Bellville High School C17 Sounds of Music Log

Building The Pipes:

Trial pipe cut at 30cm.

Sealed and tuned at D♭, roughly 10 cents flat, 275 hz.

2nd Trial pipe cut at 23.5cm.

Sealed and tuned at F, roughly 2 cents flat, 349 hz.

4 half step difference, 6.5 cm difference.

6.5cm/4hs=1.625cm/half step

This conversion was used to cut relatively accurate pipes to produce desired pitches. As the extreme pitches (low A-B and G♭-high A) were cut, they produced pitches in disagreement with the conversion rate, so trial and error were used to adjust pipe length.

Materials:

1. PVC Pipes, ¾ inch diameter
2. Molding Clay
3. Hot Glue
4. Balsa Wood
5. Peg Board
6. My Hand (guarantees pipe seal)

|  |  |  |  |
| --- | --- | --- | --- |
| **Note** | **Pipe Length (cm)** | **Frequency (hz)** | **Cents off Pitch (¢)** |
| A | 38.5 | 217 | -12 |
| B♭ | 36.3 | 237 | +13 |
| B | 34 | 246 | -3 |
| C | 31.7 | 262 | +2 |
| D♭ | 30 | 275 | -10 |
| D | 28.3 | 291 | -7 |
| E♭ | 26.8 | 312 | +3 |
| E | 25.1 | 331 | +4 |
| F | 23.5 | 349 | -2 |
| G♭ | 21.9 | 373 | +14 |
| G | 20.8 | 396 | +15 |
| A♭ | 19.6 | 412 | -13 |
| A | 18.5 | 437 | -11 |