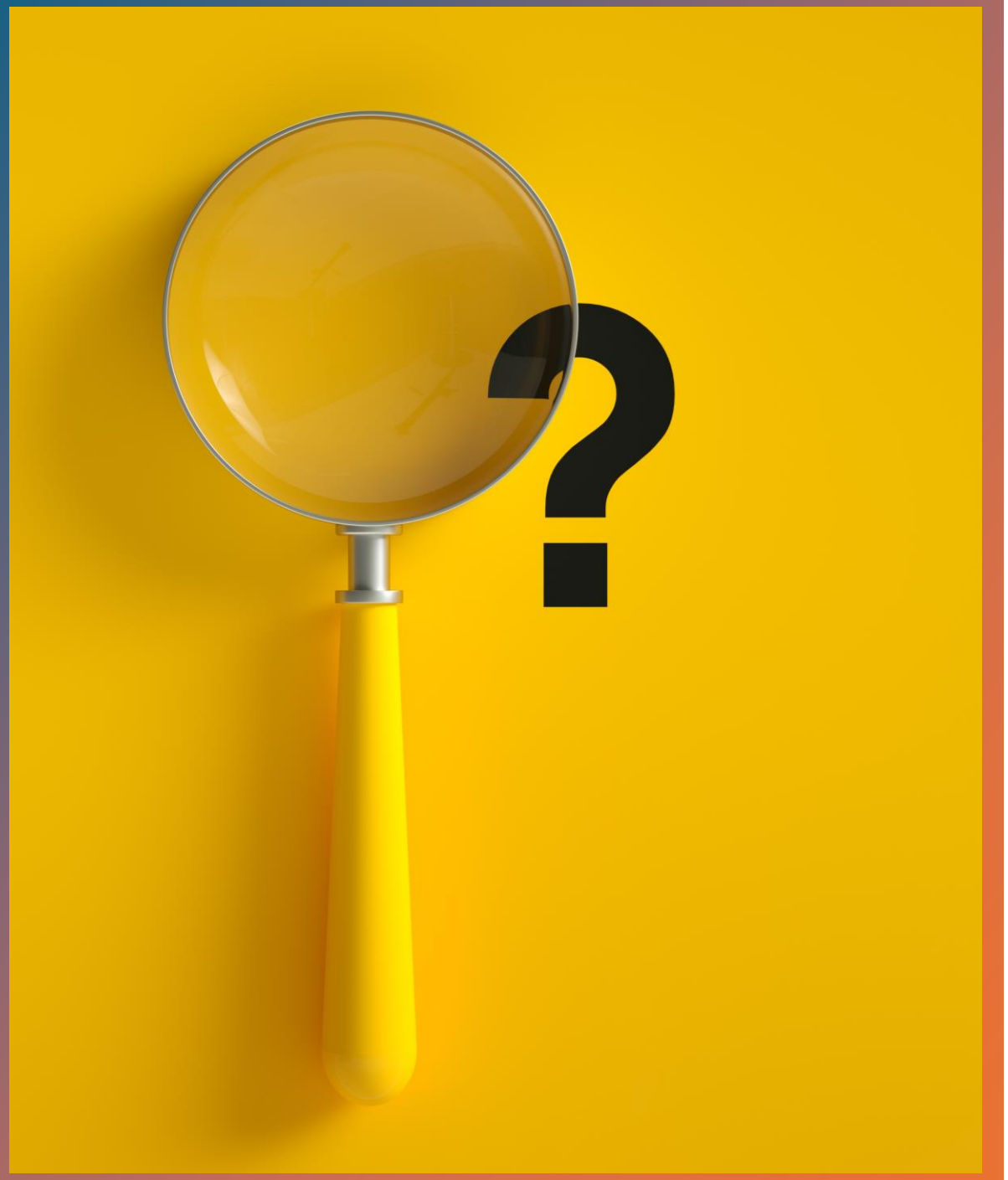
BLUETOOTH SPEAKER

TIMER



Safety

For my project, there is not a lot of safety precautions.



