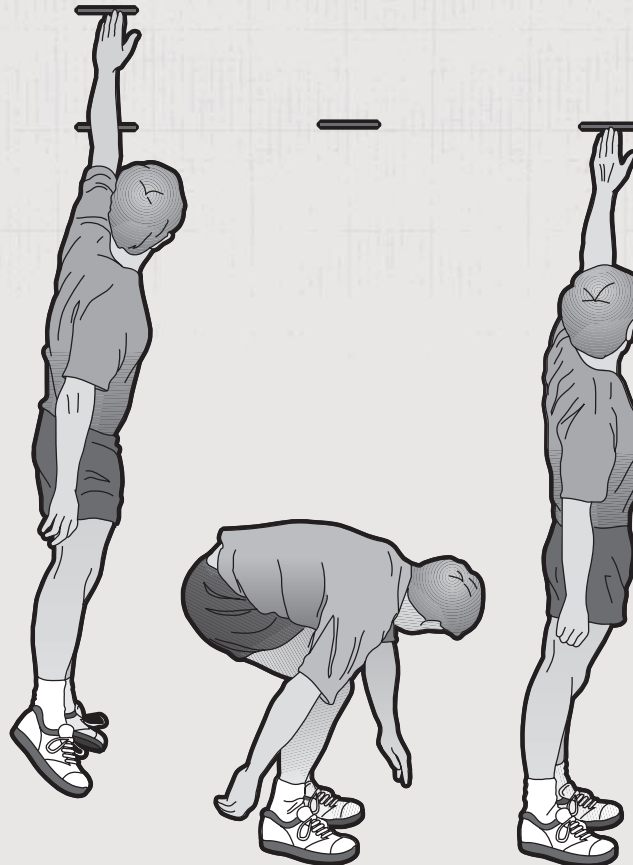


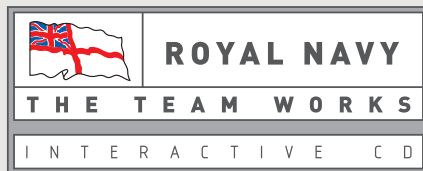
THE ROYAL NAVY and ROYAL MARINES

ACTION FITNESS

HEALTH RELATED ACTIVITY



STUDENT WORKSHEETS

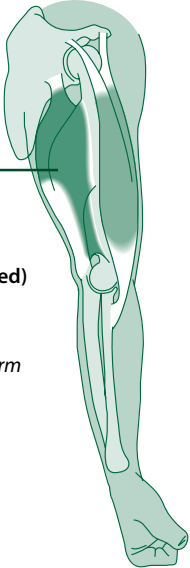


THE ROYAL MARINES

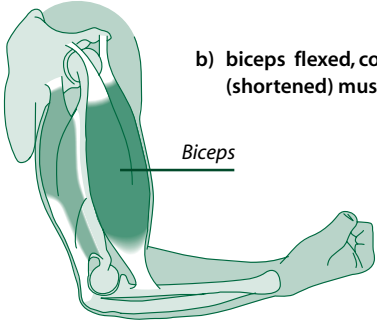
DO YOU HAVE THE STRENGTH OF MIND TO BE A ROYAL MARINES COMMANDO?

Student Worksheet 1

Warm up and stretch further



Triceps



Biceps

b) biceps flexed, contracted (shortened) muscle

a) biceps relaxed, extended (stretched) muscle

Movement of the forearm around the elbow joint



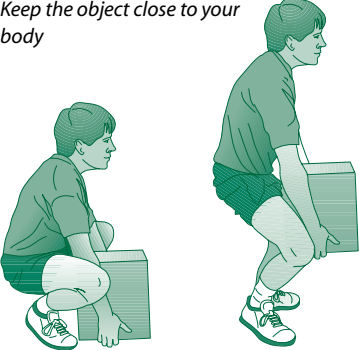
The "sit and reach test" measures lower back and hamstring flexibility

Record your sit and reach score (centimetre) in this table

	Before warm up	After pulse raising	After pulse raising and mobilising	After cool down
A				
B				
C				

Look after your back – safe lifting and carrying

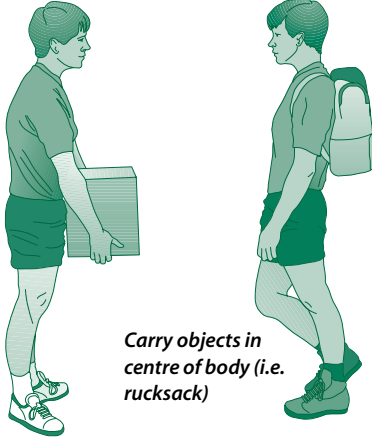
Safe lifting
Stand close to the object, legs shoulder width
Straight back
Bend knees
Keep the object close to your body



