

# Darts4Blind

**Erasmus+ : Sport Small  
Collaborative Partnerships**



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## INTRODUCTION

Considering the ratio of disabled people in our country to the general population, according to the research conducted by the Administration for the Disabled, 12.29 percent of Turkey's population is made up of disabled people. Based on this data, it is better understood that we need to work hard for disabled individuals. In addition, these studies are more important when it is taken into account that each individual is a disabled candidate.

In order to make their lives easier, it is important to make living spaces suitable for them, to create walking bands in social living areas, to disseminate audible traffic lights, to make shopping centers, schools, official institutions compatible with the disabled and to create social awareness.

In addition to these studies, it is an indisputable fact that they are connected to life and their joy of life increases with physical education and sports activities.

With this project, it is aimed to contribute to the visually impaired individuals to enjoy psychosocial values such as enjoying life, feeling a sense of success, and discovering their own abilities, as well as helping them achieve the sense of being a social individual.

In line with this purpose, 8-week darts training was given with 32 students in total at Ertuğrul Gazi Visually Impaired Secondary School in Kahramanmaraş and G.A.P Secondary School for the Visually Impaired in Gaziantep.

## BACKGROUND



In the first two working hours, information was given about the historical development of darts in the world and in our country, game rules and materials.

The scoring areas on the dartboard were shown to the students one by one by touching them with their hands.



How to hold the darts, how to hold the darts and how the arm, hand and body positions should be while throwing the darts have been taught and it has been done many times.

The position mistakes they made were corrected by giving immediate feedback.



Thanks to the walking line between the shooting line and the dartboard, they gained practicality by having them reach the dartboard and return to the shooting point again.



After each shot, they were asked to go to the dartboard using the walking bands, calculate the scoring marks by touching, and come to the shooting point with the dart arrow by using the walking line again.



During the study, it was observed that the students took great pleasure from their work, and that each student made progress with the studies, but their development levels were different.



In the first studies, it was determined that the shots made by the students on the dartboard with or without an auxiliary tool were achieved with one or two hits on the target.



With this study, it has been demonstrated that darts is a sport that the visually impaired can easily do without the need for anyone, by adapting the sport of darts to the visually impaired with an assistive vehicle.

In addition, it provides communication and sharing, entertains, makes you think, helps to protect from stress and cope with stress.

It prolongs attention and concentration time, accelerates mental math operations, supports muscle development, teaches patience and improves body coordination.



As a sport, it has been observed that it is a very suitable sport for the visually impaired to do without the need of anyone.

It also fulfills an extremely important function in social integration by bringing together disabled people with healthy individuals.

It is thought that by participating in sports activities, it will help to regain the sense of self-importance, to exhibit positive behaviors and to integrate into social life. Enabling students to play darts teaches the visually impaired to cope with their disability, and contributes to their self-confidence and positive self-development.

In addition, it provides communication and sharing, entertains, makes you think, helps to protect from stress and cope with stress. It prolongs attention and concentration time, accelerates mental math operations, supports muscle development, teaches patience and improves body coordination.

As a sport, it has been observed that it is a very suitable sport for the visually impaired to do without the need of anyone. It also fulfills an extremely important function in social integration by bringing together disabled people with healthy individuals.

Intense mental activities such as making a decision in a short time, planning how to implement this decision, coping with the intense demoralization experienced if the planned shot cannot be made, and thinking about how to shoot the next shot have an important place in darts. In this respect, the sport of darts is likened to the sport of chess and is also described as "Playing Chess While Standing".

Dart, which makes an extraordinary contribution to the development of mathematical intelligence, is applied as a support course in many primary schools in some countries in Europe, especially in Germany.

To relieve the mental fatigue of the visually impaired; to be able to get away from daily work, school, home stress; It is an effective tool for resting after intense mental activities.





## BASIC STANCE TECHNIQUE

Posture teaching and training is often neglected in darts. However, if we really want to achieve success in this sport, we must be able to do the basic stance very well. If we explain the basic stance simply.

-Whichever hand is holding the arrow, the foot of the same side should be placed at shoulder width so that it is zeroed on the shooting line. (For example: A right-handed dart player has his right foot in front.)

-The forward foot is generally placed by turning it sideways (closer to the firing line) at an angle of 45 degrees (the right foot is turned to the left).

-One of the important issues in the basic stance is to aim at the center of the dart board (Bull eye) before shooting, and to bring our feet to the shooting line and take our position against it.

- Generally, this position is taken when an imaginary line from the middle of the board comes up to the dart player and places his foot and body in such a way that it divides his body in half.

-If we explain this targeting; The dart player who will shoot must first draw this line in his mind from the shooting line to the bull eye, that is, to the center of the board. This requires mental competence. Plenty of reps automate this workout.

-After drawing this line, he should adjust his position according to the point where he will shoot. This mental point is pre-marked and made a habit by the trainer for the beginner's convenience.

-Placement studies at this point ensure that the darter maintains an accurate and consistent stance. -The important saying is: Standing in the wrong place causes misalignment. This greatly reduces the success of the shot.



### **Posture of the Feet on the shooting line**

There are 2 main options in this regard.

1- To lean the left or right hand of the shooting hand, tangentially parallel to the shooting line, by turning it at an angle of 90 degrees to the side.

Meanwhile, the other back stabilizer takes its position in such a way that the heel is off the ground and tilts the body forward so that it remains in balance. This foot in the back is slightly outward without being in line with the foot in front.

2- Turning the foot of the shooting hand at an angle of 45 degrees tangentially to the shooting line and resting the tip of the foot. The toe usually targets the bull eye (central). Meanwhile, the other back stabilizer takes its position in such a way that the heel is off the ground and tilts the body forward so that it remains in balance. This foot in the back is slightly outward without being in line with the foot in front.

## Body Posture at the shooting line



- The body must remain stationary at all times during the shot.
  - During the shooting, after drawing the imaginary line and taking the position, the elbow is raised so that the arm forms an angle of 90 degrees with the body.
- This arm, which is raised up, is bent upwards at an angle of 90 degrees from the elbow.
- Meanwhile, the eye is locked on the target so that it can see the tip of the arrow.
  - Often our head is tilted slightly to the side to be able to set this target.
  - When starting the throw, the elbow is pulled back to the body.
  - The hand is lowered back from the wrist at an angle of 60-90 degrees.

## Stance Basics (Posture Stance Basics)

In the stance, the back foot mostly bears the weight of the body.

Feet are usually shoulder-width apart.

It forms the basis of the posture by reducing the fatigue of the front foot.

- The back foot always maintains balance.
- Leaning forward too much disrupts the balance, causing the shooting arm to move quickly with the body and causing the shot to deteriorate.

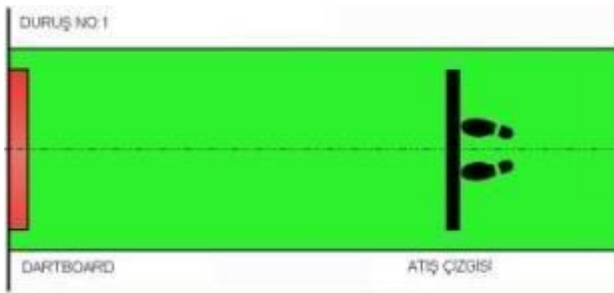


## **Shoulder Position in Posture**

- Shoulders should be parallel to the floor.
- According to the differences of the players, the shooting shoulder can vary between 50-90 degrees to the body.
- Shoulders and body should always remain stationary during shooting.
- The spine and shoulders should be kept stable so that the shooting arm can relax and not lose control.
- While throwing the arrow with the movement of the lower arm part of the arm, the shoulder should not be moving and should be fixed. So shooting with the shoulder is absolutely wrong. Beginner athletes should definitely be taught this.

## **Stance No: 1**

- This stance type is used by very few darts.
- It is very difficult to maintain body balance.
- It is getting harder to aim at the target.



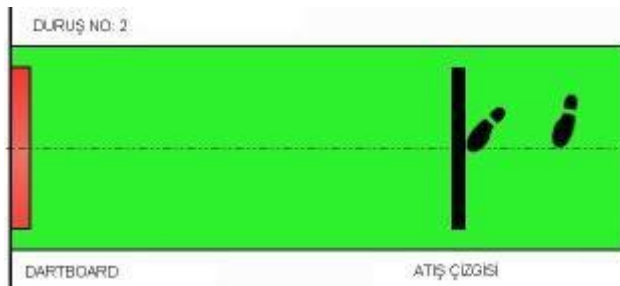
### Stance No: 2

-Right-handed shooters stand like this.

It is a posture stance in which the body balance is provided very well.

This stance has been adopted by the great majority.

-Toe tip is used for targeting.

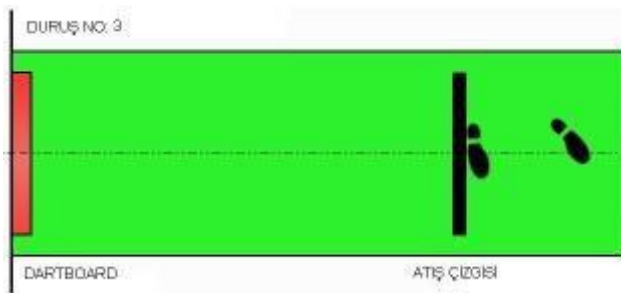


### Stance No: 3

-This posture stance is useful in preventing unwanted movements of the body.

- Due to the position of the foot, it can cause contractions and fatigue in the foot muscles.

It's a stance used by good players.



### Important Points About Posture Stance

- If the body swings back and forth each time during the shot, your muscles are holding the body against gravity. This causes the shooting to be distorted.

A good shot depends on a well-balanced stance. Raising the heel of the other foot behind the body during the throw will sometimes disrupt the balance. (Back and leg contractions)

- If we are going to shoot at points at different distances on the board, instead of shifting our stance and disrupting the stance, it will be much more accurate if we lean back a little and then turn our wrist (down-up/right-left) to that point.

### Important Note:

During the shooting, following the exit of the arrow, the thumb should point to the target as well as the index finger. This will help us take the arrow into the fingers and direct it to the target.

## Standing Posture

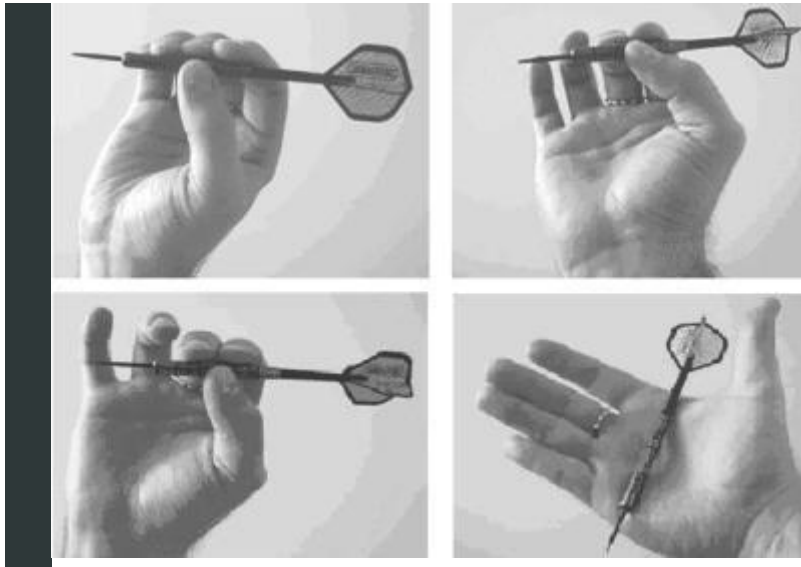
People often neglect about the standing posture but it is the first thing that is going to set the base of your winning chance. Always draw an imaginary line from the bull's eye of the dart towards your line of throwing. Mark it over there with a color. Make sure that you always start throwing your dart from that position only.

Stand with such a posture that there will be a shoulder's apart distance between your two feet. The front foot should bear more weight of your body than the back foot. This improves balance and accuracy but too much leaning forward may cause back injuries. So, the player is always advised to find his perfect balance spot by rigorous practice.



The position of your arm should be parallel to the ground. Sometimes it varies between 50-90 degrees varying from person to person but the shoulders should stay fixed with respect to other parts of the body.

## DART HOLDING TECHNIQUE



### Dart Holding

- First of all, the explanations made as this right grip, that wrong grip are wrong.
- Depending on the grip body type of the arrow used, the grip shapes may change.
- The position of the fingers in the grip is also very important. Accordingly, many players have different arrow grips.
- Always the tip of the arrow is slightly angled upwards with respect to the target of the board to be shot.
- Before the arrow is thrown, the point to be shot on the side must be marked with an imaginary eye.





-The arrow should always be aimed a little above the target point to be shot, taking into account the concept of distance.

-We have to make sure we don't hold the arrow too loosely or too tightly.

-We should be in great touch and comfort while holding the arrow. (For example:

Holding the potato chips with two fingers without breaking them) -Fingers should not be close to the palm while holding the arrow. While holding the fingers on the body of the arrow, we should not hold them too close together and tightly. Because this can cause the hand muscles to contract.

- Holding the pointed end of the arrow with the ring or little finger is very useful for targeting. It keeps the arrow in balance.

-In order to determine the location of the arrow on the body to be held with the fingers, it is necessary to use the index finger as the middle point of the scale. That is, the body of the arrow is placed on the index finger. If the arrow stops without falling on any side, this point will be caught and held with the thumb and forefinger. After that, the other fingers take their place on the arrow according to the grip of the dart player.

- In arrow holding, the dart player can establish a consistent and perfect grip in a few weeks with patience. However, this may change over time by working and playing matches.

-The differences and weights of the parts of the arrow also play an important role in the success of the technique and shooting.

-The right and wrong of the grip can be understood with the success graph of the dart player and his long-term training.

-We don't need to find a precise release point when shooting.

-Beginners should not be forced into the lowering movement, which we call bending the wrist forward. Because professionals use this movement for the purpose of accelerating the arrow. However, applying this movement and making



successful shots at the target requires a certain experience and time. However, for beginners, this movement causes the arm to be pushed forward unevenly for this reason, the shots can be thrown left and right.

### **Important Points About Holding the Arrow**

- If you hold the arrow too tightly, you will cause the arrow to come out too late.
- This causes the arrow to go down.
- If you hold the arrow too loosely, you will cause the arrow to fall out of hand prematurely.
- This causes the arrow to go up.
- If you do not release the arrow from the fingers at the same time, if you release the thumb first, you will cause the arrow to rotate and go away.
- If you put your fingers on the dart, you will cause the dart to spin away.

### **Important Note -**

If you want the dart arrows to go without spinning, you must open the fingers holding the arrow at the same time and ensure that the arrow is disposed of.

## **DART GRIP TYPES**

**There are 4 Main Arrow holding styles**

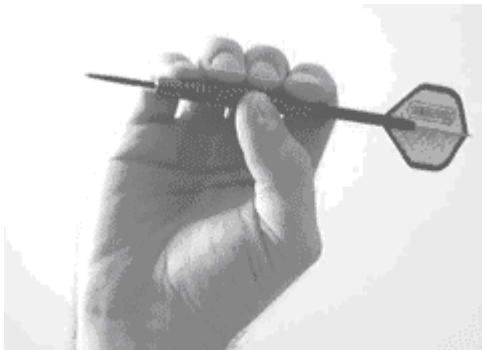
**1-Four Finger Grip**

**2-Three Finger Grip**

**3-Two Finger Grip**

**4-One Finger Grip**

### **Four Finger Grip**



-The thumb, balance and holder fingers are aligned on the arrow, while the other four fingers are the guide fingers.