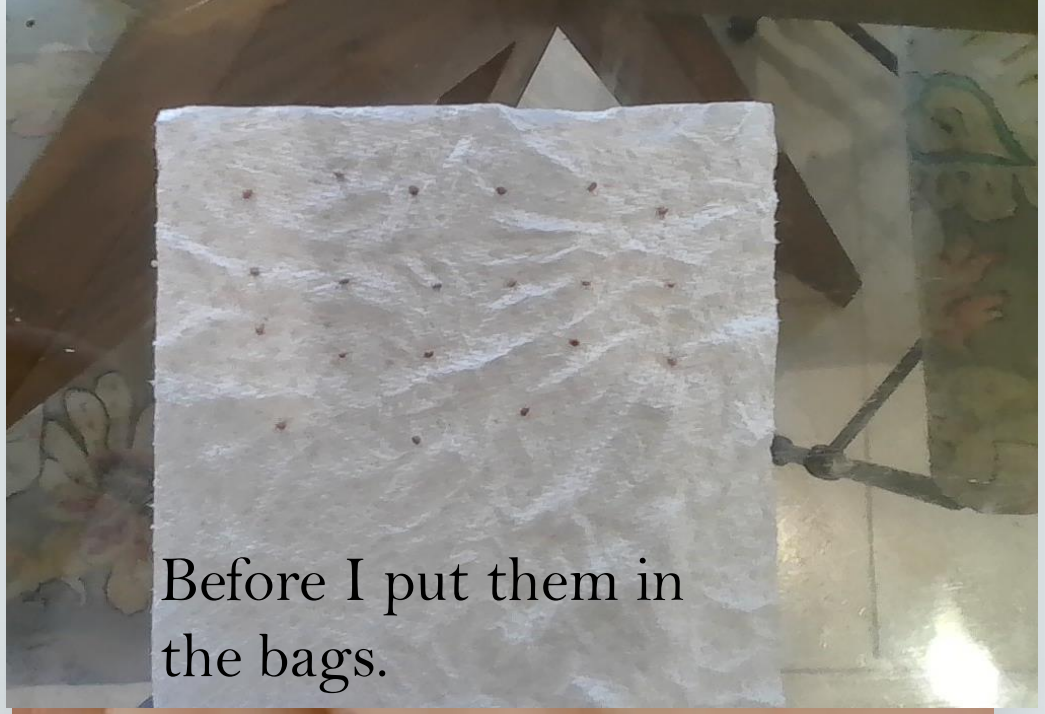
Hypothesis

Based on my research, I think that the seeds with the classical music will sprout first, because classical music helps you focus and concentrate. I think the plants will respond positively to the classical music, more than the rock music or no music.

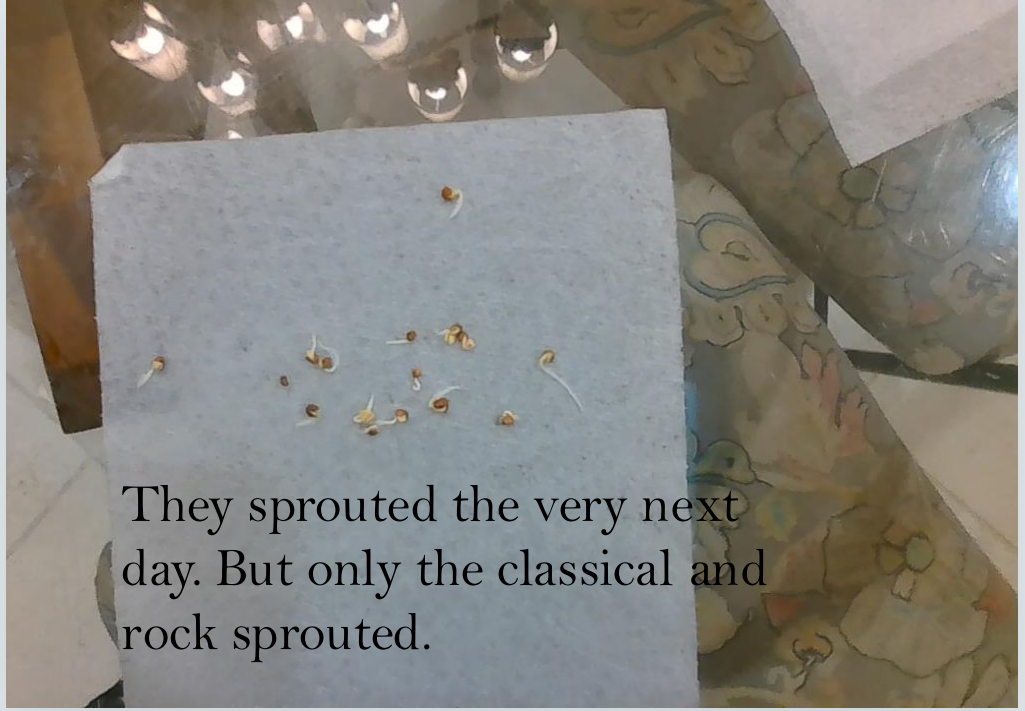
Procedures

Gather materials needed	Wet paper towels	Put 10 seeds in each	Place in plastic bags
Label bags 1-3	Take bag #1 and put in quiet room	Play classical music for bag #1/12 hours	Take bag #2 and put in quiet room
Play rock music for bag #2/12 hours	Take bag #3 and put in quiet room	Every day check to see if they sprouted or started process of germination.	Record observations

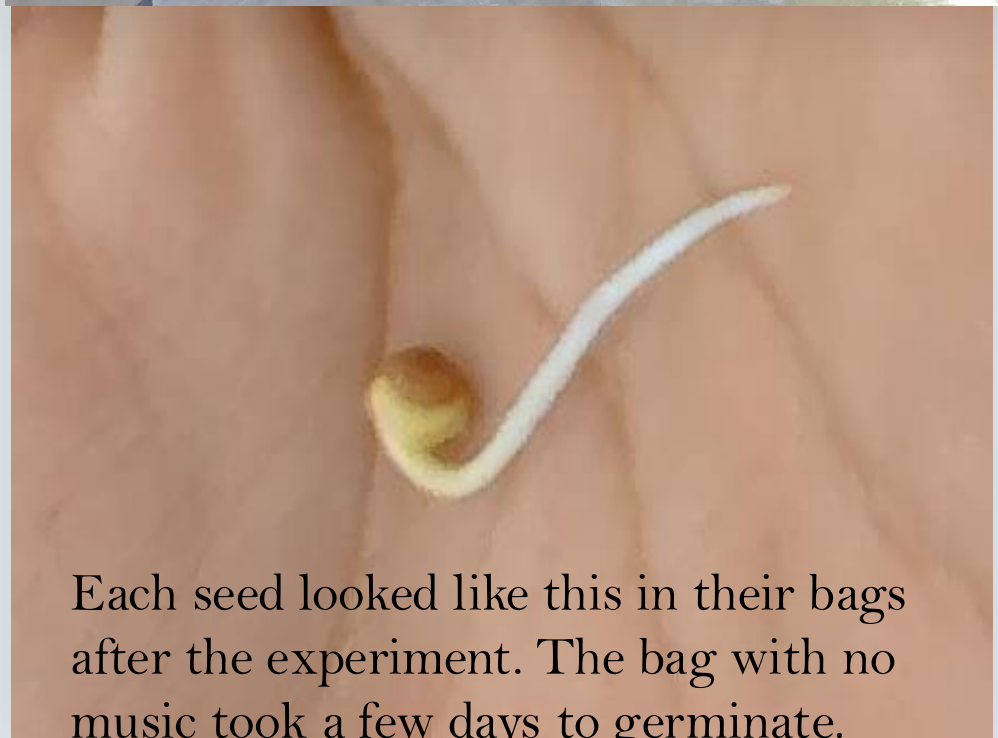
Experiment



Before I put them in the bags.