Carry equal weights in each hand



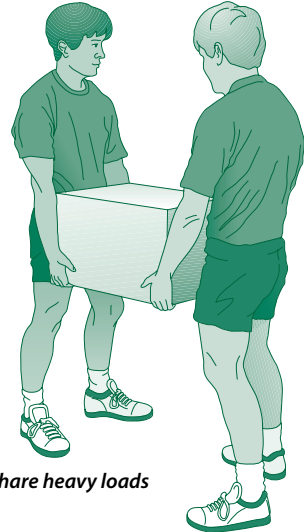
Carry objects in centre of body (i.e. rucksack)



Keep an upright posture when sitting



Share heavy loads



Avoid twisting the trunk



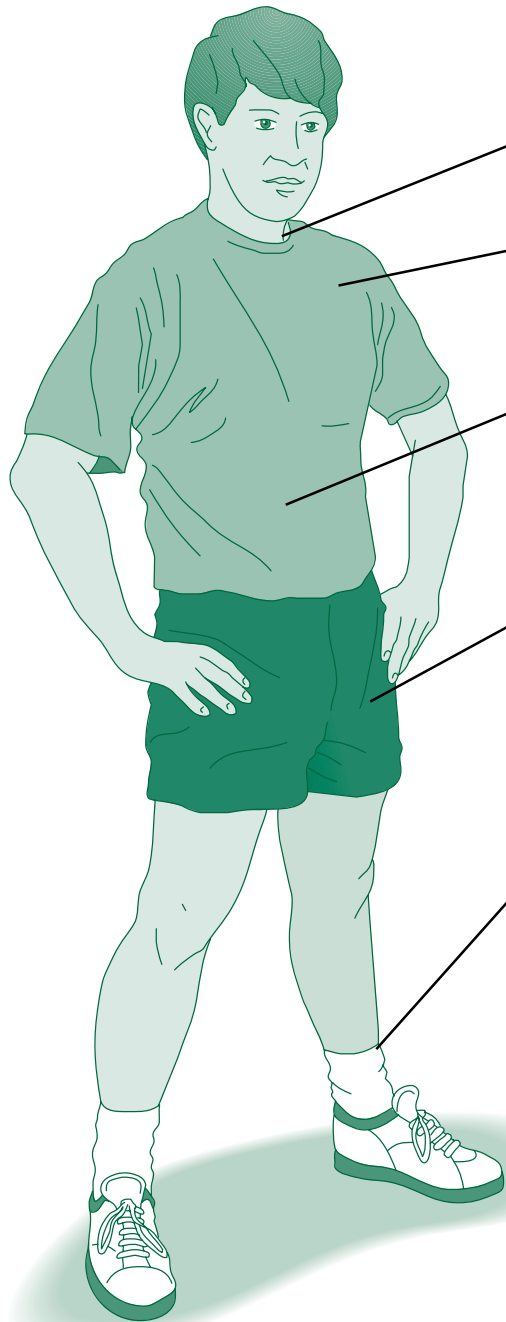
- Did you know that:
- 1 You are generally flexible if you can touch your toes when you are sitting down with straight legs
 - 2 More flexibility is required to perform effectively and avoid injury in most sports and dances
 - 3 Over 80,000 adults miss work each day because of back problems which is thought to be a result of poor posture, weak stomach and back muscles, and poor flexibility

Name

Form

Student Worksheet 2

Warming up your muscles and joints



Neck

Shoulders

Lower back/trunk

Hips and thighs

Lower legs and ankles

Key point

Work from head down to toes

A C T I O N F I T N E S S

MOBILISE	STRETCH

MOBILISE	STRETCH

MOBILISE	STRETCH

MOBILISE	STRETCH

MOBILISE	STRETCH

Warm up



Stay warm



Stay warm



Stay warm



Stay warm



Cool down

Your task

- 1 Warm up first (pulse raise), then undertake this task with a partner
- 2 Use your knowledge to complete 2 mobilising and 2 stretching exercises for each body part outlined above
- 3 Record these in the boxes on your sheet
- 4 Make sure that you stay warm between each mobilising and stretching exercise

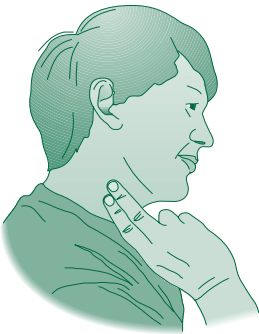
Name _____

Form _____

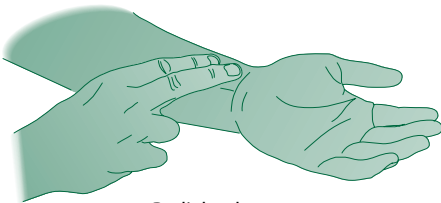
Student Worksheet 3

Exercise to the heartbeat – for a healthy heart, raise your heart rate into the heart zone for 20 minutes daily.

