# Maths

| Lesson 1: Word Problems |
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| Learning Objective: Understand and answer word problems about dodgeball |
| Length: 45 minutes to one hour |
| You need: Plain/squared paper, pencil |

Try to answer the following questions. Show your working out, and see if you can check your answer by using another method e.g. visually, using an inverse operation

## Super League Player

1. Enderby Dodgeball Club has 36 dodgeballs. They buy 16 more dodgeballs. How many do they have now?
2. Altrincham Dodgers had 78 dodgeballs but then threw away 23 old ones. How many do they have now?
3. A pack of dodgeballs usually costs £57. A special offer means you can buy the pack for £46. How much money would you save if you bought a pack?
4. Six clubs enter two teams each into a competition. How many teams are entered to play?
5. Under 11's matches use 3 dodgeballs. Hartlepool Mavericks want to play 8 matches at the same time. How many dodgeballs do they need to get out of the bag?
6. The Burton Bears coach plans a catching activity which requires each pair to have a ball. 28 children come to the session. How many dodgeballs do they need to get out of the bag?
7. 44 teams enter the British Open. British Dodgeball want to put teams into groups of 5 for the competition. How many groups will there be?
8. Wilmslow Wasps has three full ten-person squads of under 11's who always go to training. Five new players join at a session. How many players are at the session?

## GB Player

1. Manchester Bees has 236 dodgeballs. They buy 165 more dodgeballs. How many do they have now?
2. Leamington Spartans had 278 dodgeballs but then threw away 129 old ones. They then buy a pack of 68 new balls. How many do they have now?
3. A big pack of dodgeballs usually costs £357. A special offer means you can buy them for £246. How much money would you save if you bought a pack?
4. Eight clubs enter eighteen players each into a competition. How many players are entered to play?
5. Adult matches use 5 dodgeballs. MK Cyclones want to play 8 matches at the same time. How many dodgeballs do they need to get out of the bag if they also need one spare ball per court?
6. The Bedford Eagles coach plans a catching activity which requires each group of three to have two balls. 27 children come to the session. How many dodgeballs do they need to get out of the bag?
7. 65 teams enter the British Open. British Dodgeball want to put teams into groups of 4 for the competition. How many groups will there be?
8. London Storm has six nine-person squads of adults who always go to training. Seven new players join at a session. How many players are at the session?

## World Champion

1. Granite City Guerrillas have 3286 dodgeballs. They buy 2165 more dodgeballs. How many do they have now?
2. Wales had 5278 dodgeballs but then threw away 3129 old ones. They then buy three large packs each containing 628 new balls. How many do they have now?
3. A giant pack of dodgeballs usually costs £2358. A special offer means you can buy them for £1843. How much money would you save if you bought two packs?
4. Eight clubs enter three teams of nine players each into a competition. How many players are entered to play?
5. Adult matches use 5 dodgeballs, costing £8 each. Norwich Nighthawks want to play 8 matches at the same time. What would be the cost to have enough dodgeballs if they also need one spare ball per court?
6. The Worcester Virtue Empire coach plans a catching activity which requires each group of six players to have four balls. 48 children come to the session. How many dodgeballs do they need to get out of the bag?
7. 34 women's and 43 men's teams enter the British Open. British Dodgeball want to put teams into groups of 4 for the competition. How many groups will there be?
8. Leicester Minotaurs has three nine-person squads of adults who always go to training. Nottingham Sheriffs bring half of their 56-man squad to play friendlies. If each player pays £3 subs, how much money will be collected at the session after paying £86 for the hall?
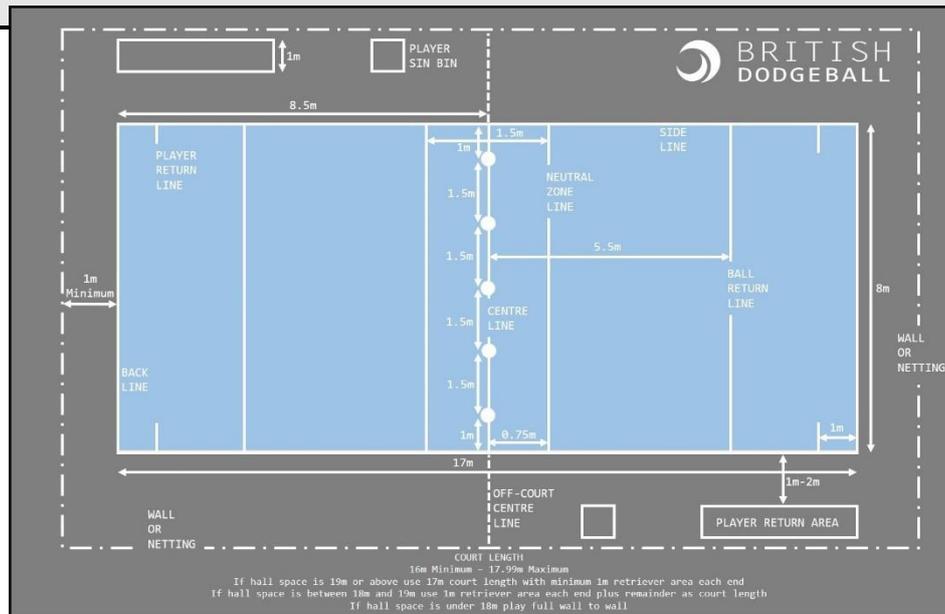
# Maths

