

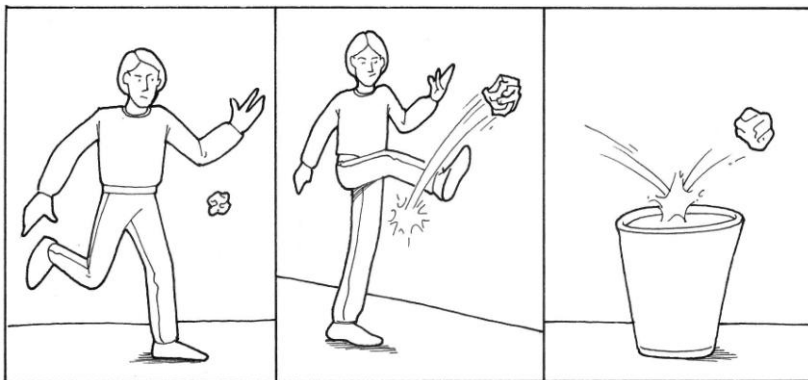


A Kicking accuracy

Planning your investigation

Discuss these questions with your group so that you can draw up a plan of your investigation.

- How many repetitions will make a practice session?
- How many practice sessions should be carried out?
- What rest period should there be between practice sessions?
- What data will you record?
- How will you present your data?
- How will you use this data to show change in performance?



You will need to decide on:

- size and weight of the paper ball
- size and orientation of the target bin
- distance of the kicker from the target bin
- procedure for dropping and kicking the ball.

To do

- a Carry out the investigation according to your plan.
- b Make a clear record of the data you collected.
- c Present the data graphically to communicate the main trends and patterns.
- d Use this data to answer the questions below.

What do you think?

- 1 Does practice improve performance in a particular skill?
- 2 Write a short paragraph explaining your answer in terms of the data you collected.
- 3 Once you have discussed your data and investigations as a class, write down three or four key rules for presenting data clearly.

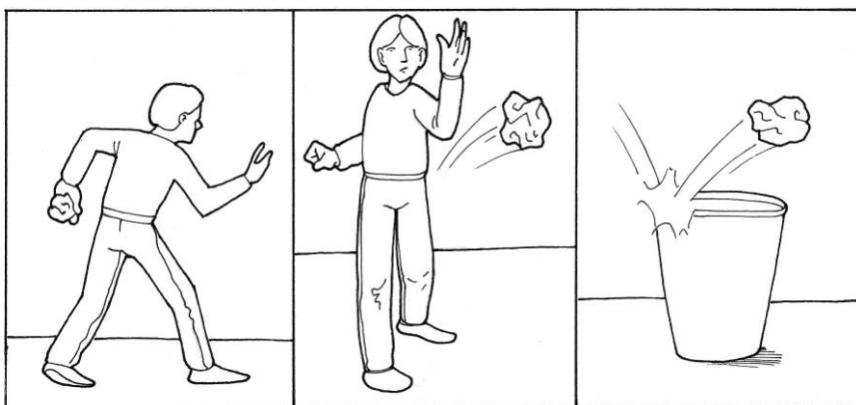


B Throwing accuracy

Planning your investigation

Discuss these questions with your group so that you can draw up a plan of your investigation.

- How many repetitions will make a practice session?
- How many practice sessions should be carried out?
- What rest period should there be between practice sessions?
- What data will you record?
- How will you present your data?
- How will you use this data to show change in performance?



You will need to decide on:

- size and weight of the paper ball
- size and orientation of the target bin
- distance of the thrower from the target bin
- procedure for throwing the ball.

To do

- a Carry out the investigation according to your plan.
- b Make a clear record of the data you collected.
- c Present the data graphically to communicate the main trends and patterns.
- d Use the data to answer the questions below.

What do you think?

- 1 Does practice improve performance in a particular skill?
- 2 Write a short paragraph explaining your answer in terms of the data you collected.
- 3 Once you have discussed your data and investigations as a class, write down three or four key rules for presenting data clearly.

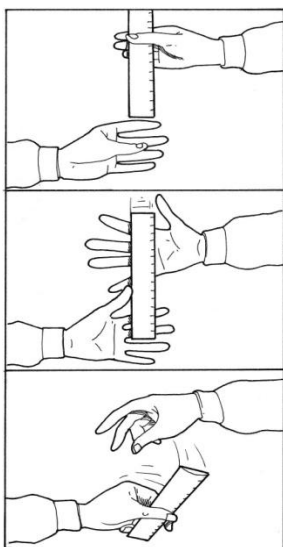


C Catch me quick

Planning your investigation

Catching needs quick reactions and good hand-eye coordination. Discuss these questions with your group so that you can draw up a plan of your investigation into quick 'catching' reactions.

- How many repetitions will make a practice session?
- How many practice sessions should be carried out?
- What rest period should there be between practice sessions?
- What data will you record?
- How will you present your data?
- How will you use this data to show change in performance?



The position of the hand affects the time the catcher has to catch the ruler.

Does it make any difference which hand you test?

Should you test both hands at once?

To do

- a Carry out the investigation according to your plan.
- b Make a clear record of the data you collected.
- c Present the data graphically to communicate the main trends and patterns.
- d Use the data to answer the questions below.

What do you think?

- 1 Does practice improve performance in a particular skill?
- 2 Write a short paragraph explaining your answer in terms of the data you collected.
- 3 Once you have discussed your data and investigations as a class, write down three or four key rules for presenting data clearly.



D Juggling

Planning your investigation

Discuss these questions with your group so that you can draw up a plan of your investigation.

- How many repetitions will make a practice session?
- How many practice sessions should be carried out?
- What rest period should there be between practice sessions?
- What data will you record?
- How will you present your data?
- How will you use this data to show change in performance?



- How many balls will you use – one, two or three?
- Will you change the number of balls during the investigation?

To do

- a Carry out the investigation according to your plan.
- b Make a clear record of the data you collected.
- c Present the data graphically to communicate the main trends and patterns.
- d Use the data to answer the questions below.

What do you think?

- 1 Does practice improve performance in a particular skill?
- 2 Write a short paragraph explaining your answer in terms of the data you collected.
- 3 Once you have discussed your data and investigations as a class, write down three or four key rules for presenting data clearly.

Activity 2.1 Successful internet searching



To carry out a successful internet search you need to use some important strategies. In your search engine, type key search words for hockey information exactly as they are written in the table below. Use the table to show how changing the search affects the results.

Key words	Number of results (just under the search window)	Top five sites
Hockey Training		1 2 3 4 5
HOCKEY TRAINING		1 2 3 4 5
hockey training		1 2 3 4 5
“hockey training”		1 2 3 4 5
“hockey training programme”		1 2 3 4 5

Discuss with your group what you have found out about internet searching. Use the advanced search pages in Google to help you explain why good searching techniques reduce the number of results.

Activity 2.2 Designing a training programme



Sport

Training	Monday	Time	Tuesday	Time	Wednesday	Time	Thursday	Time	Friday	Time	Saturday	Time	Sunday	Time
1 Technique or skill														
2 Fitness														
3 Tactics, strategy or teamwork														
4 Diet														



1. Archery



Archery competitions are held both indoors and outdoors. The rules differ from one competition to the next. Generally each competition is divided into 'ends'. Each archer shoots either three or six arrows from each end. In an indoor competition archers shoot 20 ends, with three arrows in each end.

The distance that archers shoot from in an indoor competition varies from 18m to 25m. Outdoor distances range from 30m to 90m. The Olympic games use a distance of 70m. Archers have a time limit to shoot their arrows. In a three-arrow end this is generally two minutes under the regulations for the game.



GNAS (Great National Archery Society) scoring

Yellow: 9	Red: 7	Blue: 5	Black: 3	White: 1
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2. Curling



In curling, players slide stones across a sheet of ice towards a target area. It is related to bowls, boules and shuffleboard.

Two teams, each of four players, take turns sliding heavy, polished granite stones across the ice curling sheet towards the house. The house is a circular target marked on the ice. Each team has eight stones. The aim is to gain the highest score for a game. Points are scored for the stones resting closest to the centre of the house at the conclusion of each end. An end is completed when both teams have thrown all their stones. A game may consist of 10 or eight ends.

'Sweepers' use brooms to affect the path of the stones by sweeping the ice in front of the stone as it travels.



Britain v USA. Women's curling. Vancouver 2010 Olympics

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3. Darts



Each player starts with the same score (501, for example) and the first to reduce his or her score to zero wins.

Players take turns throwing three darts each and subtract. All points scored are subtracted from the score at the beginning. Players remove their darts and mark their own scores before their opponents throw. Darts that bounce off or miss the board do not score and cannot be re-thrown during that turn.

To win, you must reach zero before your opponent. You must reach exactly zero, and the dart that brings the score down to zero must be a double. Doubles are the numbers in the outside narrow scoring band and in the centre bullseye. The bullseye counts as 50 points and is the double of the outer 25-point ring around the bull.



4. Shove ha'penny



This game is traditionally played with five old halfpennies – about an inch in diameter. The board measures 20 inches by 14 inches. There are 10 horizontal lines across it. The first lines are four inches from the front end. The last are about five inches from the back end. The nine areas between these lines are called 'beds' and are 1¼ inches wide. Two further lines run up the board and are used for scoring.



Players take turns to shove the five halfpennies up the board positioning the coin on the edge with just a bit sticking over the edge. If it fails to reach the first line it can be shoved again.

The aim is to get a coin between two lines. You can use coins to move previously shoved coins onto a bed. Each coin in a bed marks one point for the player. Each player aims to get three marks in each of the beds. Once three scores have been made in a bed, any further coins landing in that bed result in the marks going to the opponent. The exception to this is the winning point, which must be scored by the winning player rather than an opponent's misplaced halfpenny.



5. Lawn bowls



Bowls can be played as 'singles', 'pairs', 'triples' or 'fours'. The game is played on a smooth rectangular grass or synthetic surface known as a 'green'. The green is divided into parallel strips called 'rinks'. A small white 'jack' is rolled to the end of a rink to act as a target. Once it has come to rest, the jack is placed centrally in the rink.

After all heavy bowls have been rolled, the distance between the jack and the bowls is measured. Points are awarded for the number of bowls closer to the jack than the opponents. There are several ways of scoring in lawn bowls. The winner is usually determined by a fixed point system, for example the first player to 21 points, or by the highest score after 21 ends.

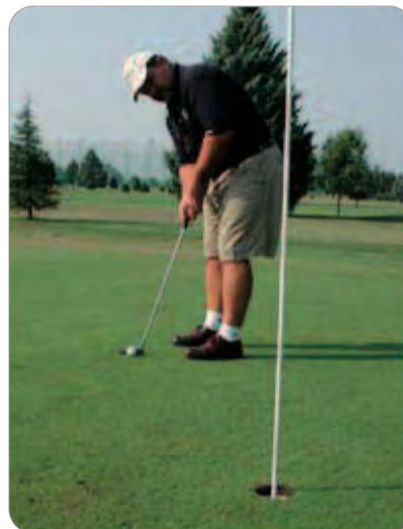


6. Golf



Golf is a game in which a ball is struck with a club from a prepared area, known as the 'teeing ground' to a second prepared area. The ball crosses a strip of land called a 'fairway' and 'rough'. Rough may include shrubs, trees and rough grass. The landing area, or 'putting green' has a hole in it. The object of the game is to complete what is known as a 'hole' by playing a ball from the teeing ground into the hole on the putting green in the fewest possible number of strokes.

A 'round' of golf consists of playing 18 such holes in a particular order. Each hole has a target number of strokes, called a 'par', depending on its difficulty. The scoring relates to the par number. You can get a par score, a minus score if you complete a hole in fewer strokes than par, or a positive score if you take more strokes than par. To allow experienced and less experienced players to compete, a 'handicap' system is used. Experienced players have strokes added to their score automatically. This makes it harder for them to achieve par as they improve their scoring record.



Activity 4.1 How do points affect Formula 1 championship positions?