Taking your pulse



Carotid pulse

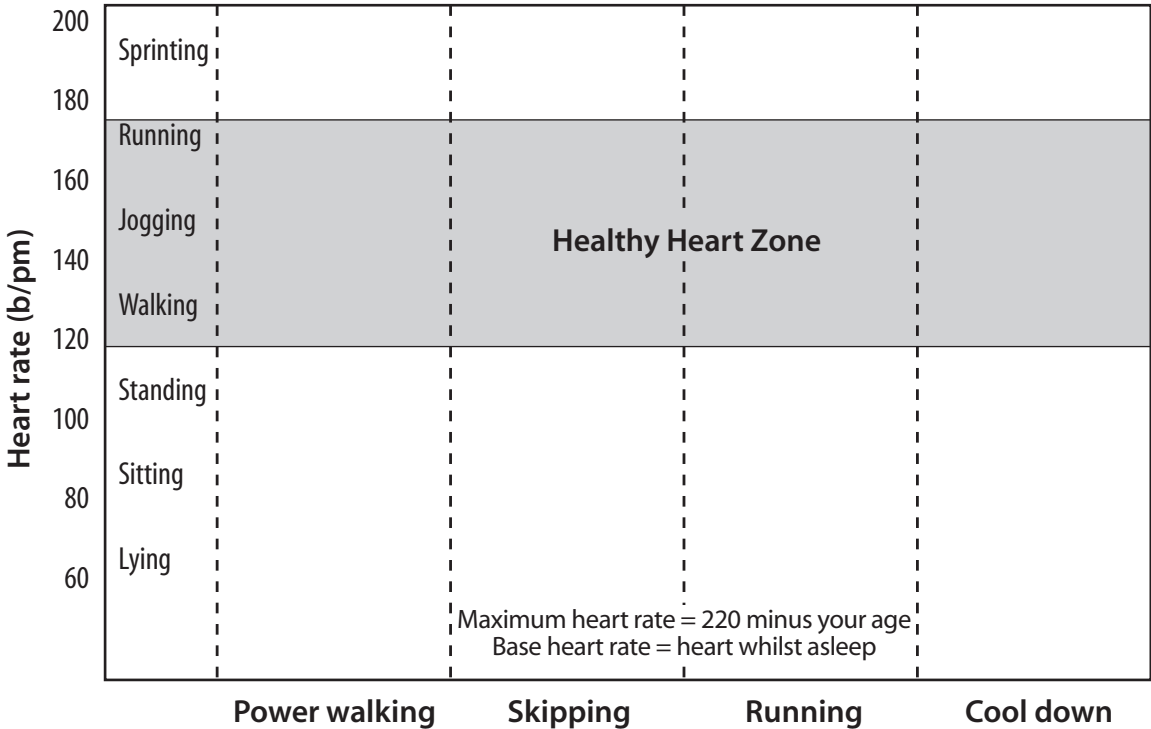


Radial pulse

- 1 Locate your pulse
- 2 Count your pulse for 15 seconds then convert to beats per minute using the table below right
- 3 Record your beats per minute pulse rate in the right-hand table

Name	Power walking			Skipping			Running			Cool-down		
	1	2	3	1	2	3	1	2	3	1	2	3

Plot your heart rates on the graph below



Can you describe what happens to the heart rate during different types of exercise? Why may your heart rate differ to your partner(s)?

Heart rate conversion table

11	44	21	84	31	124	41	164
12	48	22	88	32	128	42	168
13	52	23	92	33	132	43	172
14	56	24	96	34	136	44	176
15	60	25	100	35	140	45	180
16	64	26	104	36	144	46	184
17	68	27	108	37	148	47	188
18	72	28	112	38	152	48	192
19	76	29	116	39	156	49	196
20	80	30	120	40	160	50	200

Heart beats in 15 seconds (white column) are converted into beats per minute scores (shaded column).

Did you know that:

- 1 175,000 people die each year from heart attacks
- 2 Exercise makes your heart muscle stronger

Name _____

Form _____

Choosing the best exercises for heart health

HEART RATE CONVERSION TABLE

Convert heart rate from beats per 15 seconds to beats per minute

Plain section – beats per 15 seconds

Shaded section – beats per minute

11	44	21	84	31	124	41	164
12	48	22	88	32	128	42	168
13	52	23	92	33	132	43	172
14	56	24	96	34	136	44	176
15	60	25	100	35	140	45	180
16	64	26	104	36	144	46	184
17	68	27	108	37	148	47	188
18	72	28	112	38	152	48	192
19	76	29	116	39	156	49	196
20	80	30	120	40	160	50	200

- 1 Which exercises could you keep going for 90 seconds?
- 2 What do you notice about your heart rate after you have finished a leg exercise compared to an arm or trunk exercise?
- 3 If you wanted to keep your heart rate in the healthy zone for 20 minutes, what sort of exercises would you choose to do?

