RLP-PEA · RLP Physical Education A — Fitness Science, Safety and a Personal Plan

Unit 4: Fuel, Stress and the Long Game

Practice Workbook. The same problems, in the same order, as the Practice sections of the online lessons.

Name _____ Period _____

Lesson 4.1 — Fuel and Body Composition — Energy Balance Without a Scale

FLUENCY

1. Define *energy balance* and name the three ways the body spends energy.

2. Match each nutrient to its main job in activity: carbohydrate, protein, fat, water.

3. Define *lean mass* and *fat mass*, and give two reasons some body fat is essential.

APPLICATION

4. The Dietary Guidelines describe adolescence as a rapid growth period with increased needs for which four things? Name one food source for two of them using the lesson's tables.

5. An example teen, Sam, trains hard after school but often skips lunch. List four warning signs from the lesson that his energy in may be falling short, and explain how he can read his energy balance without a scale.

6. Explain how each type of activity, paired with nutrition, shapes body composition: (a) muscle-strengthening; (b) bone-strengthening; (c) aerobic.

7. Explain why hard intervals depend on carbohydrate, recalling the energy systems from Lesson 3.1.

CHALLENGE

8. Give two reasons from the lesson why this course measures fitness rather than body size.

REVIEW

9. Review (Lesson 1.1): body composition is in which fitness family, and what is it defined as?

Lesson 4.2 — Hydration and Fueling Activity Day

FLUENCY

1. Describe the two pre-activity timing options from the lesson and what the food should mainly contain.
2. List four pieces of Missouri DHSS heat advice for people who exercise outdoors.
3. What do recovery foods replace and supply? Give two example recovery snacks from the lesson.

APPLICATION

4. An example student plans a 90-minute hike. Using the DHSS rule of a drink break every 20 to 30 minutes, what is the fewest and the most number of breaks she should plan during the hike?

5. Missouri DHSS reports 34 heat-related deaths in 2023 and 370 from 2010 to 2025. About what percentage of the 2010-2025 total occurred in 2023? Round to the nearest tenth.

6. Compare the fluid and fuel needs of a 30-minute indoor strength session and a 40-minute brisk walk on a July afternoon. Which needs more fluid, and why?

7. The 2025-2030 Dietary Guidelines say highly active people may benefit from more sodium to offset sweat losses. When does a salty snack or sports drink make sense, and what is the right everyday drink?

CHALLENGE

8. During a summer walk an example friend has heavy sweating, cramps and nausea; twenty minutes later he is confused and his skin is hot and red. Describe the correct action at each stage.

REVIEW

9. Review (Lesson 2.3): in the fuel-day lab the session is done at RPE 5-6. What intensity is that, and what does the talk test show?

Lesson 4.3 — Stress and the Body — A Breathing and Stretching Routine

FLUENCY

1. Using the NIMH descriptions in the lesson, explain the difference between stress and anxiety.

2. List four body changes of the fight-or-flight response.

3. Sort into short-term (S) or long-term (L) effects of stress: (a) headache; (b) weaker immune response; (c) restlessness; (d) higher risk of depression; (e) avoiding activities.

APPLICATION

4. In the slow-breathing technique you breathe in for a count of 4 and out for a count of 6. If each count is one second, (a) how long is one breath, (b) how many breaths fit in one minute, and (c) how long do 10 breaths take?

5. List the critical elements of slow breathing and of a static stretch.

6. An example student reviews her routine recording and sees her shoulders rising on every in-breath and her back rounding in the forward fold. Which elements are broken, and what should she do?

7. Name four NIMH coping tips from the lesson besides breathing and stretching.

CHALLENGE

8. An example student, Alex, has felt tense for two months, sleeps poorly, catches colds often and has stopped going to activities he enjoyed. Explain which effects of stress these show and what the lesson says he should do.

REVIEW

9. Review (Lesson 1.2): how long are static stretches held in the Unit 1 cool-down, and why are they placed at the end of a session?

Lesson 4.4 — Performance-Enhancing Drugs, Supplements and Alcohol

FLUENCY

1. What are anabolic-androgenic steroids, according to NIDA?

2. List four body systems or areas NIDA says steroid misuse can harm, with one effect each.

3. True or false, and correct if false: the FDA approves dietary supplements before they go on sale.

APPLICATION

4. In the 2022 Monitoring the Future survey, 1.3% of 12th graders reported past-year steroid misuse. In an example group of 1,000 twelfth graders, about how many is that, and how many did not? What does the statistic show?

5. List four ways alcohol works against physical performance and recovery.

6. Write the four questions the lesson says to ask about any supplement.

7. An example athlete drinks two energy drinks before evening practice. Using the lesson's sources, list three problems with this choice.

CHALLENGE

8. A made-up ad promises "instant muscle" from a pre-workout powder. Write a short evaluation: what is and is not regulated, possible risks, and an evidence-based alternative.

REVIEW

9. Review (Lesson 4.3): the lesson's table says "more energy" comes from regular meals, water, sleep and managing stress. Name one stress-management skill from Lesson 4.3 and how it helps.

Unit 4 checkpoint

1. Which nutrient is the main fuel for moderate and hard exercise?
   A. Fat
   B. Carbohydrate
   C. Protein
   D. Vitamins
2. Carbohydrate is stored in muscle and liver as _____.
3. True or false: Growing, active teens generally need more energy, not less.
4. How often does Missouri DHSS advise a drink break in hot weather?
   A. Every 5 minutes
   B. Every 20 to 30 minutes
   C. Every 2 hours
   D. Only when thirsty
5. True or false: A person with signs of heat stroke should be given a large drink right away.
6. Which is a short-term effect of stress?
   A. Weaker immune response over months
   B. Faster heart rate and muscle tension
   C. Higher risk of depression
   D. Long-term digestive strain

7. In the slow-breathing technique you breathe in for a count of 4 and out for a count of _____.
8. True or false: A static stretch should be held at mild tension, never pain, for about 20 to 30 seconds.
9. Which is a harm NIDA links to anabolic steroid misuse in teens?
   A. Faster bone growth
   B. Bones stopping growth too early
   C. Improved mood after stopping
   D. Lower blood pressure
10. The _____ does not have the authority to approve dietary supplements before they are marketed.
11. Which effect of alcohol works against athletic performance?
   A. