**Sound Design Decisions:**

1. What informed the sound you choose for the video game you designed?

-The sound I chose for the game was informed by the idea of how force application on an object would sound like. I mostly focused on sounds that will resemble the action that players are doing in the game. For example, when players are applying the Buoyant Force to the balls, I decided to go with the sound of a balloon being inflated as this conveyed a sense of anticipation & upward movement. This tied in nicely with the idea of balls gaining altitude or reaching altitude targets through buoyancy. The balloon inflation sound also effectively communicated the concept of air or gas being applied to the balls to propel them to go upwards.

1. . How were the sounds created manually or digitally?

-For the Buoyant Force sound, it is literally the sound of inflating a balloon. As such it was created manually through breathing gas into ballon to resemble or infer the idea of an object being inflated or propelled to go up.  
For the Victory sound, the sound of twinkling stars and a drop of rock-like sound was created digitally using an Audio Workstation called FL Studios. In the context of the game, this sound would convey a sense of achievement to the players, letting them know that they have successfully reached their altitude target in each level. The latter made sense to use for the cosmic ambience effect considering that the game has a space, galaxy background.

For the Failure or Unsuccessful sound, the sound of a drop of a huge rock that also resembles the deep, resonant sound called a “Timpani sound” was created from a musical instrument called timpani, which belongs to the percussion family. In the context of my game, I decided to go for this sound because of the appeal it has to signify an “unpleasant sound feel”. Upon hearing it, it doesn’t feel rewarding but instead conveys the idea of the fact that something “negative” has happened.

3. What do you tend to achieve in respect to the minimal sound attached to the video game?

-More than anything, I intended to convey a sense of what applying force to a ball would sound like. This was a bit difficult to accurately convey through the minimal sound effect because force is an abstract concept, but the minimal Buoyant sound seemed to infer the idea of upward movement quite well.

4. To what extent do you think the music/sound is or is not taking the overall objective of the video game?

-Considering that my main core mechanic is a force that cannot be exactly manually applied but is meant to be observed to note its impact, the use of the balloon inflation sound works well with implying some sense of anticipation and upward movement. The latter corresponds well with the target altitude objective set for the ball in each level. Similar to how the gas pumped into the balloon would take some time or would build up in size the more air you pump or breathe into it, the use of the inflation sound also infers the idea of the ball gaining momentum and force applied to it

1. Who are the targeted audience for the video game, and to what extent can indigenous sounds/music serve the same purpose?

-The targeted audience for my game is young adults interested in puzzle games and physics concepts.

To incorporate indigenous sounds and music, I would consider the following:

- For the Buoyant Force sound, I could use a didgeridoo or a flute to create a similar sense of anticipation and upward movement. These instruments are often used in indigenous Australian and Native American cultures, respectively, and would add a unique cultural flair to the game.

- For the Victory sound, I could use a traditional indigenous instrument like the seed shaker or a water drum to create a celebratory and uplifting sound. These instruments are often used in ceremonial contexts and would add a sense of cultural significance to the game's victory moments.

- For the Failure sound, I could use a traditional indigenous instrument like the bullroarer or a buffalo drum to create a deep, resonant sound that conveys disappointment and negative feedback. These instruments are often used in storytelling and ceremonial contexts and would add a sense of cultural depth to the game's feedback mechanics.

1. Are there specific frequency range for some of the music attached to the video games, or does age range affect the music/sound used for some of the video games?

- For the Buoyant Force sound, I used a medium-frequency range (around 200-500 Hz) to create a sense of anticipation and upward movement. This range is reminiscent of a balloon inflating, which fits the game's mechanics.

- For the Victory sound, I used a higher frequency range (around 1000-2000 Hz) to create a sense of achievement and celebration. This range is often associated with bright, shiny sounds, which fits the game's cosmic theme.

- For the Failure sound, I used a lower frequency range (around 50-200 Hz) to create a sense of disappointment and negative feedback. This range is often associated with deep, resonant sounds, which fits the game's need for a clear indication of failure.

Regarding age range, I didn't specifically design the sounds with a particular age group in mind. However, I aimed to create a universally appealing sound palette that would be engaging for players of various ages. The sounds are intended to be clear, concise, and easy to understand, making the game accessible to a wide range of players.