

## **Group 1**

### **THROW IT BACK**

#### **Materials needed:**

- Bean bag
- Target with five layers (drawn to the floor)
- An elevated place (higher than the target)

#### **Rules of the Game:**

- Players will play individually.
- Players who are eliminated should observe the players who are still playing.
- Players should throw the bean bag in a projectile motion. (Stage 1)
- Players should throw the bean bag in a free-falling motion. (Stage 2)
- Players should try to aim for the bullseye (keep in mind that the target has 5 layers, and in those layers, there are points)
- If the bean bag lands on the line between 2 layers, the points will be either 10, 30, 50, 70, 90. So if the bean bag lands on the line between 60 and 40, then it will be worth 50 points.

#### **Instructions Stage 1:**

- a. Before the game starts, draw a target on the floor with five layers, the inner circle will be the bullseye, which is 100 points. The next layer will be 80 points, then 60 points, then 40 points, and the outer layer will be 20 points. The layers will serve as the pointing system of the game. For a player to gain points, he/she needs to land the bean bag within those layers. If the bean bag does not land on any of those layers, then it will count as 0 points or not gain any points.
- b. Mark a distance or a place wherein the player needs to stand.
- c. As the game starts, give the player a bean bag. Let the player go to the mark away from the target.
- d. Let the individual, throw the bean bag to the target. The player will have three (3) tries.
- e. Let all the players play and the first five (5) players who has the most points advance on the next stage of the game.

#### **Instructions Stage 2:**

- a. The five (5) players who won on the first round, will go to the elevated place.
- b. They are given once again the bean bags and they will throw it directly to the target.
- c. Again, all players have three (3) tries.
- d. The player who has most points, wins.

#### **Physics Behind Stage 1:**

On stage one, the physics behind it is projectile motion since for the bean bag to land on the target: it needs to be in a projectile motion. Projectile motion is the motion of a body that is being launched or projected into the air, subjected only to the acceleration of gravity. The target is called a projectile, and its direction is called its trajectory.

#### **Physics Behind Stage 2:**

Free-fall motion is the Physics behind stage 2 of the game since for the bean bag to land on the target: it needs to be in a free-fall motion. A free-falling object is an object that is falling under the sole influence of gravity. If something is only acted upon by the force of gravity, then it is in a state of free-fall.