Level 2
Planning Group Exercise to Music
Learner Workbook
Workbook

Level 2
Planning Group Exercise to Music

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Congratulations on your decision to complete Lifetime’s Exercise to Music (ETM) course and good luck as you endeavour to attain the Level 2 Certificate in Fitness Instructing (ETM) qualification and become an ETM instructor. Before commencing the taught course it is strongly recommended that you attend a range of ETM classes as you will benefit from observing different instructors in action. At the end of this workbook (appendix 1) you will find a number of class evaluation forms which you should use to identify the key elements of each class you attend. Reflecting upon all of your evaluations should help you to recognise the different structures and common content of the various classes in which you have participated. It is suggested that you attend at least five different classes, although clearly the more experience you have the easier you will find the course. You are advised to read through this workbook before you begin the course in order to gain a better idea of what to expect: you are likely to feel more relaxed on the first day of the course if you know some of the underlying theory.

Refl ective log of classes attended
Please record the date, time and title of each class you attend, sign your name and ask the class instructor to verify with a signature. Your tutor will ask to see this log on the first day of your course.

<table>
<thead>
<tr>
<th>Date/time</th>
<th>Class attended</th>
<th>Instructor’s signature</th>
<th>Your signature</th>
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</table>
Section 2: The role of an exercise to music instructor

Learning outcomes

☐ To know the role of an ETM Instructor.
☐ To understand the qualities of a successful instructor.
☐ To know various class structures.

Learning activity 2.1

Question 1: Think of a current exercise to music instructor whose class you have attended. Outline the role and responsibilities of the instructor:

Question 2: Think of an instructor whose class you have attended and enjoyed. List the enjoyable aspects of the class:
Question 3: Identify the common components of classes you have attended?

Summary

You should now know that an exercise to music instructor’s role includes:

- ensuring the health and safety of class participants
- preparing music to use in classes that is appropriate to the type of class and the participants
- knowing the routine and being able to demonstrate it clearly, and
- tidying the studio at the end of the class.

You should now be able to list the qualities of a great ETM instructor:

- well prepared
- chooses good music for the participants and the planned activities
- chooses suitable activities to challenge the group
- offers alternative intensity options to ensure all group members can participate
- uses a variety of exercises, activities and equipment
- has a good flow to his or her routines
- matches the time allocated to each class component to a group’s expectations of the advertised class type
- starts promptly and finishes on time, and
- allocates time to speak to participants before and after the class.

You should now be aware that different classes allocate varying amounts time to each component of the workout:

- Aerobics classes are primarily choreography based with a little time dedicated to muscular strength and endurance exercises at the end of the session.
- Body conditioning classes have an aerobic warm-up and cool down but the main session will primarily consist of muscular strength and endurance type exercises (these may also be performed in time with the music).
- Legs, bums and tums classes allocate time fairly evenly between aerobic exercises and lower body specific muscular strength and endurance exercises.
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Section 3: Preparing to deliver classes to music

Learning outcomes
☐ To know the role of the Register of Exercise Professionals.
☐ To understand when personal insurance is required.
☐ To understand the licensing laws for PPL.
☐ To be able to plan the use of music in group exercise classes.

Licensing and insurance requirements

The Register of Exercise Professionals (REPs)

REPs is an independent public register that recognises the qualifications and expertise of fitness professionals. One of the key aims of REPs is to provide a system of regulation for fitness professionals to ensure that they meet the health and fitness industry’s national occupational standards.

Once qualified, ETM instructors must apply for REPs registration (available at a discounted rate through Lifetime) in order to be recognised as professionals in their field. REPs membership needs to be renewed annually and instructors need to demonstrate their continual professional development (CPD) in order to remain members. More information about REPs is available at www.exerciseregister.org.

Insurance

It is imperative that ETM instructors have insurance cover for their class participants and themselves. Those who are employed by a health club or gym may have insurance organised for them but those who are working as freelance ETM class instructors will be responsible for arranging their own insurance cover. Insurance cover can be purchased from a number of companies but REPs is one of the most well known providers of insurance specifically for fitness instructors and personal trainers. More about REPs insurance policies can be found on their website.
PPL licence

ETM instructors play music in their classes and in order to do this legally they require a PPL licence. PPL was set up by the record industry in 1934 as a non-profit making organisation to grant licences for the broadcasting of recorded music (now including MP3 files, CDs, tapes and records) in public. It safeguards the copyright of the original recording artists and the fees generated by the licences are passed back to the recording artists, musicians and record companies.

Recent changes to the way in which music licensing is overseen by PPL mean that one licence, which can be purchased from any of the five legal licence suppliers (FitPro, PPL, Pure Energy, Solid Sounds and Power Music), now covers an instructor to teach to any music. This is the case regardless of whether the music was bought on the high street or from one of the PPL-licensed providers of mixed compilation music for the fitness industry.

Instructors who are employed by a health club or gym may be able to teach under the PPL licence of their employer. This should be checked with the fitness manager or studio coordinator. Further information about purchasing a PPL licence is available through PPL (020 7534 1000 www.ppluk.com).

ProDub licence

The ProDub licence enables fitness instructors and other professionals to copy and store music digitally for use in their professional activities. It is being administered by MCPS on behalf of itself and PPL. For details, please visit www.produb.co.uk. When music is played in public by a DJ, fitness instructor or other professional holding a ProDub licence, a separate PPL licence is still required for that public performance as the ProDub licence only covers copying and storage.

Planning to music

All music can be broken down into four components:

- introduction
- verse
- chorus, and
- instrumental

Music used in ETM classes is always broken down into phrases, each phrase consisting of 32 beats (counts). There is a change in the sound of the music at the beginning of a new phrase which may be distinct or subtle. Phrases can also be broken down into multiples of two; for example, two, four, six, eight, and so on depending upon the choreography of the class.

Throughout ETM classes music is broken down into groups of eight beats and four groups of eight give a 32 count phrase. All music can be broken down in this way and this forms the foundation for planning moves for a class. Routines are planned within a phrase and, for those new to ETM planning, the 32 phrase can be used to cue a subsequent move; for example, eight box steps may be completed in one 32 phrase followed by 16 leg curls in the next. The move counts differ because it takes four beats to perform one box step and only two to complete one leg curl. More experienced ETM teachers may include more than one move per phrase; for example, a grapevine followed by three knee lifts.

The PPL-licensed providers of music for the fitness industry edit music tracks for use in ETM so that each 32 beat phrase is clear to identify, making the planning and delivery of classes easier. The ETM class compilations are structured so that music speed (tempo) and type is suitable for each component of the session. Music breakdown and tempo need to be considered when planning classes and should be shown in session plans. Although the tempo of the music is determined by the creator of the compilation it can be adapted by the instructor if a group demonstrates higher or lower levels of fitness than expected. This is achieved with the use of the tempo function on the stereo.
Learning activity 3.1

Question 1: What does REPs stand for?

Question 2: What is the role of REPs within the fitness industry?

Question 3: What is CPD and why is it important?

Question 4: Name two organisations which sell public liability and professional indemnity insurance cover to ETM instructors:

Question 5: What is a PPL licence and why is it needed to teach exercise to music classes?
Question 6: Name two legal PPL licence suppliers:

Summary
You should now:

• know that REPs is the Register of Exercise Professionals and that this is the voluntary regulatory body for the fitness industry
• understand that all fitness instructors must hold public liability and professional indemnity insurance and that as a freelance instructor you will be responsible for purchasing this
• understand that you will need a PPL licence in order to teach ETM classes to the public and know how to purchase this licence, and
• know how music is broken down (8888 is 32 counts or one phrase) and understand that these beats and phrases form the basis of the ETM class structure.

Question 7: How is the music broken down in an exercise to music class?
Section 4: Client screening

Learning outcomes

☐ To know the principles of screening participants prior to exercise.
☐ To understand the process of obtaining informed consent.
☐ To know the different methods of collecting participant information.
☐ To know the factors that may affect the planning of group exercise classes.
☐ To understand when temporary deferral of activity is required for participants.
☐ To understand the reasons for referring participants to other professionals.

Screening participants prior to exercise

Instructors have a responsibility to ensure that reasonable measures have been taken to screen participants before they are permitted to join a class. Health screening is not intended to be diagnostic; it is a form of risk assessment used to determine whether it is safe for a person to exercise without prior medical advice.

Physical activity readiness questionnaire (PAR-Q)

The PAR-Q is a time-efficient, easy-to-understand and effective medical questionnaire. The PAR-Q determines risk for cardiovascular, orthopaedic and metabolic conditions that could be exacerbated by exercise. When the PAR-Q indicates that an individual may be at risk from participating in physical activity, an instructor must recommend that medical consent be obtained.

The use of the PAR-Q is important for the following reasons:

• It helps to identify apparently healthy people who can participate in classes without requiring medical consent.
• It assists in identifying people who need special attention or require medical consent prior to exercise.
• It can create an opportunity to ask questions about participants’ needs and wants.
• It informs the instructor about participants’ physical capabilities.
• It demonstrates duty of care.
• It provides clear criteria upon which communication between doctors and instructors can be based.
• It is a simple and quick means of identifying risk.

An example of a PAR-Q can be found at the back of this workbook (appendix 2) along with an informed consent form (appendix 3). The informed consent form is generally completed at the same time as the PAR-Q and basically allows participants to make an informed choice about exercise with the knowledge of potential risks and benefits. It proves that participants are happy to take part in the class on offer.
Once the PAR-Q has been completed a decision will be made as to whether it is safe for the participant to exercise. The PAR-Q clearly states that if any of the questions are answered with a ‘yes’ response (a positive PAR-Q) then clearance from a medical professional (usually the general practitioner) is required. A sample request for medical consent form can be found at the back of this workbook (appendix 4).

Learning activity 4.1

Question 1: List the medical professionals whom you may need to contact for advice:

If a participant has been referred to a doctor due to a ‘yes’ response on the PAR-Q and has subsequently been given consent to exercise by his or her general practitioner, the instructor should provide lower intensity options allowing that participant to build fitness gradually. In addition, any specific guidance from the medical professional regarding exercise limitations or contraindications should be followed.

Exercise to music instructors operating in health clubs are not usually responsible for handing out screening documents. Generally new club members will complete screening and consent paperwork on sign-up. This paperwork will then be stored in an office either on a password protected computer or in a locked filing cabinet in compliance with the Data Protection Act. Freelance instructors running classes in school halls, village halls or other venues not operating as gyms or health clubs are, however, likely to be responsible for issuing screening and consent documents. Such instructors must ensure that every participant has completed the necessary forms before they begin exercising and that these documents are stored in compliance with the Data Protection Act.

All ETM instructors, regardless of whether they are employed or working freelance, should conduct a verbal pre-exercise screen at the start of every class. Instructors should question their class members to establish whether there are any new participants or any participants with injuries or illnesses that could affect their ability to exercise safely.
Class adaptations for special populations

There are four identified special population groups: ante and postnatal women, older adults, people with disabilities and young adults (14 to 16 years old). Level 2 fitness instructors are not qualified to run regular classes for groups made up exclusively from special population participants. It is recognised, however, that on occasions an individual from one of these special population groups may wish to participate in a regularly run class. In such circumstances it is appropriate for the fitness instructor to teach the class as planned, with the participant from the special population group taking part. Obviously an instructor in this situation should be mindful of the special population participant and may need to adapt aspects of the session or provide alternative exercises for the individual to ensure the class is safe. Group exercise is fun and beneficial for most people if sensible precautions are taken. The following guidelines pertain to special population groups, and if adopted should ensure that all class participants are safe and happy.

Antenatal women

It is generally safe for pregnant women to attend aerobics classes provided that they have completed a PAR-Q and a consent form. It is advisable, however, that a pregnant woman seeking to start exercising consults with her health professional first. Provided that no health or pregnancy contraindications to exercise are identified the pregnant woman can start exercising gradually at a low intensity.

A woman who exercised regularly prior to her pregnancy could continue to do so provided that there were no contraindications to exercise. Pregnant women should be advised to monitor their exercise intensity in line with their maternal symptoms: if pregnant women are feeling tired or unwell then rest may be preferable to exercise.

Instructors should consider that pregnancy can affect a woman’s centre of gravity, balance and agility and be aware that alternative exercises may need to be provided. When planning sessions that may be attended by antenatal women low impact exercise options and uncomplicated choreography should be included. The muscular strength and endurance content of the class should be structured so that there are as few changes as possible from seated or lying to standing exercises. Instruction should be given as to the appropriate way to get up from the floor or mat position; that is, gradually due to the increased possibility of postural hypotension during pregnancy.

Postnatal women

General practitioner medical checks are conducted on postnatal women six weeks after a natural birth or ten weeks after a caesarean birth. It should be safe for any woman who has been given the all clear at this appointment to exercise. Low intensity or low impact exercise options are advised at this time for women who did not continue to exercise through their pregnancies. It should be safe new mothers who did exercise before and during their pregnancies to attend a class and work at a comfortable level. Certain exercises or positions may be uncomfortable for women who are breastfeeding and alternative options should be provided; for example, vigorous arm movement may stimulate breast milk production and lying prone may be uncomfortable.
Older adults

Older adults are as diverse a group as younger adults and fitness levels range from those with poor everyday functional ability to elite athletes. It is safe for older adults to attend group exercise classes if they are healthy, have no positive responses on a PAR-Q and a consent form has been completed. It is recommended that older adults are questioned before a class to ensure that the correct intensity options can be provided during the session. Instructors should avoid making assumptions and appearing patronising. Depending upon ability level, low impact or low intensity alternatives may be provided during the class.

People with a disability

The term ‘disability’ covers a huge range of conditions and impairments and many people who have a disability will enjoy taking part in a group exercise class. Instructors should speak to any participants with a disability before the class to establish their abilities and their feelings on class delivery. Some disabled people prefer instructors to continue as normal and will adapt exercises for themselves whereas others may like the instructor to suggest modifications or alternatives to planned exercises which they may find difficult.

Young adults (14 to 16 years old)

Generally minimal adaptations to planned activities are needed for this group but it is important to consider that motor skills may still be developing in growing teenagers and this can lead to a lack of coordination. Attention span can be short and emotional maturity is varied so keeping younger participants engaged in the class and providing plenty of positive feedback and encouragement to build self-esteem is advised.

Coronary heart disease

Coronary heart disease (CHD) is the biggest killer in the western world and physical inactivity can increase a person’s risk of developing this condition. CHD is a term that covers 20 different diseases but over 80 per cent of CHD cases are a result of atherosclerosis. Atherosclerosis is a narrowing and hardening of the arteries through deposits of cholesterol and calcium (known as plaque). The build-up of plaque on the inside of the arterial walls reduces the diameter and elasticity of the arteries and makes it difficult for the blood to flow through. Atherosclerosis can lead to angina and potentially heart attack or stroke. Although it is normal for most people to develop a degree of atherosclerotic plaque, the rate and extent at which this happens determines the likelihood of experiencing problems.

CHD is one of a number of cardiovascular diseases (CVDs) which also include conditions such as stroke, thrombosis and aneurisms. People with two or more American College of Sports Medicine (ACSM) risk factors have an increased likelihood of developing cardiovascular disease and dying prematurely. The ACSM risk factors are as follows:

- **Age**: men of 45 years of age or older and women of 55 years of age or older.
- **Family history**: myocardial infarction, coronary bypass operation or sudden death before 55 years of age in father or other male first degree relative, or, before 65 years of age in mother or other female first degree relative.
- **Cigarette smoking**: current smokers, those who have stopped smoking within the previous six months and those regularly exposed to environmental tobacco smoke.
- **Obesity**: those who have a BMI of 30 or above and men with a waist measurement larger than 102cm or women with a waist measurement larger than 88cm.
- **Hypertension**: anyone taking antihypertensive medication or with systolic blood pressure of 140 mmHg or greater and/or diastolic blood pressure of 90 mmHg or greater. These measurements need to have been confirmed on two separate occasions by a medical professional.
- **Dyslipidemia**: people who have been told by a doctor that their cholesterol is high or abnormal and people who have been prescribed lipid lowering medication.
- **Prediabetes**: impaired fasting glucose or impaired glucose tolerance diagnosed by a doctor.
### Learning activity 4.2

**Place the named risk factors for CVD in the correct column in the following table:**

RISK FACTORS: CIGARETTE SMOKING, DYSLIPIDEMIA, AGE, GENDER, OBESITY, FAMILY HISTORY, PREDIABETES AND HYPERTENSION.

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<tr>
<th>Modifiable risk factor</th>
<th>Non-modifiable risk factor</th>
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### Exercise and blood pressure

Moderate intensity exercise reduces systolic and diastolic blood pressure, especially in individuals with moderate hypertension:

- Regular aerobic exercise can decrease blood pressure by 10 mmHg over time.
- Regular resistance training can reduce blood pressure by around 3 mmHg over time.
- Exercise increases stroke volume and reduces heart rate at rest.
- Exercise breaks down stress hormones that increase heart rate and blood pressure, and
- Exercise can assist weight loss, which can reduce hypertension.

Sustained isometric contractions cause blood pressure to rise very quickly and remain high. Exercises such as the plank should not, therefore, be planned for groups which include a hypertensive participant.
Learning activity 4.3

Question 1: What is the PAR-Q and what is it used for?

Question 2: List four CVD risk factors:
1.
2.
3.
4.

Question 3: How is exercise beneficial to clients with high blood pressure?

Summary

You should now:
- know that a PAR-Q is the minimum screening process which should be in place and that this must be backed up by a verbal pre-screen at each class
- know that informed consent allows participants to make an informed choice about exercise with the knowledge of the potential risks and benefits
- know that information can be collected from participants in the form of a written questionnaire, a letter from a medical professional or verbally
- be able to plan suitable exercise adaptations for special population clients who may attend classes
- be able to recognise when medical consent should be gained before allowing a participant to exercise, and
- know the risks of CVD and hypertension and understand why it is essential to refer people at risk of these conditions to medical professionals before allowing them to participate in ETM classes.
Section 5: Health and safety

Learning outcomes

☐ To know what should be included in the health and safety brief.
☐ To understand the importance of health and safety within an exercise to music class.
☐ To be able to highlight the factors that affect health and safety planning.

The health and safety brief

The first component of an ETM session is the health and safety brief or introduction. This is when instructors introduce themselves to the class and give important information regarding health and safety. The health and safety brief also allows instructors to establish the fitness levels of a group and identify if any adaptations to the planned class are necessary in order to accommodate participants from special populations groups.

Health and safety matters which should be covered in the brief or class introduction include:

- a verbal pre-screen to identify illness, injury or special requirements
- the location of the nearest fire exits
- the fire evacuation procedures
- the location of the nearest first aid kit and emergency telephone
- the location of the toilet facilities
- the importance of maintaining a safe space and being observant of other class participants
- the importance of maintaining adequate hydration, and,
- a reference to environmental temperature and guidance on appropriate clothing (if appropriate).

Factors to consider when planning sessions

Three areas need particular consideration when planning exercise sessions.

Safe space

Too many people or too much equipment in too little space is a major safety concern. Overcrowded exercise studios make it difficult to move and can lead to collisions between exercisers. A studio should provide enough space for people to freely exercise without knocking into one another. All studios will have a maximum capacity and this should be monitored at reception when class tickets are purchased. It is the instructor’s responsibility to double check that the number in the class does not exceed the maximum capacity as ultimately responsibility for health and safety within a class lies with the instructor.

Environment

Environmental factors such as heat, humidity, altitude and pollution can lead to serious health problems while exercising. The major environmental problems in the United Kingdom are hot or cold conditions. In extremely warm and humid conditions the instructor should advise restriction of exercise intensity and duration. In addition, warm-up procedures could be shortened and the importance of drinking before, during and after exercise to maintain hydration should be reinforced. In cold conditions the instructor should provide a longer warm-up and check that class participants are wearing adequate clothing. Poor indoor air quality can cause problems for allergy sufferers and people with pulmonary disorders. Air conditioning and opening windows will improve air quality.

Equipment

Any equipment to be used in the class should be checked for safety by the instructor. Class participants should be instructed in the safe use of any equipment needed for the class before they utilise it to perform any exercises.
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Learning activity 5.1

Question 1: What health and safety advice should be given at the start of a class?

Question 2: Why should a verbal pre-screen be completed at the start of each session?

Question 3: What other health and safety factors need to be taken into consideration when planning a group exercise class?

Summary

You should now:

- understand the importance of the class introduction and be aware of the information that should be included within this brief, and
- be able to identify the health and safety factors that affect the planning of an exercise to music class.
Section 6: Class structure

Learning outcomes
☐ To understand how to structure an effective class.
☐ To know the time allocation for each section of the class.
☐ To know how to monitor intensity effectively in ETM classes.

Effective class structure
It is essential that instructors understand the whole structure of an ETM class before they concentrate upon the contents of each component.

Learning activity 6.1
Answer the following questions using your experience of ETM classes (the review sheets you completed prior to the course may help):
Question 1: What are the components at the start, middle and end of each class?

Question 2: How does the overall structure vary in different types of classes?
Question 3: What activities are included in each component of the class?

Question 4: How much time is typically allocated to each component of the class?

Question 5: How did you know that you were working at the correct intensity in the classes you attended?

Question 6: What changes did you observe in yourself as the class progressed?
### Class structure

A general structure can be applied to most aerobics classes and Table 6.1 (below) outlines this basic format.

Whilst most aerobics classes follow a similar basic structure, different types of class will use variations on the theme. A ‘legs, bums and tums’ class, for example, may include a shortened aerobic curve and a longer MSE section as the focus is on toning and conditioning, whereas aerobics classes spend longer on the aerobic curve with limited MSE work included.

Classes can also be planned in a circuit format or structured as a body conditioning routine where the MSE work is the main section of the class and this alone is used to raise heart rate. The following text outlines some different class structures.

### Aerobics

An aerobics class aims to improve cardiovascular fitness, motor skills, muscular tone and endurance for the whole body and consists of the following components:

- **Warm-up**: eight to ten minutes of increasing intensity aerobic moves (RPE 4-6: please refer to the section on monitoring intensity).
- **Preparatory stretch**: three to four minutes of dynamic stretches linked by aerobics moves.
- **Main session**: 30 to 40 minutes focusing on cardiovascular fitness. Basic aerobic moves are taught and then progressed to increase the intensity of the session and to gradually improve coordination; for example, 8888 jogging forward and back, 8888 grapevine, 8888 leg curl, 8888 knee lift, 8888 box step, 8888 side lunge and 8888 back lunge.
- **MSE exercises**: up to ten minutes of muscular strength and endurance work to improve muscle tone and endurance.
- **Cool down**: five minutes of aerobic based movements (RPE 3-4).
- **Post stretch**: ten minutes of full body static stretches.

### Table 6.1 General structure for aerobics classes

<table>
<thead>
<tr>
<th>Component</th>
<th>Activities</th>
<th>Typical duration</th>
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<tbody>
<tr>
<td>Introduction</td>
<td>Welcome participants, introduce self, outline health and safety issues, perform a verbal pre-screen, provide an opportunity for group members to approach instructor individually</td>
<td>Two to five minutes</td>
</tr>
<tr>
<td>Warm-up</td>
<td>Pulse raising cardiovascular (cv) moves increasing gradually in intensity, mobilisation exercises and dynamic stretches</td>
<td>Five to 15 minutes</td>
</tr>
<tr>
<td>Aerobic curve</td>
<td>Aerobics moves of an intensity and choreography difficulty appropriate to the group</td>
<td>20 minutes</td>
</tr>
<tr>
<td>Muscular, strength and endurance (MSE)</td>
<td>Resistance training exercises in a balanced routine</td>
<td>15 minutes</td>
</tr>
<tr>
<td>Cool down</td>
<td>Aerobic moves of gradually decreasing intensity, static maintenance and developmental stretching exercises</td>
<td>10 minutes</td>
</tr>
<tr>
<td>Feedback and questions</td>
<td>Speaking to class members as a group and individually, tidying studio and switching off music and lights</td>
<td>Five minutes</td>
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</table>
Legs, bums and tums
A legs, bums and tums class aims to tone and condition the legs, bottom and stomach as well as improve cardiovascular fitness. Such classes are structured as follows:

**Warm-up:** eight to ten minutes of aerobic based movements (RPE 4-6).

**Preparatory stretch:** three to four minutes of dynamic stretches.

**Main session:** 30 to 35 minutes of exercises selected to work the specific areas highlighted in the class name; for example, squats, glute kicks, lunges, lying leg raises, bridge lifts, reverse curls, abdominal curls, plank, side plank, oblique crunches. These MSE exercises could be alternated with cardiovascular exercises such as jogging on the spot, star jumps or step ups. This would increase the cardiovascular fitness benefits to be gained from the class (the heart rate would be elevated throughout the session), whilst still working the target areas (legs, bums and tums).

**Cool down:** five minutes of aerobic based movements (RPE 3-4).

**Post stretch:** ten minutes of full body static stretches.

Aero-circuits class
An aero-circuits class aims to provide a full body resistance and cardiovascular workout and is structured as follows:

**Warm-up:** eight to ten minutes of aerobic based movements (RPE 4-6).

**Preparatory stretch:** three to four minutes of dynamic stretches linked with aerobic moves.

**Main session:** 30 to 40 minutes in duration. In an aero-circuits class all participants are allocated a starting station and they then rotate around the circuit and complete each exercise. Participants spend a time span of somewhere between 30 seconds and a minute on each station depending upon the ability level of the group and the duration of the class. Resistance exercises in the circuit balance agonist and antagonist muscles. Exercises which can be performed at stations include: lunges, press-ups, jogging on the spot (cv), stability ball hamstring curls, stability ball seated rows with a dynaband, jumping jacks (cv), squats, lateral raises, step ups (cv), calf raises, bicep curls, spotty dogs (cv), lunges, tricep dips and side lunges (cv).

**Cool down:** five minutes of aerobic based movements (RPE 3-4).

**Core exercises:** three to five minutes.

**Post stretch:** ten minutes of full body static stretches.
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**Body conditioning**

Body conditioning classes aim to give a balanced muscular, strength and endurance workout, improve muscle tone and raise the heart rate by performing high repetitions of resistance training exercises. Such classes are structured as follows:

**Warm-up:** eight to ten minutes of aerobic based movements (RPE 4-6).

**Preparatory stretch:** three to four minutes of dynamic stretches.

**Main session:** exercises that can be used in the main session include: squat variations, lunge variations, dead-lift variations, calf raises, bent-over row/single arm row/bent arm pull over, bench press/press-ups/dumbbell flies, upright row/shoulder press/lateral raise, triceps overhead extension/triceps bench dips/triceps kickbacks, bicep curl variations with barbell/dumbbells/plates, abdominal crunch variations, back extensions and alternatives, plank/other isometric core exercises. As a general guideline participants would complete between two to three sets of 20 repetitions on each chosen exercise.

**Cool down:** five minutes of aerobic based movements (RPE 3-4).

**Post stretch:** ten minutes of full body static stretches.

---

**Monitoring intensity**

There are many ways of monitoring intensity within a group exercise class including visual observations and verbal questioning. Combining a few different monitoring methods is the most effective way of checking that the desired intensity is achieved by the majority of participants within each component.

Monitoring intensity should be planned and target intensities for each component of the workout should be determined. Intensity can be monitored by:

- observing perspiration rate
- observing participants’ facial expressions
- observing participants’ posture and coordination
- using the talk test with participants, and
- using a rate of perceived exertion (RPE) scale of 0-10.

Monitoring intensity ensures that members of the group are exercising to the intended level. If participants are working at too high a level then easier alternatives can be offered and if participants are working at a lower intensity than was planned harder exercise options (progressions) can be offered.
Learning activity 6.2

Question 1: Name three types of class:

Question 2: What is the main aim of a body conditioning class?

Question 3: What is the main aim of an aerobics class?

Question 4: Name three ways in which you can monitor intensity in your class:

1.
2.
3.

Summary

You should now:
- know how to structure a safe and effective class
- understand how to include the necessary class components in the correct order with suitable time allocations
- be able to identify different types of class and understand that each has its own specific structure related to its aim, and
- know the different ways in which intensity can be monitored throughout an ETM class.
Section 7: The warm-up

Learning outcomes

☐ To understand the benefits of the warm-up.
☐ To understand how to plan a safe, effective warm-up.

Benefits of the warm-up

The warm-up component of a session contains several sub-components, each of which has its own specific benefits:

Mobility exercises

Before any activity it is sensible to prepare the body’s major joints. A ‘whole body’ approach uses warm-up exercises that involve multiple joints actions which increase the range of motion without loading the joints using weight or impact. Examples of such exercises are knee bends, ankle circles and trunk twists. Many of these exercises can be incorporated into a pulse raiser. As progression is added to the exercises the major joints will be mobilised in the process.

Pulse raising exercises

Pulse raising exercises gradually elevate the heart rate which warms the muscles and, because of the movement, assists with joint mobilisation. Pulse raising exercises should be of a low to moderate intensity (40 to 60% of maximum heart rate), rhythmical, continuous and progressing in intensity. Exercises can be increased in intensity by various methods; for example, a basic box step with hands on hips can be progressed by adding arm movements and increasing the leg range of movement either by going deeper into the exercise or stepping wider.
Preparatory stretches

Preparatory stretches prepare the major muscle groups for use in the main session of the class by taking them through a full range of motion under control without loading. Stretching is an essential part of any warm-up because it:

- increases the body’s range of movement
- helps with a person’s mental preparation for the class ahead
- reduces the risk of someone becoming injured, and
- lengthens muscle tissues in the body.

Stretches used in the warm-up should either be dynamic, meaning they involve motion, or static, meaning they involve no motion:

**Dynamic stretches**

These are ideal for use in the warm-up component as they prepare the muscles to work through a full range of movement. Dynamic stretches typically involve performing eight to twelve repetitions of controlled full range movements in different planes about joints. As with all stretches, dynamic stretches should only be carried out when the body temperature has been increased and all the major joints mobilised. Dynamic stretches can be used to prepare the muscles for the exact joint actions and movements that the body is going to perform in the exercise session by replicating some of the movements to be used.

**Static stretches**

Static stretches involve stretching to a point of muscle tension and then holding this lengthened position. Short static stretches can be used as an alternative to dynamic stretches in the warm-up. Static stretches should only be held for six to ten seconds in the warm-up section.

Factors affecting a warm-up

ETM instructors should be aware that several factors can influence the warm-up section:

**Temperature**

In cold conditions longer periods of warm-up activity will be necessary. Instructors should advise their clients about the types of clothes which minimise heat loss.

**Time of day**

Physical functions such as heart rate, oxygen uptake and body temperature show distinct rhythmic changes throughout the day. These are known as *circadian rhythms* and they are associated with changes in performance. Some people may be at their peak first thing in the morning whereas others are stronger in the afternoon or evening. Most people will find they have a preferred time to exercise. ETM instructors should bear this in mind when planning warm-up sections.

**Intensity of the session**

If the exercise session is going to be very demanding and challenging, more time should be spent in the warm-up phase.

**Ability levels**

Sedentary and unfit individuals will need a longer and more gradual warm-up. Older adults and antenatal clients will also need a longer warm-up (ten minutes).
Planning the warm-up

An example of a partial warm-up session plan is included on the following page. A warm-up usually consists of two main sections (a general warm-up and a specific warm-up) within which should be included the warm-up components already mentioned; that is mobility exercises, pulse raising exercises and preparatory stretches.

**General warm-up**

In the general warm-up rhythmic body movements not necessarily related to the planned activity are used; for example, general aerobics moves to warm-up all muscles of the body in a pulse raiser.

**Specific warm-up**

The specific warm-up should relate directly to the planned activity and rehearse the relevant movement patterns (neuromuscular response patterns). Simple movements that will later be expanded and / or combined to form a complex choreographed routine are used in the specific warm-up. In an exercise to music class a specific warm-up is usually applicable.

In a warm-up for an ETM class it is generally advisable to begin with small ranges of movement which can be developed to increase intensity and gradually prepare a class for the main aerobics session. This essentially forms the pulse raiser component of the warm-up. The music speed for the pulse raiser will range from 124 to 132 beats per minute (bpm). The pulse raiser section should also mobilise all of the major joints so there is no need to plan separate mobility exercises. A number of particular guidelines need to be applied when planning a warm-up:

- no impact
- no lifting arms above shoulder height
- include a minimum of four to six aerobic moves
- mobilise all the major joints
- gradually raise the intensity so that most of the group are at least at 50% maximum heart rate (MHR), and
- the warm-up should last between eight to ten minutes.

As has already been mentioned, the mobility and pulse raising exercises should be followed by preparatory stretches which target all of the major muscle groups (pectoral major, trapezius and rhomboids, quadriceps, hamstrings and gastrocnemius). It is generally better to use dynamic stretches but static stretches may be used as an alternative.

The guidelines for planning a preparatory stretch component are as follows:

- Make sure the room is not too cold.
- Combine stretches with other body movements involving the large muscle groups to maintain core body temperature and pulse rate.
- Add aerobic moves between each stretch to maintain heart rate.
- Perform eight to twelve controlled repetitions of each dynamic stretch or hold for six to eight seconds if static.
# Level 2

## Planning Group Exercise to Music

### Example session plan

<table>
<thead>
<tr>
<th>Date:</th>
<th>Target group: mixed ability</th>
<th>Duration: 8-10 minutes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Component: Warm-up</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Music breakdown/speed</th>
<th>Exercise</th>
<th>Teaching points</th>
<th>Alternatives and progressions</th>
</tr>
</thead>
<tbody>
<tr>
<td>8888</td>
<td>16 step point: hands on hips</td>
<td>Head facing forward Back straight Shoulders back Abdominals contracted Hips facing forward</td>
<td>A: keep arms low and smaller ROM P1: add front raise P2: add deeper movement P3: add arms across the body</td>
</tr>
<tr>
<td>8888</td>
<td>8 double side step: hands on hips</td>
<td>Head facing forward Back straight Shoulders back Abdominals contracted Hips facing forward Ground the heels</td>
<td>A: keep arms low and smaller ROM P1: add lateral raises only shoulder height P2: add deeper movements and travel P3: Single single double</td>
</tr>
</tbody>
</table>

Repeat x1 with no progressions
Repeat x2 with P1
Repeat x2 with P2
Repeat x2 with P3
Planning Group Exercise to Music

Learning activity 7.1

Question 1: For how long should a warm-up section last? Give the suggested durations for each component of a warm-up:

Question 2: Which parts of the body should be mobilised?

Question 3: Which muscles should be stretched in the preparatory stretch section?

Question 4: Read the following paragraph and try to fill in the missing words without reference to books:

Exercise levels should be increased ............... throughout a warm-up. The warmer the muscles are, the.................likely they are to suffer injury. Specific warm-up is................. to the activity itself, and rehearses the relevant movement patterns. The psychological benefits are also important. They allow the participants to................. themselves mentally for the work to follow.

The total duration of a warm-up will be....... to.......minutes. Mobility exercises prepare the body’s major.................. Pulse-raising exercises should be of a............ to ................. intensity (40 to 60 % of maximum heart rate). Preparatory stretches prepare all of the major......... to be used in the proposed activity.

Missing words: gradually, low, related, less, prepare, eight, moderate, ten, muscles, joints.
Question 5: List the factors which can affect a warm-up:

Summary

You should now:

- be able to identify the components of a warm-up and list the benefits to be gained from each of them
- understand the factors that need to be considered when planning a warm-up and preparatory stretch routine, and
- be able to plan a safe and effective warm-up that gradually increases in move complexity and intensity.
Section 8: The aerobic curve

Learning outcomes

- To understand the difference between aerobic and anaerobic training.
- To understand the components and structure of the aerobic curve.
- To understand how to plan an effective aerobic curve.
- To know how to add progression and change intensity.

Aerobic training theory

Cardiovascular fitness is an important part of any health and fitness programme and regular aerobic exercise is one of the best ways in which to improve this. The term ‘aerobic’ in this context refers to exercise performed at intensity that challenges the body’s cardiovascular and respiratory systems.

The term ‘aerobic’ actually means ‘in the presence of oxygen’ and relates to the energy system used to metabolise energy in the body’s cells. Most of the body’s energy is produced in this way.

Two other energy systems, the lactic acid energy system and the creatine phosphate system, operate alongside the aerobic system, particularly during periods of more intense exercise when a greater energy demand is placed on the body than can be supplied by the aerobic system alone. The lactic acid and creatine phosphate systems are termed ‘anaerobic’ meaning they can operate ‘without the presence of oxygen’. Together these systems act as a useful ‘booster pump’ in times of need but there is a cost as the lactic acid system produces toxic waste products that lead to fatigue and muscle soreness.

During an aerobics class all three of the energy systems will be operating simultaneously to allow the body to perform exercises. There may be times during the class when the lactic acid system is predominant but these will be followed by periods of lower intensity. Overall, the dominant energy system for the class will be the aerobic system.
Components of the aerobic curve

The aim of an aerobic curve section of an exercise class is to increase cardiovascular fitness although; as is also the case in the warm-up section, there will be other benefits such as improvement of motor skills. The level of challenge in the aerobic curve is greater than in the warm-up as participants are required to maintain a higher heart rate, coordination and balance through a more complicated routine. The aerobic curve will vary in duration depending upon the ability of the class and the class type but will generally last for between 20 to 30 minutes. There are three distinct sections within the aerobic curve: the build-up, the peak and the build down:

**The build-up** should last for approximately three to five minutes. The aim of this section is to gradually increase the intensity and introduce moves that will be used within the peak of the aerobic curve. The section should begin with simple steps and progress to more complicated moves.

**The peak** should last for around 10 to 12 minutes. The aim of this section is to increase cardiovascular fitness and improve coordination, balance, and agility.

**The build down** mirrors the build-up and is also three to five minutes long. The aim of this section is to gradually decrease intensity by removing the more complicated moves. Build down should return the heart rate to its starting build-up level.

Planning the aerobic curve

An example of an aerobic curve session plan is included at the end of this section of the chapter. During the aerobic curve basic aerobics moves should be progressed so that the intensity is gradually increased throughout the build-up phase. The aerobic curve should reach a peak intensity of between 60 to 80% of maximum heart rate (MHR) and this should be maintained throughout the peak phase. There are many different ways by which to progress each aerobics move. Table 8.1 gives examples of progressions for a range of moves that can be used in classes.

The aerobic curve section makes use of basic moves which are progressed to the desired intensity by adding impact, jumps and hops, arm movements, travelling further across the studio and increasing the range of movement. Progression can also be achieved by adding choreography and building up to more complicated routines. A further means of progressing would be to add more than one movement to each phrase. Music tempo can be used to increase intensity but should range between 124 to 164 beats per minute (bpm) during the aerobic curve.
## Table 8.1 Progressions for a range of aerobics moves

<table>
<thead>
<tr>
<th>Move</th>
<th>Progression 1</th>
<th>Progression 2</th>
<th>Progression 3</th>
<th>Progression 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>March: hands on hips</td>
<td>March: add arms (marching arms)</td>
<td>March: higher knees</td>
<td>March: forward and back in beats of 4 or 8</td>
<td>March becomes a jog forward and back</td>
</tr>
<tr>
<td>Step point: hands on hips</td>
<td>Step point: add arms (front raise)</td>
<td>Step point: deeper into the movement</td>
<td>Step point: single, single double (SSD)</td>
<td>Step point (SSD): add lateral punches</td>
</tr>
<tr>
<td>Step curl: hands on hips</td>
<td>Step curl: add arms (cross and pull)</td>
<td>Step curl: add reach and pull arms above the head</td>
<td>Step curl: add hop</td>
<td>Step curls: add L and U shape choreography</td>
</tr>
<tr>
<td>Box step: hands on hips</td>
<td>Box step: add arms (forward punches)</td>
<td>Box step: add jumps back</td>
<td>Box step: add power squat</td>
<td>Box step: add power squat with high arms</td>
</tr>
<tr>
<td>Heel digs: hands on hips</td>
<td>Heel digs: add arms (bicep curls)</td>
<td>Heel digs: add high arms</td>
<td>Heel digs: add hop and travel forward and back</td>
<td>Heel digs: adapt to flick kicks forward and back.</td>
</tr>
<tr>
<td>Half jacks: hands on hips</td>
<td>half jacks: add arms (single lateral raise)</td>
<td>half jacks: add both arms above head</td>
<td>half jacks: adapt to full jacks small range of movement</td>
<td>half jacks: adapt to full jacks Larger range of movement</td>
</tr>
<tr>
<td>Grapevine: hands on hips</td>
<td>Grapevine: add arms (lateral raise)</td>
<td>Grapevine: add arms above the head</td>
<td>Grapevine: add hop and leg curl</td>
<td>Grapevine: add jump and double grapevine</td>
</tr>
</tbody>
</table>
# Level 2 Planning Group Exercise to Music

## Example session plan

<table>
<thead>
<tr>
<th>Date:</th>
<th>Target group: mixed ability</th>
<th>Component: Build-up</th>
<th>Duration: 3-5 minutes</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Music breakdown/speed</th>
<th>Exercise</th>
<th>Teaching points</th>
<th>Alternatives and progressions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Music speed 142-150bpm</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8888</td>
<td>16 single side steps with arms shoulder height</td>
<td>Head facing forward, Back straight, Shoulders back, Abdominals contracted, Hips facing forward, Ground the heels</td>
<td>A: no impact, P1: add arms above the head, P2: add travel f/b, P3: add scoop, P4: add jump with scoop</td>
</tr>
<tr>
<td>8888</td>
<td>8 grapevines with arms shoulder height</td>
<td>Head facing forward, Back straight, Shoulders back, Abdominals contracted, Hips facing forward, Roll through the foot, Soft knees</td>
<td>A: no impact, P1: add arms above the head, P2: add leg curl, P3: add jump, P4: add 3 curls</td>
</tr>
<tr>
<td>8888</td>
<td>8 box steps with arms shoulder height</td>
<td>Head facing forward, Back straight, Shoulders back, Abdominals contracted, Hips facing forward, Lead through the heels</td>
<td>A: no impact, P1: add punches, P2: add rotation, P3: add deeper movement, P4: add jumps</td>
</tr>
<tr>
<td>8888</td>
<td>16 half jacks with arms shoulder height</td>
<td>Head facing forward, Back straight, Shoulders back, Abdominals contracted, Hips facing forward, Ground the heels</td>
<td>A: no impact, P1: add arms above the head, P2: add deeper movements, P3: add impact (full jacks), P4: add rotation</td>
</tr>
</tbody>
</table>
Learning activity 8.1

Question 1: What is the difference between anaerobic and aerobic training?

Question 2: What is the aim of the aerobic curve?

Question 3: What are the three components of the aerobic curve?

Summary

You should now:

- understand the difference between aerobic and anaerobic exercise
- understand that the aerobic curve consists of three components: the build-up, the peak, and the build down
- be able to identify the differences between each
- be able to plan an effective aerobic curve, and
- know how to plan progressions for aerobics moves included in a session.
Section 9: Muscular strength and endurance

Learning outcomes

☐ To understand the benefits of a resistance training programme.
☐ To understand the basic principles of resistance training.
☐ To know the different types of resistance training.
☐ To know different planning methods and class structures.