2008 and 2009 season

Position	1	2	3	4	5	6	7	8	9	10
Points	10	8	6	5	4	3	2	1	0	0

2008/9 Grand Prix

	Driver	AUS	MAL	BHR	ESP	TUR	MON	CAN	FRA	GBR	GER	HUN	EUR	BEL	ITA	SIN	JPN	CHN	BRA	Points
1	Lewis Hamilton (GBR)	1	5	13	3	2	1	Ret	10	1	1	5	2	3	7	3	12	1	5	98
2	Felipe Masas (BRA)	Ret	Ret	1	2	1	3	5	1	13	3	17+	1	1	6	13	7	2	1	97
3	Kimi Räikkönen (FIN)	8+	1	2	1	3	9	Ret	2	4	6	3	Ret	18+	9	15+	3	3	3	75
4	Robert Kubica (POL)	Ret	2	3	4	4	2	1	5	Ret	7	8	3	6	3	11	2	6	11	75
5	Fernando Alonso (ESP)	4	8	10	Ret	6	10	Ret	8	6	11	4	Ret	4	4	1	1	4	2	61
6	Nick Heidfeld (GER)	2	6	4	9	5	14	2	13	2	4	10	9	2	5	6	9	5	10	60
7	Heikki Kovalainen (FIN)	5	3	5	Ret	12	8	9	4	5	5	1	4	10+	2	10	Ret	Ret	7	53
8	Sebastian Vettel (GER)	Ret	Ret	Ret	Ret	17	5	8	12	Ret	8	Ret	6	5	1	5	6	9	4	35
9	Jarno Trulli (ITA)	Ret	4	6	8	10	13	6	3	7	9	7	5	16	13	Ret	5	Ret	8	31
10	Timo Glock (GER)	Ret	Ret	9	11	13	12	4	11	12	Ret	2	7	9	11	4	Ret	7	6	25

Activity 4.1 How do points affect Formula 1 championship positions?



	Driver	AUS	MAL	BHR	ESP	TUR	MON	CAN	FRA	GBR	GER	HUN	EUR	BEL	ITA	SIN	JPN	CHN	BRA	Points
11	Mark Webber (AUS)	Ret	7	7	5	7	4	12	6	10	Ret	9	12	8	8	Ret	8	14	9	21
12	Nelson Piquet, Jr (BRA)	Ret	11	Ret	Ret	15	Ret	Ret	7	Ret	2	6	11	Ret	10	Ret	4	8	Ret	19
13	Nico Rosberg (GER)	3	14	8	Ret	8	Ret	10	16	9	10	14	8	12	14	2	11	15	12	17
14	Rubens Barrichello (BRA)	DSQ	13	11	Ret	14	6	7	14	3	Ret	16	16	Ret	17	Ret	13	11	15	11
15	Kazuki Nakajima (JPN)	6	17	14	7	Ret	7	Ret	15	8	14	13	15	14	12	8	15	12	17	9
16	David Coulthard (GBR)	Ret	9	18	12	9	Ret	3	9	Ret	13	11	17	11	16	7	Ret	10	Ret	8
17	Sébastien Bourdais (FRA)	7†	Ret	15	Ret	Ret	Ret	13	17	11	12	18	10	7	18	12	10	13	14	4
18	Jenson Button (GBR)	Ret	10	Ret	6	11	11	11	Ret	Ret	17	12	13	15	15	9	14	16	13	3
19	Giancarlo Fisichella (ITA)	Ret	12	12	10	Ret	Ret	Ret	18	Ret	16	15	14	17	Ret	14	Ret	17	18	0
20	Adrian Sutil (GER)	Ret	Ret	19	Ret	16	Ret	Ret	19	Ret	15	Ret	Ret	13	19	Ret	Ret	Ret	16	0
21	Takuma Sato (JPN)	Ret	16	17	13															0
22	Anthony Davidson (GBR)	Ret	15	16	Ret															0

† Drivers did not finish the Grand Prix, but were classified as they completed over 90% of the race distance.

Activity 4.1 How do points affect Formula 1 championship positions?



2009 and 2010 season

Position	1	2	3	4	5	6	7	8	9	10
Points	25	18	15	12	10	8	6	4	2	1

2009/10 Grand Prix

	Driver	AUS	MAL	CHN	BHR	ESP	MON	TUR	GBR	GER	HUN	EUR	BEL	ITA	SIN	JPN	BRA	ABU	Points
1	Jenson Button (GBR)	1	1	3	1	1	1	1	6	5	7	7	Ret	2	5	8	5	3	95
2	Sebastian Vettel (GER)	13†	15†	1	2	4	Ret	3	1	2	Ret	Ret	3	8	4	1	4	1	84
3	Rubens Barrichello (BRA)	2	5	4	5	2	2	Ret	3	6	10	1	7	1	6	7	8	4	77
4	Mark Webber (AUS)	12	6	2	11	3	5	2	2	1	3	9	9	Ret	Ret	17	1	2	69.5
5	Lewis Hamilton (GBR)	DSQ	7	6	4	9	12	13	16	18	1	2	Ret	12†	1	3	3	Ret	49
6	Kimi Räikkönen (FIN)	15†	14	10	6	Ret	3	9	8	Ret	2	3	1	3	10	4	6	12	48

Activity 4.1 How do points affect Formula 1 championship positions?