Lesson 2: Measurement Problems

Learning Objective: Use units of measure to answer problems about dodgeball

Length: 45 minutes to one hour

You need: Plain/squared paper, pencil, ruler



An adult court is 17m x 8m, with a centre line, two neutral zone lines 75cm away from the centre line and ball return lines 3m from each back line.

## Super League Player

1. Draw the adult dodgeball court accurately using a ruler using a scale of 1cm=1m.
2. How many metres of tape is needed to lay one full court?
3. A foam dodgeball weighs 80 grams. How much would two weigh?
4. A player drinks 2 litres of water at a one-day tournament. How much would they drink during a 5 day competition?
5. A foam dodgeball weighs 80 grams. A small cardboard box can carry up to 500 grams in weight. How many foam dodgeballs can a small cardboard box carry safely?

## GB Player

1. Draw the court accurately using a ruler using a scale of 1cm=1m.
2. How many metres of tape is needed to lay one full court? How many 30m rolls of tape are needed?
3. A cloth dodgeball weighs 454 grams. How much would three weigh?
4. A player drinks 550ml of water during a match. How many litres would they drink if they played 4 matches?
5. You have 25 cloth dodgeballs weighing 454 grams each. You have 6 cardboard boxes which can carry 3kg each. Can you post all 25 cloth dodgeballs in the 6 boxes safely?

## World Champion

1. Draw the court accurately using a ruler where 0.5cm=1m.
2. What is the area and perimeter of the court? How much would it cost to lay a full court if each 30m roll of tape costs £2.50?
3. A cloth dodgeball weights 454 grams and a foam dodgeball weighs 80 grams. How much heavier is a cloth dodgeball?
4. A player drinks 654ml of water during a match. How many litres would a team of 6 drink if they played 2 matches?
5. You have 25 cloth dodgeballs and 10 foam dodgeballs. You have 7 cardboard boxes which can carry 3kg each. Can you post all of the dodgeballs in the 7 boxes safely?

## Maths

Lesson 3: Shapes

Learning Objective: Discover and list properties of different shapes on a dodgeball court