They sprouted the very next day. But only the classical and rock sprouted.



Each seed looked like this in their bags after the experiment. The bag with no music took a few days to germinate.

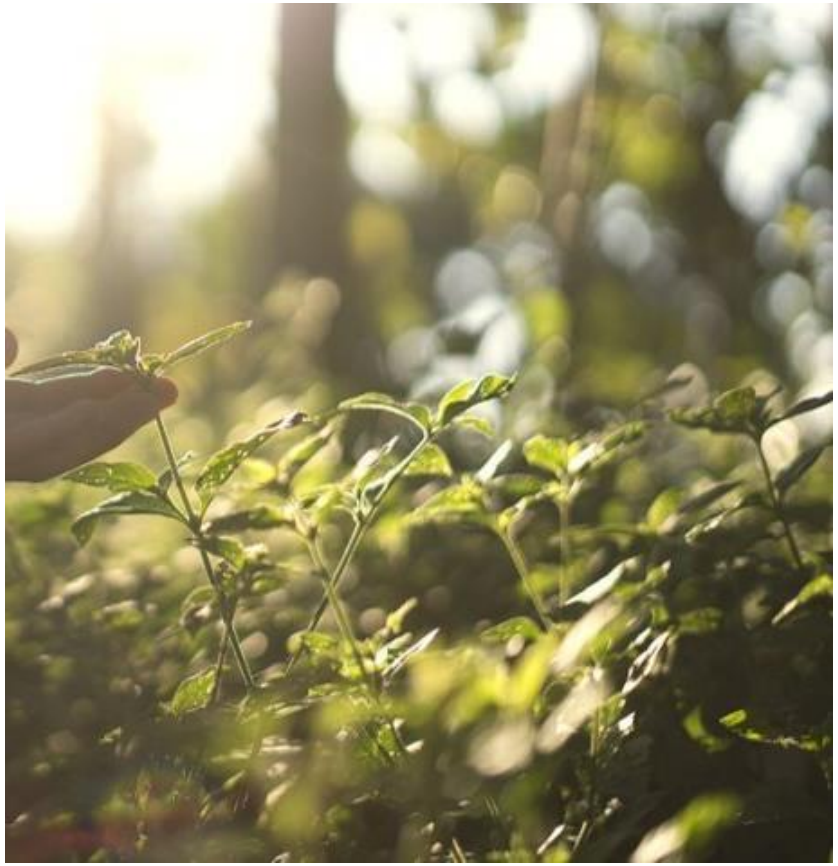
Each bag labeled and packed

Results/Data

RESULTS	Music Played	Sprouted	Time spent	Water used	Amount of seeds	Total days			
Bag 1	Classical	First	12 hrs	Mineral water	13	2			
Bag 2	Heavy metal	Second	12 hrs	Mineral water	15	2			
Bag 3	None	Last	12 hrs	Mineral water	10	2			

Conclusions

Based on my study, it seems like plants like music because the plants exposed to music sprouted first. It helps them grow, but we cannot play music in nature. We think that plants respond negatively to harsh and chaotic sounds, but there is not enough research on this. Noise pollution from cars, ambulances, people yelling or screaming, or anything else that people do in the city might also impact their growth. Noise pollution is unwanted, excessive and disruptive and it can have harmful effects on humans and wildlife.
My experiment shows that plants respond to music, but even without sounds or music, plants grow just fine. It is important to learn and study how plants respond to various sounds so we can understand which sound could help or hurt plant growth. Although my experiment was interesting and fun, it would be better to have more plants for more accurate results.



Future Research

What kind of music affects plants negatively?

If you play music for a plant for it's whole life, would you have the same results?

What music has a negative outcome on plants?

Resources

https://environment-review.yale.edu/music-makes-plants-grow-fresh-approach-agriculture

https://www.ourhouseplants.com/questions/can-sound-help-plants

https://www.youtube.com/watch?v=ufVj5m-M-dw

Thanks for watching!