A healthy heart task

- 1 Choose 8-10 activities to do with a partner
- 2 List these in order as you go along
- 3 Record your heart rate for 15 seconds at the end of each activity
- 4 Use your table to put the result in heartbeats per minute into the box next to the exercise
- 5 Use the RPE table in the third column to score how hard you felt the exercise was

[illegible]

ACTION FITNESS

Use the Rating of Perceived Exertion table to estimate how hard the exercise was. Lying down relaxing would equate to RPE of 6, whereas exercise causing total exhaustion would equate to an RPE of 19-20.

Borg's Ratings of Perceived Exertion scale

6	NO EXERTION AT ALL
7	EXTREMELY LIGHT
8	EXTREMELY LIGHT
9	VERY LIGHT
10	
11	LIGHT
12	
13	SOMEWHAT HARD
14	
15	HARD (HEAVY)
16	
17	VERY HARD
18	
19	EXTREMELY HARD
20	MAXIMAL EXERTION

Use the RPE scale to score some of the things you do every day. For example walking would probably score between 11 and 13.

1	2
3	4
5	6

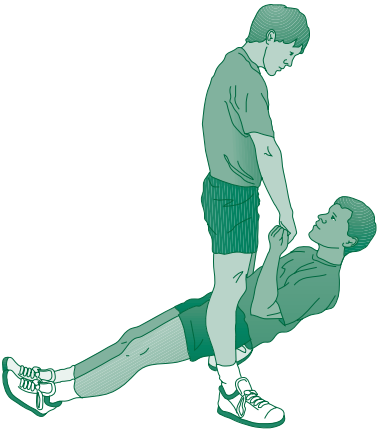
Name _____

Form

Student Worksheet 5

Healthy muscles mean movement for life – for healthy muscles do 8 to 10 muscle exercises twice a week.

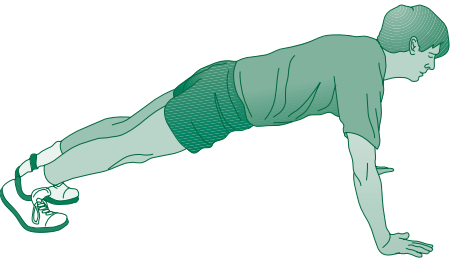
Under each exercise write down the major muscle group being exercised