Length: 45 minutes to one hour

You need: Plain/squared paper, pencil



Task 1: Draw a picture of a dodgeball match (above is an example) – 10 minutes

Task 2: Tick off all the shapes you can see and highlight them in your drawing. These might be parts of the court, parts of the background of even parts of the players! – 10 minutes

| Super League Player | GB Player | World Champion |
|---|---|---|
| ⟲ Triangle | ⟲ Isosceles triangle | ⟲ Scalene triangle |
| ⟲ Square | ⟲ Triangular prism | ⟲ Equilateral triangle |
| ⟲ Rectangle | ⟲ Right-angled triangle | ⟲ Right-angled triangle |
| ⟲ Circle | ⟲ Sphere | ⟲ Sphere |
| ⟲ Cylinder | ⟲ Pyramid | ⟲ Pyramid |
| ⟲ Hexagon | ⟲ Kite | ⟲ Kite |
| ⟲ Cube | ⟲ Rhombus | ⟲ Rhombus |
| ⟲ Sphere | ⟲ Parallelogram | ⟲ Parallelogram |
| ⟲ Pyramid | ⟲ Trapezoid | ⟲ Trapezoid |

Task 3: Draw new items into your dodgeball match so you can tick off any shapes you couldn't find – 10 minutes

Task 4: Choose 5 shapes and list their properties – 15 minutes+
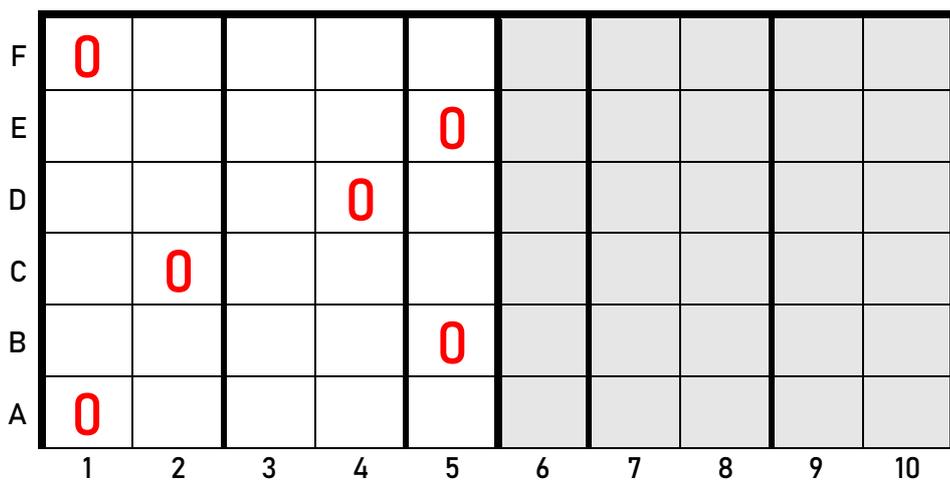
**Super League Player**

- ⟲ Number of sides/faces
- ⟲ Number of vertices

**GB Player**

- ⟲ Number of sides/faces
- ⟲ Number of acute, obtuse and right angles
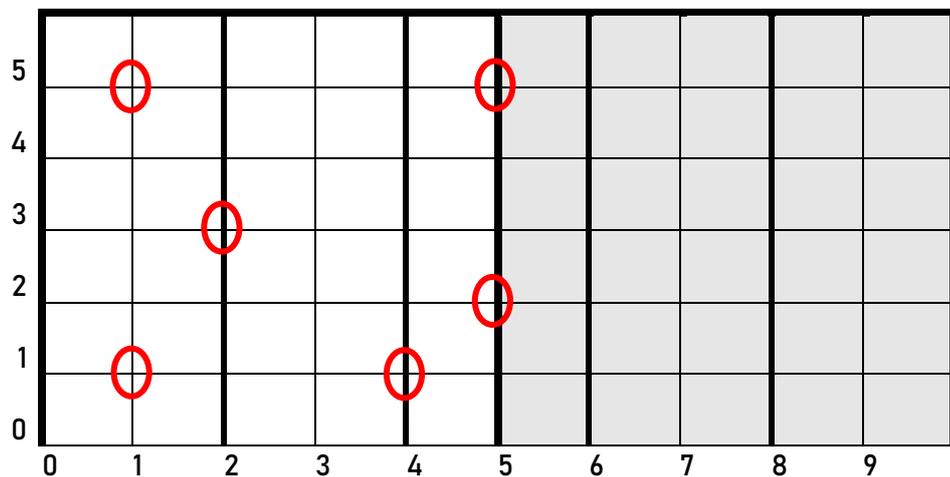- ⟲ Number of lines of symmetry