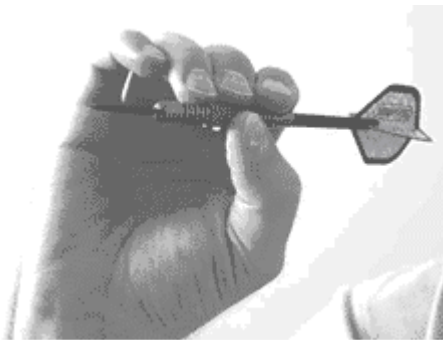
-These fingers should touch the point where they are in a tactile manner.

-The index and little fingers are the fingers that determine the direction of the arrow.

-Middle and ring fingers undertake the task of compression.

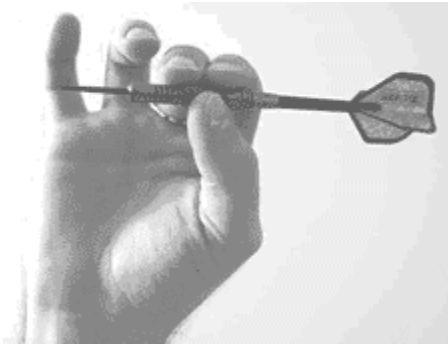
- These four fingers on the arrow must show the same sensitivity. Because the direction and success of the shot depends on it.
- Four-finger grip has a higher percentage of reaching a point above the target in the beginning. Swelling can be seen too much.
- Which of the four fingers will do the compression in this grip, except the thumb, differs according to the athlete. The selection and use of the fingers to balance the arrow is also important.

### Three Finger Grip



- In this grip, three fingers should be placed on the body as if they were one finger.
- The thumb and the third (middle) finger are the dominant fingers that hold and compress the body.
  - The ring and little fingers are kept clear and back from the others.
  - It is an ideal grip for controlled shots.

## Two Finger Grip



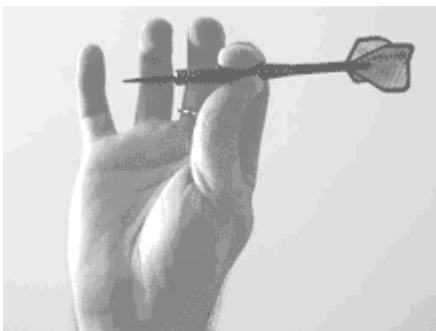
Control is compromised with this grip technique.

-Since there are few fingers holding the arrow, risky but effective shots can be made.

It is a grip very similar to holding a pencil. Since holding a pencil is a life-long habit, many players have successful shots in this technique.

-The thumb is placed slightly behind and below the center of gravity.

## One Finger Grip





- The same way of holding a pencil is a holding style.
- It is a grip where the fingers touch the balance point of the arrow the least. Therefore, the loss of control in holding and throwing the arrow is too much.
- If it is desired to shoot with this grip, it must practice many repetitions for success.
- If this grip is successfully established, incredibly successful shots are seen.

## **DART BASIC SHOOTING TECHNIQUE**

### **Important Reminder When Introduction to The Subject:**

\*The most important point in shooting: the arrow drop point. This should never be forgotten. Because accurate shooting at the target is achieved by developing this feature.

### **Basic Shooting Technique**

- A successful shot is the most important element of a dart player.
- Many players do not analyze and criticize the shooting technique.
- It is necessary to watch and imitate many advanced dart players in creating and developing shooting technique.

Important Elements in Developing Shooting Technique Are:

- Alignment
- Fixed(Static)Stop
- Arrow Grip
- Balanced Posture Position



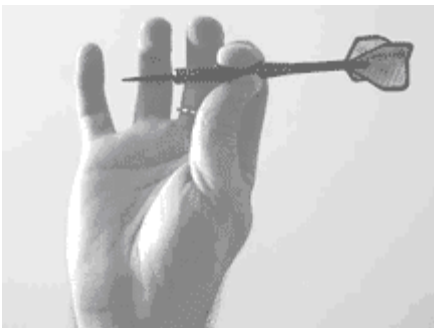
## Alignment

- The first step for a good shot is to aim the shoulder, elbow and forehead at the target to be shot in a straight line.
- The elbow should not be moved to the right and left, even slightly, during shooting.
- The tip of the arrow and the sighting eye should meet on the same plane and be locked on the target.
- All 3 arrows to be thrown should be aimed with the same order, discipline and attention and in the same movement form.



