

LESSON 6: USING SCALES IN YOUR FITNESS PLANS

Grade-Level Outcomes

Primary Outcomes

Engages in physical activity: Plans and implements a program of cross-training to include aerobic, strength & endurance and flexibility training. (S3.M4.8)

Fitness knowledge: Defines how the RPE Scale can be used to adjust workout intensity during physical activity. (S3.M13.8)

Embedded Outcome

Fitness knowledge: Defines resting heart rate and describes its relationship to aerobic fitness and the Borg Rating of Perceived Exertion (RPE) scale. (S3.M13.6)

Lesson Objectives

The learner will:

- practice to improve muscular strength and endurance.
- document physical activity outside of class and in class.
- apply rating of perceived exertion (RPE) to adjust intensity level as needed.
- review the concept of RPE.
- use the PACER to calibrate RPE.

Equipment and Materials

- Copies of various RPE scales (1-10 or Borg 6-20)
- PACER cadence
- PACER course
- Cones for PACER
- Sound system
- Sand bells
- Medicine balls
- Hand weights
- Aerobic steps
- Station cards
- Shoulder folders for station cards

Introduction

Today, we will review the concept of ratings of perceived exertion, or RPE. Technology often helps us measure exercise intensity. Sometimes, though, technology is not available, and so we use ratings of perceived exertion instead.

Instructional Task: Think, Pair, Share on Scales

■ PRACTICE TASK

In pairs, students discuss what they remember about ratings of perceived exertion. They should have learned about this concept in grade 6.

EMBEDDED OUTCOME: S3.M13.6. Discuss with students the relationship between heart rate and aerobic fitness with the Borg Rating of Perceived Exertion (RPE) scale.

Guiding questions for students:

- How is heart rate related to rating of perceived exertion, or RPE?
- Is rating of perceived exertion objective or subjective?
- Is RPE typically used in muscular strength and endurance activities?

Refinement

Explain RPE using a Borg scale versus a scale from 1 to 10.

Student Choices/Differentiation

- Students may choose their partners.
- Students may choose which guiding question to focus on.

What to Look For

Students understand that the Borg scale represents a given heart rate. For example, a 16 would mean a heart rate of 160.

Instructional Task: RPE Calibration

■ PRACTICE TASK

Students participate in the PACER (Progressive Aerobic Cardiovascular Endurance Run) so they can calibrate RPE in their heads.

Display RPE scales in shoulder folders on top of cones on each end of the PACER course.

Students should push themselves to exhaustion before dropping out of the PACER, so they should feel like they are at a level 20 on the Borg scale or a 10 on a 1 to 10 scale.

Refinement

Remind students to think about what level they have reached at the completion of each lap.

Extension

Students use heart rate monitors to see how well they perceive their effort when using a Borg scale.

Student Choices/Differentiation

- Students can choose the RPE scale:
 - 1 to 10
 - Borg scale 6 to 20
- Set up different-length PACER courses to provide additional conditioning for students who typically perform few laps. Distances of 15, 17, and 20 meters seem to work well when using the 20-meter-distance cadence from Fitnessgram.

What to Look For

- Students work well together with reporting and recording scores.
- Students tend to finish the PACER with an RPE of 10 or 20.
- Students see that the RPE increases in a linear fashion with the increase in number of PACER laps. They also see that they were at a level 10 or 20 when they could not continue the PACER any longer. If the RPE is not linear, and they stopped the PACER before they were at a 10 or 20, check for a calibration issue.

Instructional Task: Muscular Strength and Endurance Stations

■ PRACTICE TASK

Students continue their muscular strength and endurance station work.

Guiding questions for students:

- Do you think RPE scales would work for muscular strength and endurance training, or is there a better way to judge your exercise intensity for muscular strength and endurance?
- What is the benefit of using the scales?
- How will this affect your overall fitness plans?

Extensions

- Students combine aerobic activity with flexibility in one station.
- Add a second set to stations, if time permits.
- Students perform the warm-ups and cool-downs that they designed in previous lessons.

Student Choices/Differentiation

Students can choose from a variety of equipment.

What to Look For

Students recognize that keeping track of weight and reps is a more objective measure for muscular strength and endurance training and that RPE is not typically used.

Formal and Informal Assessments

- Think, pair, share on RPE
- RPE calibration
- Exit slip: What are the major differences in the scales we discussed today?

Closure

Today, we reviewed RPE scales and calibrated RPE using the PACER. Keep in mind that RPE can also be used to adjust your exercise intensity. For example, if you have been working out at a level 7 for a while, you can increase your intensity by attempting to work out at a level 8.

Reflection

- Do students seem to grasp the key ideas on RPE, and can they be expected to use this information in their homework?
- Does use of the RPE scale seem to result in better engagement in the activities?

Homework

Continue logging your physical activity for both class time and out-of-class time for homework.

Make sure you study the material posted throughout the module on the school's physical education website. You will be taking a quiz on key terms and concepts taught in the first six lessons.

In addition, you should see if you can log the exercise intensity of your physical activities in the intensity column using ratings of perceived exertion.

Resources

Rowland, T.W., & Bar-Or, O. (2004). *Pediatric exercise medicine: From physiologic principles to health care applications*. Champaign, IL: Human Kinetics.