	Driver	AUS	MAL	CHN	BHR	ESP	MON	TUR	GBR	GER	HUN	EUR	BEL	ITA	SIN	JPN	BRA	ABU	Points
7	Nico Rosberg (GER)	6	8	15	9	8	6	5	5	4	4	5	8	16	11	5	Ret	9	34.5
8	Jarno Trulli (ITA)	3	4	Ret	3	Ret	13	4	7	17	8	13	Ret	14	12	2	Ret	7	32.5
9	Fernando Alonso (ESP)	5	11	9	8	5	7	10	14	7	Ret	6	Ret	5	3	10	Ret	14	26
10	Timo Glock (GER)	4	3	7	7	10	10	8	9	9	6	14	10	11	2	DNS			24
11	Felipe Massa (BRA)	Ret	9	Ret	14	6	4	6	4	3	DNS								22
12	Heikki Kovalainen (FIN)	Ret	Ret	5	12	Ret	Ret	14	Ret	8	5	4	6	6	7	11	12	11	22
13	Nick Heidfeld (GER)	10	2	12	19	7	11	11	15	10	11	11	5	7	Ret	6	Ret	5	19
14	Robert Kubica (POL)	14†	Ret	13	18	11	Ret	7	13	14	13	8	4	Ret	8	9	2	10	17
15	Giancarlo Fisichella (ITA)	11	18†	14	15	14	9	Ret	10	11	14	12	2	9	13	12	10	16	8
16	Sébastien Buemi (SUI)	7	16†	8	17	Ret	Ret	15	18	16	16	Ret	12	13†	Ret	Ret	7	8	6

Activity 4.1 How do points affect Formula 1 championship positions?



	Driver	AUS	MAL	CHN	BHR	ESP	MON	TUR	GBR	GER	HUN	EUR	BEL	ITA	SIN	JPN	BRA	ABU	Points
17	Adrian Sutil (GER)	9	17	17†	16	Ret	14	17	17	15	Ret	10	11	4	Ret	13	Ret	17	5
18	Kamui Kobayashi (JPN)																9	6	3
19	Sébastien Bourdais (FRA)	8	10	11	13	Ret	8	18	Ret	Ret									2
20	Kazuki Nakajima (JPN)	Ret	12	Ret	Ret	13	15†	12	11	12	9	18	13	10	9	15	Ret	13	0
21	Nelson Piquet, Jr. (BRA)	Ret	13	16	10	12	Ret	16	12	13	12								0
22	Vitantonio Liuzzi (ITA)													Ret	14	14	11	15	0
23	Romain Grosjean (FRA)											15	Ret	15	Ret	16	13	18	0
24	Jaime Alguersuari (ESP)										15	16	Ret	Ret	Ret	Ret	14	Ret	0
25	Luca Badoer (ITA)											17	14						0



Your brief

You will work in groups to design a new scoring system for a familiar game. The rules of the game must only change in the following ways:

- 1 The dimensions of the playing area and 'goal' or 'target' can be altered.
- 2 The number of points for a score can be changed.
- 3 Points can be awarded for things other than scoring, for example assists or free kicks.

You could choose a current game and adjust the scoring in order to create one of the following:

- Children's party game.
- Game that lasts a minute.
- Game that lasts a year.
- Game where the winner is only revealed at the end.
- Team game where only one person on each side can score.
- Knockout competition where losers get a second chance.
- Game where the first one to 50 wins.
- Game where the first to score wins.
- Game with five different ways to score.

Presentation

When you have designed your new scoring system you need to produce a poster that shows:

- how the game has been improved
- who the new audience might be
- what new tactics or strategies might be employed
- how a league or competition might be organised.

Evaluation

Another group will then give you feedback on how well your game has met these criteria.

Activity 5.2 Presenting the game



The new versions of the game will be explained on posters. Use this sheet to evaluate the poster of another group. Score each criterion from 1 to 5, with 5 being the highest score.

GAME TITLE:	Notes	Score (1–5)
Was the game improved for a particular purpose?		
Will it attract new participators?		
Are new strategies explained?		
Are the league rules explained?		
TOTAL SCORE		