### **Fixed Throw(Stop)**

- An ideal throw is made with a hammer-waving motion of the lower arm from the elbow to the front.
- The elbow, hand and wrist should give the required speed to the arrow, while the shoulder should always remain stationary.
- While the required force is built forward, the elbow rises slightly.
- The elbow should not be thrown down to the ground. (The shot will definitely fail.)



### **Arrow Hold**



- Hand and arrow must be fixed and sighted during shooting.
- The arm should not be moved excessively to the right and left.
- The arm should never be lifted behind the head. (Beginners should also be careful.)
- The arrow should be aimed at the target by holding it with the desired correct and adopted grip.
- While aiming the arrow just before the shot, the tip should be slightly lifted upwards. In the meantime, the wing should be fixed to the chin or cheek.
- While aiming at the target (alignment), in some darts the elbow is 90 degrees to the body (ie under the armpit), while in some this elbow angle is 60 degrees.



### **Balanced Posture**

A well-balanced stance is essential for an accurate and successful shot.

- This stance must be applied without changing it for every arrow shot.



-Although the target to be shot is small, the shooter should not move, as it is not mobile.

### **Dart Throwing Technique Training**

-We must shoot in a way that will try to collect the 3 arrows in the area closest to each other.

-Do not force yourself to target a certain number in this study.

-Always trust your shots. This is about your focus. Never think deeply about your shot.

## **CREATING A DART FIELD**

### **Preparing the Dart Field**

Creating a Dart field consists of these parts:

- 1-Selecting the area
- 2-Hanging the Board
- 3-Creating the shooting line
- 4-Lighting the area

### **Selecting The Dart Field**

-The area to be selected should be at least 3x3 meters in size.

-The area to be selected should not be directly on a hard concrete floor.

-If an area will be created on a hard floor, a carpet or mat should be laid under the board.



-If a carpet is laid on the floor between the board and the shooting line, the shooting distance will naturally be determined.

## **Hanging The Board**

-The height of the board from the ground is 1.73 m up to the red dot (bulle) in the center.

-There is a screw place in the center of the back of the board. The screw provided should be screwed to this place by  $\frac{1}{2}$  cm.

-A 1x1 meter soft-floored panel should be mounted on the wall where the board will be hung. (This can be a tatami mat for convenience.)

-A hanger bracket provided next to the board is mounted to 1.73 meters from the ground.

-The hanging process is terminated by inserting the nail on the back of the board into this hanging apparatus.

<https://youtu.be/G4cFeEEKFQ0>

<https://youtu.be/OUOWSHWIPcM>

## **Creating The Shooting Line**

-To get the exact measurement of the shooting line, this point is reached when we put the tip of the meter on the red point (bullee) in the middle of the board that we mounted at a distance of 1.73 m from the wall and extend it to the ground by 2.93 m. (This measurement is to prevent obstructions caused by wall thicknesses. )



- The shooting line can be created from a wooden, metal or adhesive label (can also be drawn with a writing pen).
- The width of the shooting line is 60-100 cm.

## **Lighting**

- Board should be well lit.
- The best angle is the ceiling mounted 2 lamp shape of the lights.
- These lamps should be at a distance of 4 meters from the side.
- However, this type of lighting causes shadows on the board.
- The lighting should not be in a position to close the sight distance of the shooting dartist.
- The best lighting used today is the clip-on metal bright illuminated lamps.  
(75-100 Watt) is the one mounted on the board



## GENERAL RULES OF DARTS

1. Hang the board as shown in the diagram.
2. To decide who plays first, each player, or one from each side throws one dart, the player hitting nearer the centre starts the game.
3. Players throw three darts each throw.
4. Darts only score that remain on the board on completion of a throw.

### Tournament Dart Rules

#### Basic Rules

In a game of 101 the object is for one player or a team to be the first to reach zero from starting total of 101.

In simple terms, after three darts are thrown, the throwing player subtracts the total scored from his current total until he reaches zero.