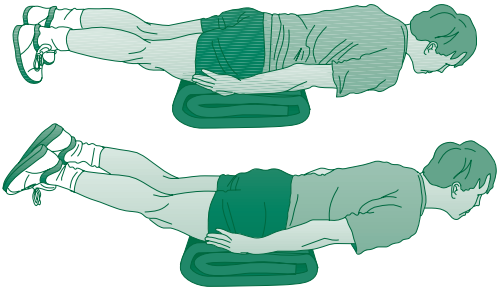
Pull ups



Sit ups



Press ups



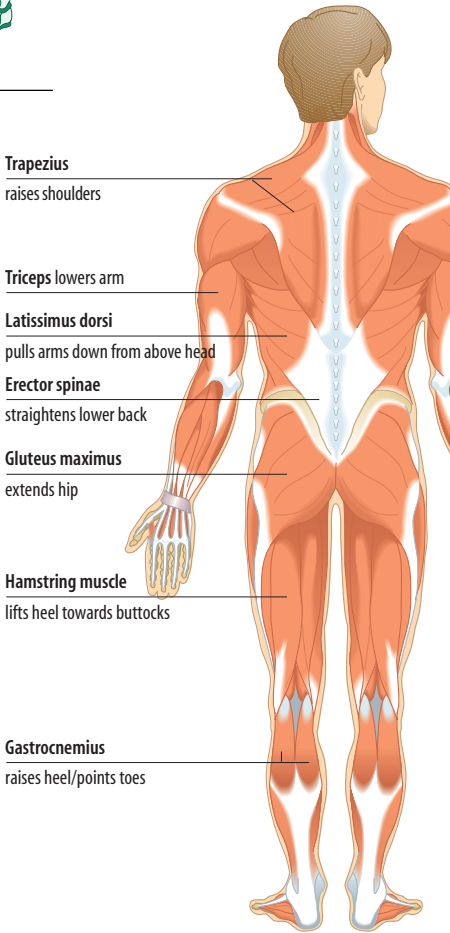
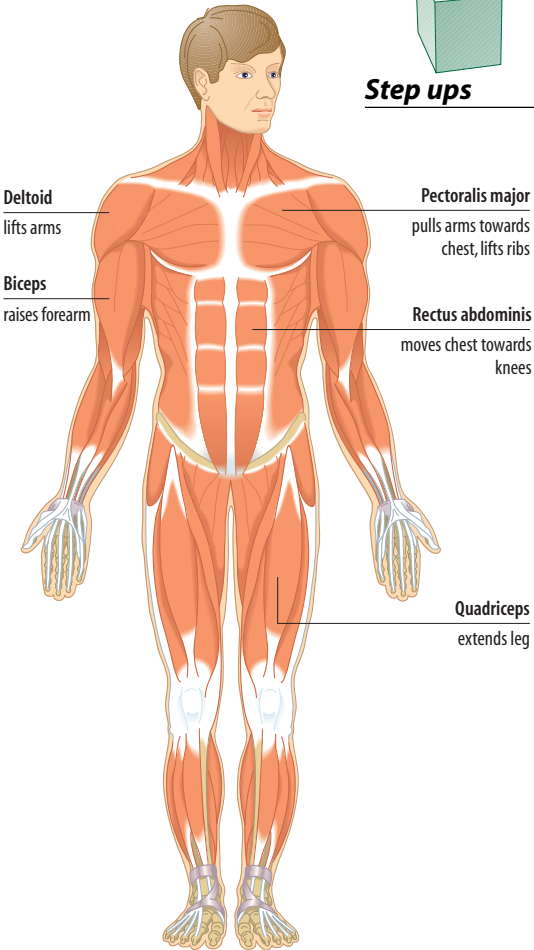
Body extensions



Step ups



Half squats



Exercises	work : rest		work : rest	
	Circuit 1		Circuit 2	
Step ups				
Sit ups				
Press ups				
Half squats				
Body extension				
Pull ups				
Design and monitor your own circuit				

Did you know that:

- 1 There are over 600 muscles in the body
- 2 The leg muscles are the largest and use most energy
- 3 The majority of adults over the age of 50 do not have enough leg strength to get out of a chair unassisted
- 4 Back pain is attributed to weak back and stomach muscles

Name

Form

Student Worksheet 6

Decision making for muscle health. What do I need to do?

Select a maximum of 5 buttons

active recovery

passive recovery

aerobic workout

anaerobic workout

light recovery circuit

hard fitness circuit

relaxation

with a partner

work on weak areas

assessment circuit

A needs assessment

This is your chance to quickly decide what you require from today's exercise session.

For example, an aerobic type circuit should include a lot of leg exercises and slow easy repetitions on other exercises.

A recovery circuit should generally be of low intensity compared to an assessment circuit which should be a maximum effort, aiming for a personal best.

The FITT Principle

F

frequency
how many exercise sessions per week

I

intensity
how hard are the exercise sessions

T

time
how long will the exercises or exercise session last

T

type
is it circuit training, step aerobics, flexibility training, weight training, running, walking etc

Before warming up, write your aims (buttons) for your exercise session here:

Exercises	work	rest	work	rest	work	rest	work	rest

What are your plans for next week?

Name

Form

Student Worksheet 7

The calorie burn. Using exercise to use energy.

Food Intake Calories in

Food Weight (gms.)	Kcals/gm	Kcals
Crisps (30g = 1 bag)	X 5 =	150
	X =	
	X =	
	X =	
	X =	
	X =	
	X =	
	X =	
(A) = total Kcal intake		=

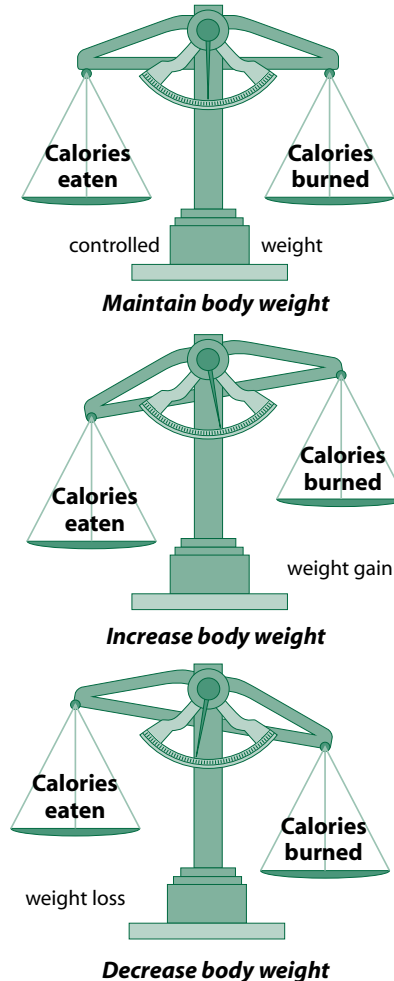
Did you know that:

1lb of fat = 3500 Kcals

1 mile (walk/run) uses 100 Kcals

1 mile per day for a year = 10lbs of fat

The Energy Balance



Working out your calorie burn

- 1 Calculate (B)
- 2 If you wish to lose weight, eat less than you expend (A<B)
- 3 If you wish to put on weight eat more than you expend (A>B)

Physical Activity Calories out

Exercise	Kcals burnt per repetition	Number of repetitions	Kcals burnt
Sit ups	1	X 30 =	30
		X =	
		X =	
		X =	
		X =	
		X =	
		X =	
		X =	
(B) = total Kcals used			=

For a better estimation of Kcals used

$$\text{Kcals used} = \frac{(B) \times \text{body weight}}{100}$$

Name _____

Form _____

Student Worksheet 8

Exercise, stress and relaxation – relax each day and throw your cares away.

Your task

Before you start your warm up
measure your pulse for 15
seconds and record it here

Now warm up with a partner

30 jumping jacks

Measure 15 second pulse

Lie down immediately on a mat
Concentrate on slowing your heart down,
close your eyes and breath deeply and slowly

Measure 15 second pulse

Repeat the above if there is time

Tension release led by your teacher

Lie on a mat.

20 supine hip raises
Then relax your back using the hedgehog sleep

Power walk/jog for 3 minutes
Lie down on a mat
Slow down your heart rate
Listen to quiet music
Listen to a relaxation story from your teacher

Planning your relaxation

Learning from some of the stress
reducing principles covered in this
lesson, develop a weekly plan of
relaxation using a range of
techniques

RELAXATION DIARY

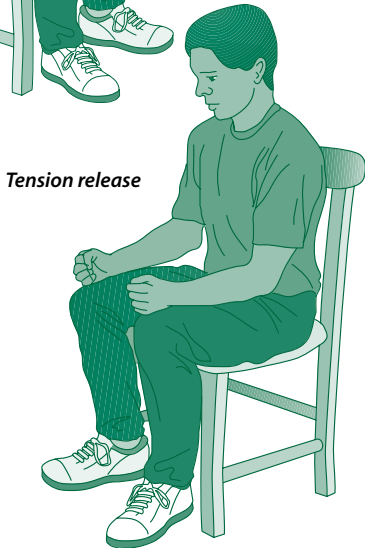
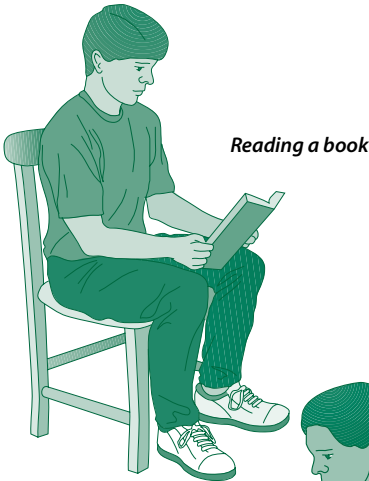
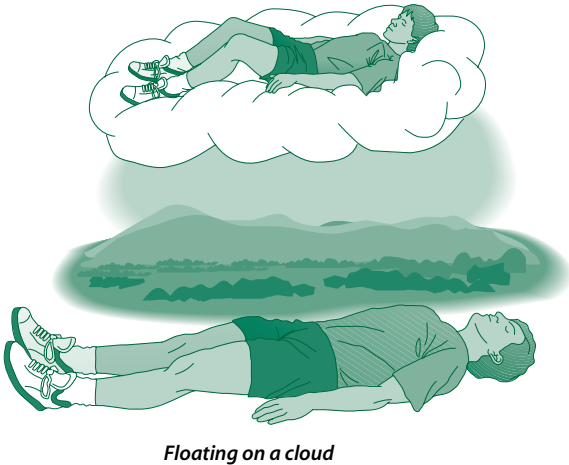
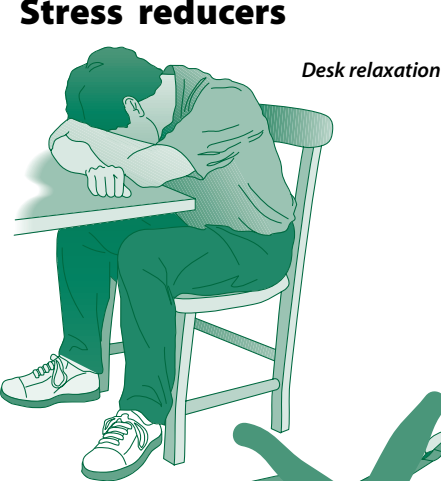
	Time of day	Technique	Situation
Mon			
Tues			
Wed			
Thurs			
Fri			
Sat			
Sun			

This is especially important during
periods of high stress such as during
examinations, interviews etc.