Benefits of resistance training

It can be difficult to convince female exercisers to include resistance training within their exercise routines as many have misconceptions about the effects of such exercise. A resistance training element in the muscular strength endurance (MSE) section of an ETM class can, however, help participants, some of whom who might never consider lifting weights in a gym, to enjoy some of the benefits of resistance training in a format and environment that is both familiar and pleasant. The benefits of resistance training include:

- an improved ability to cope with everyday tasks such as lifting, pushing and moving objects
- a greater ability to cope with emergencies requiring muscular strength and endurance
- improved posture
- improved body shape due to increased muscle tone
- increased resting metabolism and daily energy requirement
- improved self-confidence
- increased bone density
- increased strength of tendons and ligaments that improve joint stability
- reduced risk of injury during activity, and
- improved performance in sports and exercise.
Types of muscular work

Muscles can work in a number of ways. There are two main types of muscular contraction:

- **Isometric contractions**: this is when the muscles are under tension but no change in muscle length occurs; for example, during the plank exercise when a static position is held.
- **Isotonic contractions**: this is when the muscles are under tension either as they lengthen (eccentric contraction) or as they shorten (concentric contraction); for example, during an abdominal curl where the spine flexes as the head lifts and then extends to lower the head under control.

The advantages and disadvantages of using exercises involving the different types of muscular contraction are summarised in tables 9.1 and 9.2.

### Isometric Exercises

**Table 9.1** Advantages and disadvantages of isometric exercises in ETM classes

<table>
<thead>
<tr>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Promote rapid gains in muscle strength</td>
<td>High levels of tension can increase risk of muscle strain</td>
</tr>
<tr>
<td>Require little space and do not necessarily need equipment</td>
<td>Produce a rapid increase in blood pressure</td>
</tr>
<tr>
<td>Useful to increase strength at a specific joint angle; for example, in rehabilitation programmes</td>
<td>Encourage breath holding</td>
</tr>
<tr>
<td>May be appropriate for good postural development</td>
<td>Gains are specific to the joint angle only</td>
</tr>
</tbody>
</table>

### Isotonic Exercises

**Table 9.2** Advantages and disadvantages of isotonic exercises in ETM classes

<table>
<thead>
<tr>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strength gains develop through a full range of movement</td>
<td>Equipment can be expensive and requires a lot of space for storage</td>
</tr>
<tr>
<td>Promote nervous system adaptations</td>
<td>Balance for some people can be a problem with free weight exercises</td>
</tr>
<tr>
<td>Progress can be monitored easily</td>
<td>Too much focus on increasing weight can lead to poor technique</td>
</tr>
</tbody>
</table>
Principles of resistance training

**MUSCULAR STRENGTH TRAINING**
Involves performing work against heavy resistances for few repetitions (high resistance \* low repetitions; for example, six to eight repetition maximum (RM)).

**HYPERTROPHY TRAINING**
Specifically targets optimal training intensities and volumes for muscle growth. Muscular strength and endurance will both improve when performing this type of training (moderate to high resistance \* moderate repetitions of 8 to 12 RM).

**MUSCULAR ENDURANCE TRAINING**
Involves performing a higher number of repetitions against a relatively low load until muscles fatigue. This type of training has minimal impact on strength or hypertrophy but improves muscle tone and the ability of a muscle to work for extended periods at high intensities (low resistance \* high repetitions of 15 to 25 RM).

Muscular adaptation to exercise is specific to the type of exercise performed; the same exercises will elicit different effects if performed using different training loads and volumes. Understanding the MSE, or repetition maximum, continuum (figure 9.1) will allow an instructor to select the appropriate training protocol for the desired outcome of a class.

Figure 9.1 Repetition maximum continuum:

<table>
<thead>
<tr>
<th>Muscular strength</th>
<th>Muscular endurance</th>
</tr>
</thead>
<tbody>
<tr>
<td>High intensity</td>
<td>Low to moderate intensity</td>
</tr>
<tr>
<td>Very high resistances</td>
<td>Low to moderate resistances</td>
</tr>
<tr>
<td>( &gt; 75% ) of 1 RM</td>
<td>40-60% of 1 RM</td>
</tr>
<tr>
<td>Low repetitions (1 to 12)</td>
<td>High repetitions (15-25)</td>
</tr>
</tbody>
</table>

Resistance training within group ETM classes tends to focus upon the muscular endurance end of the training continuum illustrated in figure 9.1 because there is limited opportunity to lift heavy weights and the duration of the tracks best suits this type of work. It is important to note, however, that individuals within any group will have different abilities and this means they will often be working in different ways even if performing exactly the same exercise. If a whole class is asked to perform push ups, for example, one member of the class may be capable of performing 30 full push ups whilst another person may not be able to complete one push up. Clearly the two people will be stimulating very different adaptations in their bodies. For this reason it is essential that ETM instructors are able to provide alternative exercises when necessary.
Planning the muscular strength and endurance component

An example of a MSE session plan is included at the end of this section of the chapter. When planning the MSE component it is important to balance opposing muscle groups as this will ensure that participants gain a full body workout in each session. The order in which exercises are performed should be determined by the need to progress from larger muscle group exercises to smaller muscle group exercises and from compound (multi joint) exercises to isolation (single joint) ones.

The MSE section should be taught to the beat of the music but does not require cueing on the beginning of each phrase. Exercises can be performed as singles (one beat) doubles (two beats up, two beats down) or any multiples of two up to eight. The beats can also vary between the concentric and eccentric contraction; for example, one beat up to 3 beats down. This will add variety to the MSE section and is the basis for progression. Routines can also include a combination of full and partial ranges of motion for exercises such as squats and bicep curls as well as isometric holds at various positions in the movement for most exercises.

When planning and teaching the MSE section ETM instructors need to consider a number of other key points:

**Range of movement**

Muscular adaptation is specific to the movement in which it has been trained. It is necessary to use a full range of movement to develop full range strength gains. It is important, therefore, that ETM instructors ensure that their participants work through the full safe range of movement, emphasise proper exercise technique and are aware of individual capabilities: everyone has a different range of movement. Alternative body positions or resistances should be offered to allow for different fitness levels. Locking or hyper extending of joints should be avoided. Music should have a controlled tempo of 120 to 130 beats per minutes.

**Breathing**

It is preferable to breathe out on the exertion; this reduces internal abdominal pressure as external muscle pressure increases and it feels most natural. It is extremely important that participants avoid holding their breath during resistance exercises as this increases internal pressure which, when combined with the increased pressure from muscle contractions, can momentarily limit blood flow to the heart and brain. Holding the breath during exercise is known as the valsalva manoeuvre.

**Frequency**

It is important to allow approximately 48 to 72 hours for muscle recovery after strength training but a period of 24 hours is usually adequate to allow most people to recover from the limited amount of muscular endurance work in an ETM class. Participants are best advised to listen to their own bodies: they should not exercise if their muscles feel sore and tired.
## Workbook

### Level 2

### Planning Group Exercise to Music

#### Example session plan

<table>
<thead>
<tr>
<th>Date:</th>
<th>Target group: <strong>mixed ability</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Component: <strong>MSE</strong></td>
<td>Duration: <strong>15 minutes</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Music breakdown/speed</th>
<th>Exercise</th>
<th>Teaching points</th>
<th>Alternatives and progressions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Music speed:</strong> 100 to 128bpm</td>
<td>3/4 press-up</td>
<td>Hands shoulder and half width apart</td>
<td>A: box press-up</td>
</tr>
<tr>
<td>8 singles</td>
<td></td>
<td>Support on the knees</td>
<td>P: full press-up</td>
</tr>
<tr>
<td>8 two up, two down</td>
<td></td>
<td>Shoulders and elbows stacked</td>
<td></td>
</tr>
<tr>
<td>8 singles</td>
<td></td>
<td>Elbows soft</td>
<td></td>
</tr>
<tr>
<td>8 two up, two down</td>
<td></td>
<td>Back straight</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Head facing down</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Muscles worked:</td>
<td>Abdominals contracted</td>
<td></td>
</tr>
<tr>
<td></td>
<td>pectorals, anterior deltoids and triceps</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Music speed:</strong> 100 to 128bpm</td>
<td>Abdominal crunch</td>
<td>Lying on the back</td>
<td>A: hands on knees</td>
</tr>
<tr>
<td>8 singles</td>
<td></td>
<td>Apple size gap between chin and chest</td>
<td>P1: hands across chest</td>
</tr>
<tr>
<td>8 pulses</td>
<td></td>
<td>Engage the core muscles</td>
<td>P2: hands on temples</td>
</tr>
<tr>
<td>8 singles</td>
<td></td>
<td>Curl the spine off the floor 20-30%</td>
<td>P3: hands behind head</td>
</tr>
<tr>
<td>8 pulses</td>
<td></td>
<td>Lead with shoulders</td>
<td></td>
</tr>
</tbody>
</table>
Learning activity 9.1

Q1. List five reasons for undertaking resistance training:

Q2. Consider the classes that you have attended, what equipment was used in the MSE section?

Q3. What is an isometric contraction?

Q4. What is an isotonic contraction?

Q5. List the three types of resistance training and their repetition range

1. 
2. 
3. 

