

MotoLab

Endurance in Motion

PHYSICAL FITNESS MODULE



24 exercises with two-sided cards

Illustrated manual for upper secondary

Energy systems, workloads and recovery

Variations and 6 training circuits



Choose Your Route

RUNNING AND PACE MANAGEMENT

- 01 · Continuous Running
- 02 · Walking and Running
- 03 · Block Fartlek
- 04 · Timed Intervals
- 05 · Target-Pace Laps
- 06 · Partner Running and Talking · with a partner
- 07 · Progressive Shuttle Runs
- 08 · Variable-Cadence Running

ROPE, STEP AND BODYWEIGHT

- 09 · Two-Foot Rope Skips
- 10 · Alternating-Step Rope Skips
- 11 · Rhythmic Low Step-Ups
- 12 · Dynamic Marching on the Spot
- 13 · Step Jacks
- 14 · Light Jogging on the Spot
- 15 · Aerobic Square
- 16 · Three Continuous Zones

BALL, COURSES AND SHARED TASKS

- 17 · Dribbling on the Move
- 18 · Aerobic Ball Slalom
- 19 · Passing and Side Steps · with a partner
- 20 · Timed Token Collection
- 21 · Figure Eight between Two Cones
- 22 · Colour Mission on the Move · with a partner
- 23 · Continuous Steps through Hoops
- 24 · Continuous Partner Relay · with a partner

How to Choose

01-08: Manage pace. **09-16:** Work at one station. **17-24:** Connect endurance, technique and attention. Card workloads are starting points to adapt to the class.

ML

Before the Lesson

Prepare the Course

Check the surface, slowing-down space and step stability. Use one direction for loop activities and separate outward and return paths on short courses. Outdoors adapt to the surface and conditions, and allow drinking breaks.

Choose the Effort

Moderate pace increases breathing and heart rate while allowing conversation. At higher intensity only a few words are possible before taking a breath. The teacher uses this feedback, movement quality and the student's reported feeling to guide pace.

Work and Recovery

Allow about 8 minutes of gradual activation and practise movements before the sequence. Walking is active recovery on many cards. Increase one demand at a time: movement duration first, then speed once continuity is stable.

Organise and Adapt

For circuits use four groups of six. Each zone has room for all students and three pairs for shared tasks. Adapt timing and movements to individual needs and school guidance. Stop for pain, dizziness or unusual breathing difficulty and tell the teacher.

Understanding Exercise and Energy



Inside the Card

The front describes movement, aims and preparation. The back links workload, energy system and organisation. Side panels offer variations and observation. In circuits use the table's workload.

Aerobic and Mixed Contributions

The oxidative aerobic system uses oxygen to regenerate ATP from energy substrates. Carbohydrates and fats contribute in variable proportions. Moderate pace favours continuity; increased intensity and restarts alter the anaerobic contribution.

Link the Profile to Workload

Panels show expected predominance based on the proposed duration, recovery and pace. For short tasks distinguish each effort from the sequence's aerobic goal. All three systems work together; intensity and individual characteristics change their contribution.

References

NSCA, Energy Dynamics During Exercise (2017). Alghannam et al., Regulation of Energy Substrate Metabolism (2021). Baker et al., Interaction among Skeletal Muscle Metabolic Energy Systems (2010). Teaching references: WHO · 2020 Guidelines; CDC · Monitoring Intensity. Accessed 2 October 2026. Card applications: MotoLab teaching interpretation of proposed workloads. Original text and sequences; AI-generated illustrations.

01

Continuous Running

Equipment: Track or flat course with cones



Aims and objectives

Develop continuous movement at a personal pace. Students choose a sustainable speed and finish the section maintaining regular running.

Preparation

Choose a lane or wide loop with an even surface. Start after a short warm-up and leave space ahead. Agree working time with the teacher.

Execution

Run comfortably at the same speed on straights and bends. Use light foot contacts and relaxed arms. When the pace becomes hard to sustain, walk; resume running after recovering.

01

Continuous Running

WORKLOAD · ENERGY SYSTEM · ORGANISATION

EXERCISE AND RESULTS

TEACHER TOOLS

Workload

Work: 1 comfortable 4-minute run. Recovery: 2 minutes walking afterwards. Time: About 6 minutes.

Energy system

Oxidative aerobic · continuous work

Four comfortable minutes favour aerobic continuity. Adjust running so you can say a short sentence while moving.

Organisation

Stagger starts and use one direction. Provide a side lane for walkers and agree how to move across before starting.

Work results

Record pace and continuity after recovery.

Variation and time: _____

Helpful choice: _____



Adapt the task

Accessible: Alternate 30 seconds running and 30 walking for 4 minutes on the same course.

Progression: Extend continuous running to 5 minutes at the established pace. Increase time before speed.



Teacher observation

Start with control and keep a similar pace in the second half. Students recognise when to slow down and keep others' lanes clear.



Observe and repeat

Compare continuity across turns and movement quality. Choose one detail to revisit next time.

02

Walking and Running

Equipment: Track or flat loop and stopwatch



Aims and objectives

Build continuity through planned alternation. Students walk to recover and restart without abrupt acceleration.

Preparation

Use a wide course with a clear start area. The teacher announces regular gait changes; each student keeps their own space.

Execution

Walk actively for 30 seconds and run comfortably for the next 30. Repeat on the signals. Keep arms moving when walking and prepare a gradual restart.

02

Walking and Running

WORKLOAD · ENERGY SYSTEM · ORGANISATION

EXERCISE AND RESULTS

Workload

Work: 6 cycles of 30 seconds walking and 30 running.
Recovery: 1 minute gentle walking after six cycles. Time: About 7 minutes.

Energy system

Aerobic · intermittent work

Running and walking sustain six moderate minutes. Changing pace raises initial demand; keep all six efforts regular.

Organisation

Spread students around the loop; use signals everyone can hear. Students choose pace within teacher guidance.

Work results

Record pace and continuity after recovery.

Variation and time: _____

Helpful choice: _____

TEACHER TOOLS



Adapt the task

Accessible: Use 40 seconds walking and 20 running for six one-minute cycles.

Progression: Use 20 seconds walking and 40 running once the initial sequence is consistently completed.



Teacher observation

Run immediately on the signal; walking stays active. The early-cycle pace allows completion of the last cycles.



Observe and repeat

Compare continuity across turns and movement quality. Choose one detail to revisit next time.

ML

C1 · Continuous and repeated efforts

Purpose and set-up

Recognise different paces and restart after walking. Wide courses allow personal speeds. Equipment: Track or flat loops, cones and stopwatch.

Zone	Card and task	One 90-second block
1	01 · Continuous running	60 s running + 30 s walking
2	02 · Walking and running	30 s running + 60 s walking
3	03 · Block fartlek	30 s easy + 15 s brisk + 45 s walking
4	04 · Timed intervals	45 s running + 45 s walking

Zone timing

Each zone lasts 3 minutes: two 90-second blocks. Repeat the table dose in both blocks; all group members work or recover by walking.

Two orderly rounds

After each zone allow 30 seconds to transfer, including after zone four to return to start. One round lasts 14 minutes. Recover 2 minutes between rounds: the central section totals 30 minutes including work, walking and transfers.