Name _____

Form _____

Stress reducers



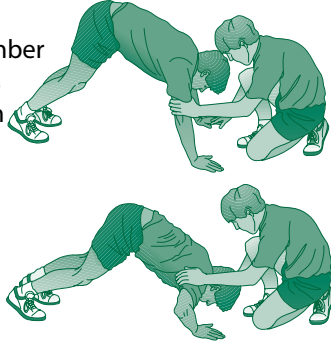
Student Worksheet 9

ACTION FITNESS

Testing your health and skill related fitness – for the majority of the tests you should work with a partner. One should complete the tests whilst the other scores and records the result.

1 'A' Press up

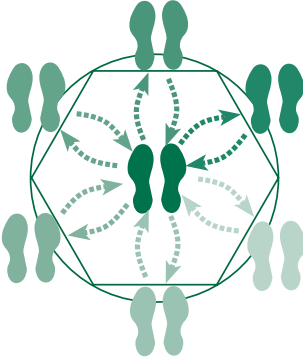
(record the number of full press ups achieved within 60 seconds)



Your score (no.)

4 Hexagon jump test

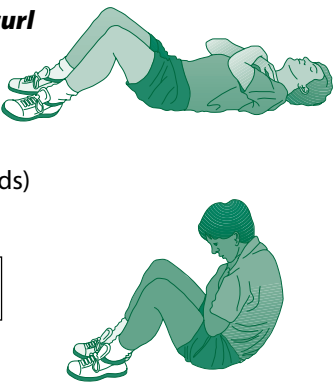
(time for 3 circuits of the hexagon)



Your score (secs.)

7 Abdominal curl test

(record the number of full sit ups achieved within 60 seconds)



Your score (no.)

What do your results mean?

Compare your results against expected results

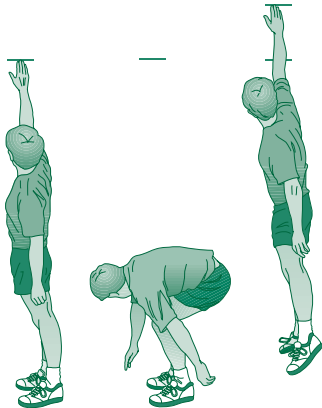
Compare your results against others in your class

Discuss with your partner how you may improve your weaknesses and maintain your strengths

- 1 _____
- 2 _____
- 3 _____

2 Vertical jump

(the best height out of 3 attempts)



Your score (cms.)

5 Flamingo balance

(record the number of falls or losses of balance in 60 seconds)



Your score (no.)

8 20 Metre multi stage shuttle run test



Your score (no.)

What sport/activity do you think your fitness results are best suited to?

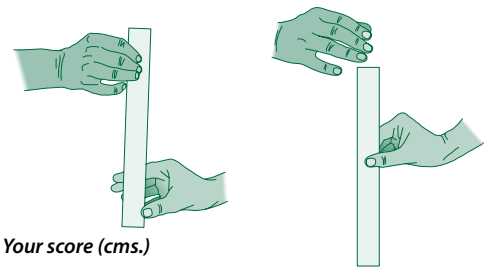
(for example if you have excellent scores in flexibility, vertical jump and 3 second sprint you may be suited to long jumping)

Best sport(s)

- 1 _____
- 2 _____

3 Reaction time

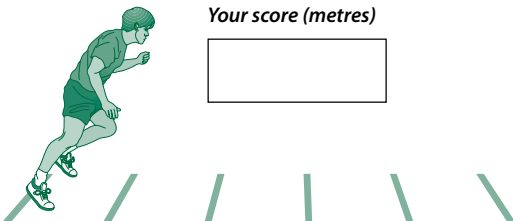
(the best score out of 3 attempts)



Your score (cms.)