Summary

You should now:

- be able to identify the benefits of muscular strength and endurance training
- know the different repetition ranges and training protocols suitable for the three different types of resistance training: endurance, hypertrophy and strength, and
- understand how to plan a safe and effective muscular strength and endurance workout ensuring a balance across the muscles groups.
Workbook

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Section 10: The cool down

Learning outcomes
☐ To know the benefits of a cool down.
☐ To understand the structure and content of a cool down.
☐ To understand the difference between maintenance stretching and developmental stretching.

Benefits of a cool down
The cool down is an essential component of a workout. Its purpose is to return the body gradually to a resting state following exercise so as to avoid any of the negative health consequences that can result from stopping exercise suddenly. There are numerous benefits to be gained from performing a well planned cool down:

• The heart rate and blood pressure will gradually be returned to resting levels before the end of the session.
• Blood pooling in the legs will be prevented.
• Body temperature will be lowered gradually and the activity of cooling mechanisms will be reduced.
• Flexibility and range of movement (ROM) will be increased.
• The exercise session is ended in a relaxing way.

Structure and content of a cool down
There are three components to a cool down: a pulse lowering activity, cool down stretches and a revitaliser. It is important that the components are performed in the order given.

Pulse lowering activity
In a group exercise class heart rate is lowered within the build down component of the aerobic curve. The class will then continue with an MSE section in which exercises are performed in a particular order (moving from large to small muscle groups). Core exercises are performed at the end of the MSE section. This structure creates a natural decrease in intensity so an additional aerobic cool down is not necessary.

Cool down stretching
An ETM class typically includes a full body stretching routine following on from the core exercises. The stretching section should include both maintenance and developmental stretches.

Maintenance stretches aim to return the body to a pre-exercise state, with muscles at their normal resting lengths, and to minimise soreness after the session. Maintenance stretches are held for 10 to 15 seconds post workout at the first point of tension without any pain or discomfort.

Developmental stretches aim to increase the range of movement around joints. A developmental stretch is held for 20 seconds at the first point of tension, until the sensation subsides. The stretch is then increased through a further range of movement to a second point of tension and held for an additional 10 seconds. A developmental stretch is more intense than a maintenance stretch but there should be no pain at any point.

Post workout stretches should be planned so that they flow smoothly from one to the next. The first stretch should be determined by the final core exercise as this will allow the group to remain in the same body position; for example, if the group has been performing an abdominal crunch a logical first stretch would be a lying hamstring stretch. The stretch routine is typically designed to progress the group from the floor to a standing position and should stretch all the major muscles that have been worked in the session.
Revitaliser
The stretching routine should be followed by a brief revitalising activity which aims to bring the session to an energising close. A revitaliser usually consists simply of a few deep breaths in and out in a standing position. An alternative would be to provide a motivating closing comment on the class to lift the energy and recognise the achievement of the individuals in the group; for example, “Great class everyone, give yourselves a round of applause, well done.” At the conclusion of a class it is normal for an instructor to thank group members for attending and to offer them a few minutes of time should they wish to give or receive individual feedback on the session.

Learning activity 10.1

Question 1: List five benefits of stretching:

1. ........................................................................................................................................
2. ........................................................................................................................................
3. ........................................................................................................................................
4. ........................................................................................................................................
5. ........................................................................................................................................

Question 2: Name the two types of stretch used in the cool down and indicate for how long each type should be held.

1. ........................................................................................................................................
2. ........................................................................................................................................

Summary
You should now:

- be able to identify the benefits of a cool down
- know the structure and components of a cool down
- understand the differences between maintenance and developmental stretches, and
- be able to plan a safe and effective stretch routine that flows from the floor to standing and includes all the major muscle groups.
Section 11: Learning activity answers

Learning activity 3.1
Question 1: REPs is the Register of Exercise Professionals.
Question 2: The aim of REPs is to provide a system of regulation for instructors and trainers to ensure they meet the national occupational standards.
Question 3: Continuing professional development is essential to keep knowledge up to date and it encourages good practice.
Question 4: REPs and Fitpro offer insurance deals specifically for instructors although it is also available directly from insurance companies.
Question 5: A PPL licence safeguards the copyright of the original recording artists and the fees generated by the licences are passed back to the recording artists, musicians and record companies. ETM instructors are required by law to hold a PPL licence.
Question 6: Any of the following: PPL, Pure Energy, Solid Sounds, Power Music or FitPro.
Question 7: Music is broken down into phrases of 32 beats. These can be multiples of two; for example, two, four, six, eight, and so on depending upon the choreography of the class. Throughout the ETM course the music is broken down into 8s, so 8888 = 32 counts (one phrase).

Learning activity 4.1
Question 1: Medical professionals who may need to be contacted for advice are: general practitioner, midwife, physiotherapist, osteopath and chiropractor.
Question 2: Other people who may need to be contacted are: personal trainer, nutritionist, gym instructor, duty manager, gym manager and studio coordinator.

Learning activity 4.2
Non-modifiable CHD risk factors: family history, age, gender.
Modifiable CHD risk factors: cigarette smoking, dyslipidemia*, obesity, prediabetes* hypertension*.
*In the early stages these conditions are usually modifiable through changes in lifestyle and at a later stage may be controlled through medication. It is important to remember, however, that not everyone with hypertension, dyslipidemia or prediabetes will be able to modify the condition with lifestyle changes.

Learning activity 4.3
Question 1: The PAR-Q is a time-efficient, easily understood and effective health/medical questionnaire. The incidence of cardiovascular problems during physical activity is reduced by nearly 50 percent when individuals are first screened. The major objective of the PAR-Q is not diagnostic, but rather to determine risk, whether it is cardiovascular, orthopaedic or metabolic and so on. When an individual is identified as having a condition or risk factor that could be aggravated by physical activity, that person should be referred to their doctor for approval and advice before participation.
Question 2: Any four of the following risk factors: smoking, obesity, inactivity, diabetes, age, gender, stress, poor diet, high alcohol consumption or high blood pressure (hypertension).
Question 3: Regular aerobic exercise can decrease blood pressure by 10 mmHg over time and regular resistance training can reduce blood pressure by around 3 mmHg over time. Exercise increases stroke volume, reduces heart rate at rest, breaks down stress hormones that increase heart rate and blood pressure and can assist weight loss, which can reduce hypertension.
Learning activity 5.1
Question 1: At the beginning of a session health and safety advice should be given on emergency procedures and the location of fire exits and assembly points, toilets and water. A verbal pre-screen of participants should also be conducted to establish whether there are any newcomers or persons with special requirements: for example, ante or postnatal women present. At the beginning of a class the instructor should ask for any questions and establish whether participants are able to hear instructions over the sound of the music.

Question 2: A verbal pre-screen is legally required and it ensures the safety of the participants as it allows the instructor to make any necessary adaptations to the class.

Question 3: The space available and the number of participants in the class along with environmental factors such as heat, humidity, altitude and pollution need to be considered when planning a class. Attention also needs to be paid to air conditioning, lighting and equipment.

Learning activity 6.1
Question 1: The components of a class are: health and safety introduction, warm-up, aerobic curve, MSE section, cool down and feedback and questions.

Question 2: The time allocated to each of the components may be different and the intensity or complexity of the aerobic curve and MSE components depends upon the type of class and the group participants.

Question 3: The warm-up contains simple low to moderate intensity aerobic moves and preparatory stretches whereas the aerobic curve includes more intense aerobic moves and more complex choreography. The MSE section contains a variety of resistance exercises and finishes with core exercises. The cool down includes stretching.

Question 4: Amounts of time typically allocated to each component of the class: introduction two to three minutes, warm-up five to 15 minutes, aerobic curve 20 minutes, MSE section 15 minutes, cool down 10 minutes and feedback and questions after class five minutes.

Question 5: Examples of answers: the instructor verbally told individuals to work harder or take it easy, the instructor used the RPE scale, the instructor explained how each component of the session should feel (easy, moderate, hard or very hard).

Question 6: Examples of answers: I was physically and mentally challenged to coordinate movements in time with the instructor, I was energised by the music, I was sweating and/or red in face, I was a little breathless at times or I was physically tired by the end of the session.

Learning activity 6.2
Question 1: Three types of class are body conditioning, aerobics, legs, bums and tums.

Question 2: The main aim of a body conditioning class is to give a balanced muscular strength and endurance workout, improving muscle tone and raising heart rate by performing high repetitions of resistance training exercises.

Question 3: The main aim of an aerobics class is to improve cardiovascular fitness, motor skills, and muscular tone and endurance for the whole body.

Question 4: Any three of the following: observing poor technique, sweating, breathing rate, RPE, heart rate, observing poor posture.
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**Learning activity 7.1**

**Question 1:** A warm-up section should last between eight to ten minutes. The joint mobilisation and pulse raiser should take five to ten minutes and the preparatory stretch three to eight minutes.