**World Champion**

- ⟲ Number of lines of symmetry
- ⟲ Approximate size of angle
- ⟲ Net of 3D shape

## Maths

Lesson 4: Co-ordinates / Grid References

Learning Objective: Use co-ordinates/grid references to answer problems about dodgeball

Length: 45 minutes to one hour

You need: Plain/squared paper, pencil

### Super League Players



Task 1: List the positions of each member of the red team on the grid
e.g. The first player is at A1

Task 2: Draw the blue players into the grid:
- The first player is at D6
- The second player is at F7
- The third player is at A8
- The fourth player is at E9
- The fifth player is at B10
- The sixth player is at C9

Task 3: Draw in 3 dodgeballs and list their grid references

Task 4: Write the grid references of where you would choose to put your: strongest thrower, best catcher, best communicator and best dodger. Make sure to explain why!

### GB Players

**Task 1:** List the co-ordinates of each member of the red team
e.g. The first player is at 1,1

**Task 2:** Draw the blue players into the grid:
- The first player is at 6,1
- The second player is at 8,0
- The third player is at 9,2
- The fourth player is at 5,3
- The fifth player is at 7,5
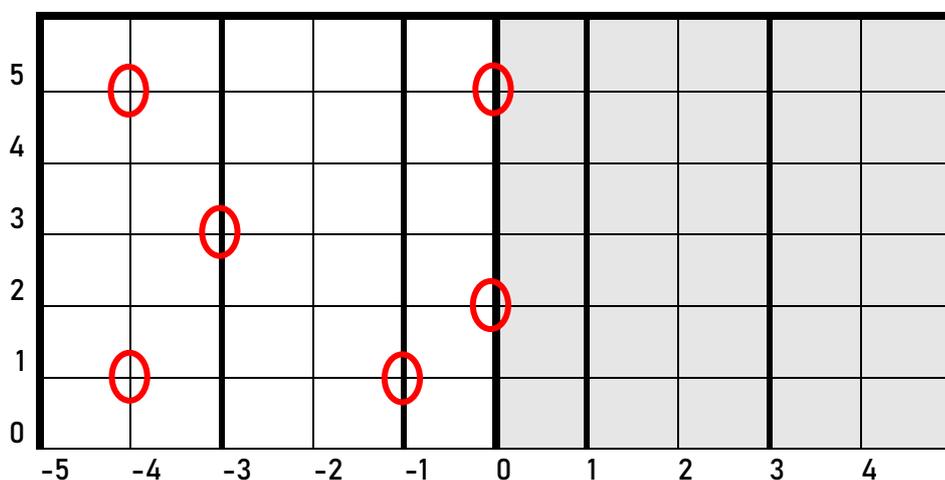- The sixth player is at 9,4

**Task 3:** You are the red player stood at point 2,3. Describe your movements to pick up dodgeballs at the following points:
- 3,1
- 4,0
- 5,5

**Task 4:** Your coach asks four members of your team to form the following formations. Write the co-ordinates each of your players must stand
- Square
- Rectangle
- Trapezoid
- Diamond

## World Champions



**Task 1:** List the co-ordinates of each member of the red team
e.g. The first player is at -4,1

**Task 2:** Draw the blue players into the grid:
- The first player is at 1,1
- The second player is at 2,0
- The third player is at 4,2
- The fourth player is at 0,3
- The fifth player is at 1,5
- The sixth player is at 4,4

**Task 3:** You are the red player stood at point -4,5. Describe your movements to pick up dodgeballs at the following points:
- 0,4
- -1,1
- -3,2

**Task 4:** Your coach arranges your team into a formation but doesn't tell you where to stand. Work it out!
- Your team is at 1,5, 1,1, and 4,1 <rectangle>
- Your team is at 1,1 and 2,4 <isosceles triangle>
- Your team is at 0,3, 1,1, 3,1, and 4,3 <pentagon>
- Your team is at 1,5, -1,1 and 2,1 <parallelogram>