6 3 Second sprint

(record the distance covered to the nearest 0.5 metres)



Your score (metres)

9 Sit and reach test

(record the best of 3 attempts)



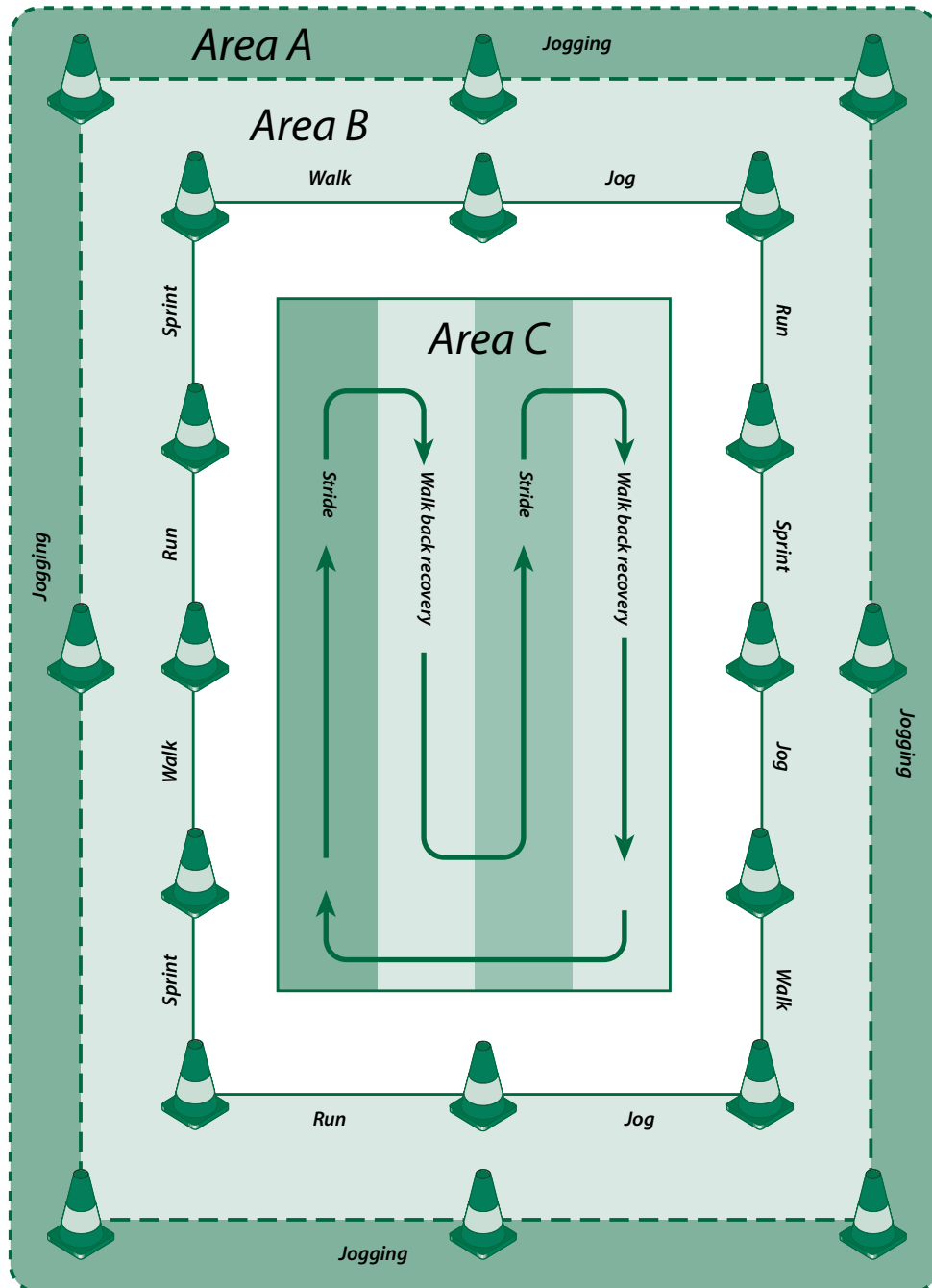
Your score (cms.)

Name _____

Form _____

Student Worksheet 10

ACTION FITNESS



Training for aerobic fitness – aerobic fitness is a measure of the heart and lungs to supply oxygen to, and remove carbon dioxide from, the working muscles for an extended period of time. Aerobic training improves this system.

Work with a partner

Your task

- 1 Make sure that you warm up properly around the marked area. Mobilise on diagonally opposite corners. Stretch on the other two corners.
- 2 Slow running (steady state work – jog around area A for 10 minutes talking to your partner.)
- 3 Fartlek running (varying speed – use area B to walk, jog, run and sprint short sections of the pitch, **be careful NOT to run into areas A or C**).
- 4 Interval training. Use the lane marked in area C to stride two sets of three reps of 80-100 metres. Walk back to the start after each run.

Thinking about aerobic fitness

Why do these three types of training improve your aerobic fitness (endurance)?

Which type of training do you think is most suited for playing games such as rugby/netball?

Discuss with your partner how you might slightly change these types of training to provide some variety or to suit certain sports.

Name _____

Form _____