**Question 2:** All of the major joints (ankles, hips, knees, spine, shoulders and elbows) should be mobilised.

**Question 3:** All of the major muscle groups to be used in the session should be stretched: pectorals, trapezius and rhomboids, erector spinae and obliques, hip flexors and quadriceps, hamstrings, adductors, gastrocnemius and soleus.

**Question 4:** Exercise levels should be increased gradually throughout a warm-up. The warmer muscles are, the less likely they are to suffer injury. Specific warm-up is related to the activity itself, and rehearses the relevant movement patterns. The psychological benefits are also important. They allow the participants to prepare themselves mentally for the work to follow. The total duration of a warm-up will be eight to ten minutes. Mobility exercises prepare the body’s major joints. Pulse-raising exercises should be of a moderate to low intensity (40–60% of maximum heart rate). Preparatory stretches prepare all major muscles to be used in the proposed activity.

**Question 5:** The factors which can affect a warm-up are: class ability, time of day, temperature and intensity of the session.

---

**Learning activity 8.1**

**Question 1:** Most of the body’s energy is supplied by the aerobic system, except during brief periods of intense exertion. Oxygen from the air we breathe is carried through the bloodstream to exercising muscles where it combines with local energy stores to produce the energy needed for muscle contraction. The anaerobic system allows additional energy to be produced in the absence of oxygen. The anaerobic system is a type of booster pump. It allows energy to be produced during times of intense exercise, but at a high cost: large amounts of waste products are generated; for example lactic acid, which cause muscles to become sore and tired.

**Question 2:** The aim of the aerobic curve is to improve cardiovascular fitness, coordination and balance (motor skills).

**Question 3:** The components of the aerobic curve are the build-up, the peak and the build down.

---

**Learning activity 9.1**

**Question 1:** Answers could include a desire for any of the following: an improved ability to cope with everyday tasks (such as lifting, pushing and moving objects), a greater ability to cope with emergencies requiring muscular strength and endurance, improved posture, improved body shape due to increased muscle tone, increased resting metabolism and daily energy requirement, improved self-confidence, increased bone density, increased strength of tendons and ligaments that improve joint stability, reduced risk of injury during activity, improved performance in sports and exercise, improved looks or improved strength for a specific sport.

**Question 2:** Answers could include: barbells, dumbbells, mats, stereo, CD or dynabands.

**Question 3:** When the muscles contract to generate tension, but no movement occurs this is said to be an isometric contraction.

**Question 4:** When the muscles lengthen or shorten under tension this is said to be an isotonic contraction.

**Question 5:** The three types of resistance training are: endurance (12 to 15 repetitions), hypertrophy (eight to 12 repetitions) and strength (six to eight repetitions).
Learning activity 10.1

Question 1: The benefits of stretching are that it increases the range of movement, promotes relaxation, returns the body to its pre-exercise state, reduces the risk of DOMS, helps with the removal of waste products and reduces the risk of blood pooling.

Question 2: Maintenance stretches (held for 10-15 seconds) and developmental stretches (held for 20 seconds at the first point of tension before being taken through a further range of movement to a second point of tension and held for another 10 seconds).
Planning Group Exercise to Music

References

1. www.exerciseregister.org
2. www.jumpybumpy.com
3. www.ppluk.com
6. www.Turnstep.com
**Appendix 1: Class evaluation forms**

Use these forms to make notes about the content and structure of different classes you attend.

<table>
<thead>
<tr>
<th>Class name:</th>
<th>Date and time:</th>
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<tbody>
<tr>
<td>Instructor name:</td>
<td>Signature:</td>
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<tr>
<td>Warm-up activities and structure</td>
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<tr>
<td>Main session activities and structure</td>
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# Planning Group Exercise to Music

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### Cool down activities and structure
# Planning Group Exercise to Music

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Workbook

Level 2
Planning Group Exercise to Music

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## Planning Group Exercise to Music

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**Warm-up activities and structure**

**Main session activities and structure**

**Cool down activities and structure**
### Physical activity readiness questionnaire (PAR-Q)

If you are planning to take part in physical activity or an exercise class, start by answering the questions below. If you are between the ages of 15 and 69 the questionnaire will tell you if you should talk with your doctor before you start. If you are over 69 years of age, and you are not used to being very active, check with your doctor. All information will be treated confidentially.

<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Has your doctor ever said you have a heart condition and that you should only do physical activity recommended by a doctor?</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Do you ever feel pain in your chest when you do physical activity?</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Have you ever had chest pain when you were not doing physical activity?</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Do you ever feel faint or have spells of dizziness?</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Do you have a joint problem that could be made worse by exercise?</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Have you ever been told that you have high blood pressure?</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Are you currently taking any medication of which the instructors should be made aware?</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Are you pregnant or have you had a baby in the last six months?</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Is there any other reason why you should not participate in physical activity?</td>
<td>N</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

8a. If yes, what?  

9a. If yes, what?  

If you have answered “YES” to one or more questions:
Talk to your doctor by telephone or in person before you start becoming more physically active and before you have a fitness assessment. Tell your doctor about the questionnaire and which question(s) you answered yes to. You may be able to do any activity you want, as long as you begin slowly and build up gradually, or you may need to restrict your activities to those which are safe for you. Talk with your doctor about the kind of activity you wish to participate in and follow his or her advice.

If you have answered “NO” to all questions:
You can be reasonably sure that you can start to become more physically active and take part in a suitable exercise programme but remember: begin slowly and build up gradually.

**Please note:** If your health changes so that subsequently you answer yes to any of the above questions, inform your fitness or health professional immediately. Ask whether you should change your physical activity or exercise plan. Delay becoming more active if you feel unwell because of a temporary illness such as a cold or flu – wait until you are better.

I have read, understood and completed this questionnaire  
All questions have been answered to the best of my knowledge

Name:  
Signature:  
Address:  
Contact number:  
Date:  

**Emergency contact**

Name:  
Contact number:  

---

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Appendix 3: Sample informed consent form

Informed consent form

The purpose of an exercise programme is to help you achieve your health and fitness goals.

You will be set a programme based upon your present activity/exercise levels and your stated goals. You will experience some feelings of exertion during each activity session and may become hot and uncomfortable at times. If your plan includes certain types of cardiovascular exercise you can expect your breathing to become more rapid and your heart rate to increase. As your fitness improves, your goals may lead you to participate in more vigorous levels of activity but these should remain within your capabilities.

All activities will be explained to you and demonstrated but you should feel free to ask any questions you may have.

Any exercise programme carries with it an element of risk. The sessions are designed to minimise risk yet, at the same time, provide an effective exercise/activity programme. Please inform the instructor if there is any reason why you should not participate in an activity; for example, an illness or an injury which might be aggravated by exercise.

If, at any time, you feel undue pain or excessive discomfort STOP THE ACTIVITY IMMEDIATELY and inform the instructor of your symptoms. You are free to withdraw from any activity at any time you wish.

I agree to take part in the programme described to me by the instructor. The nature, purpose, risks and benefits have been explained to me and I understand what is required of me and that I may withdraw at any time.

Client: ................................................................. Witness: .................................................................

Signature: ......................................................... Signature: .................................................................

Date: .................................................................
Appendix 4: Sample request for medical consent form

Dear Dr. ……………………

Re: [Patient’s name], D.O.B [Patient’s DOB], [Patient’s address]

[Patient’s name] has completed a Physical Activity Readiness Questionnaire at [Gym/health club/studio name]

Considering [Patient’s name] PAR-Q responses and medical history, I would be grateful if you could complete the attached form to indicate readiness for participation in the physical activity programme outlined below.

PAR-Q responses:

1. Has your doctor ever said you have a heart condition and that you should only do physical activity recommended by a doctor? [ ] Y [ ] N
2. Do you ever feel pain in your chest when you do physical activity? [ ] Y [ ] N
3. Have you ever had chest pain when you were not doing physical activity? [ ] Y [ ] N
4. Do you ever feel faint or have spells of dizziness? [ ] Y [ ] N
5. Do you have a joint problem that could be made worse by exercise? [ ] Y [ ] N
6. Have you ever been told that you have high blood pressure? [ ] Y [ ] N
7. Are you currently taking any medication of which the instructors should be made aware? [ ] Y [ ] N

The proposed exercise programme for this patient is outlined below:

Attendance of three exercise to music classes weekly, each class lasting one hour and including 40 minutes of aerobic exercise at a target intensity of between 50 to 80% of maximum heart rate, not exceeding 90% of maximum heart rate or 8/10 on a rate of perceived exertion scale. A warm-up and cool down will be performed within this time.

These classes will also include 10 to 15 minutes of light resistance training (15 to 20 repetitions of a range of exercises using light dumbbells and bodyweight). Each class will also include stretching exercises for all major muscles.

With regard to the described physical activity programme, I recommend the patient should:

○ Not take part in this programme
○ Take part in this programme with the following adaptations:

Signed: …………………… Date: ……………………

Thank you for your time and assistance.

Your name
Your position / job title