1. Each side starts with 101 points. The method of scoring is to subtract each score from the remaining total. The score of 101 is used mainly for games between two individuals.
2. The first to reduce his score exactly to zero is the winner.
3. To finish, score which exactly reduces the score to zero must be thrown.
4. If a greater score is thrown than is required to reduce the remaining score exactly to zero, then none of the three darts count for that throw and the score remains as it was before that particular throw was taken.
5. Each game is called a "leg". 3 legs make a match and the ultimate winner is the player who first wins 2 legs. This can be varied.

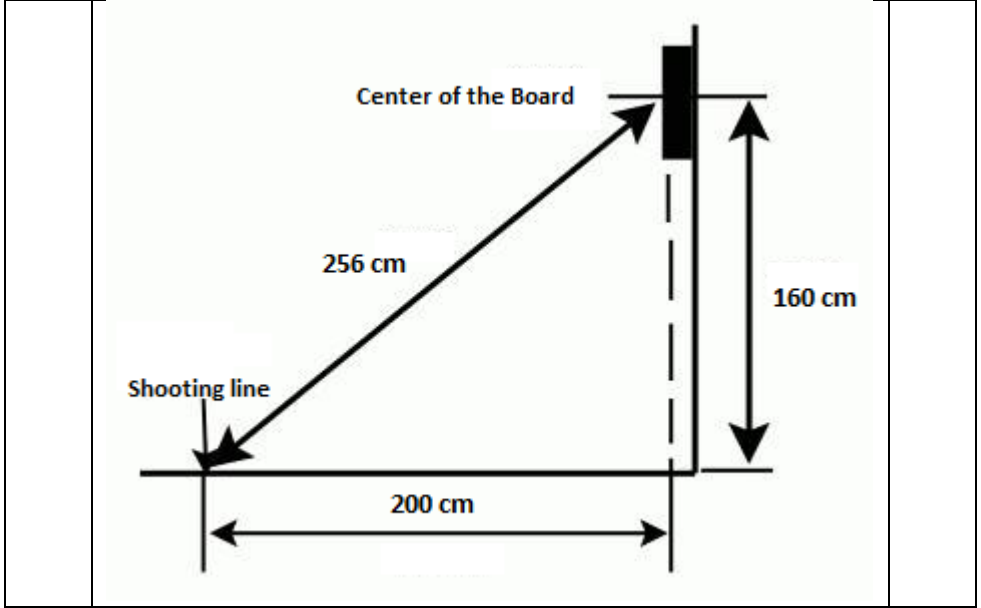


## Game Rules

1. The closest point to the rope is 10 points, the points decrease as each circle approaches the outer circumference of the dart, and the outer circle is 1 point.
2. The height of the dart board from the ground should be 173 cm based on the midpoint of the bullseye.
3. Throwing distance 237 cm. throw distance should be determined by the sensing band. The athlete's foot should not exceed the sensing band. The shot by crossing the sense band is considered invalid.
4. Each player must shoot with his own darts, the darts used are 30.5 cm long and 50 g not more than its weight.
5. Each dart should be thrown one by one.
6. A dart falling off the game board cannot be thrown again.
7. A shot consists of throwing three darts onto the playing board.
8. Before the shot is completed, the dart bouncing or falling off the game board is not included in the scoring.

### Note.

1. A dart dropped from the game board cannot be thrown again.
2. A shot consists of throwing three darts onto the game board.
3. Darts that bounce or fall off the game board before the throw is complete are not included in the scoring.



## Dart Board Setup

### References:

<https://dartokulu.tr.gg/> (Bu dökümanın hazırlanmasında büyük ölçüde bilgilerinden yararlandığımız Sn. Rauf Can DEMİR e teşekkür ederiz)

[https://www.tutorialspoint.com/darts/darts\\_quick\\_guide.htm](https://www.tutorialspoint.com/darts/darts_quick_guide.htm)

<https://www.dartbase.com/stance.htm>

[https://www.tutorialspoint.com/darts/darts\\_quick\\_guide.htm](https://www.tutorialspoint.com/darts/darts_quick_guide.htm)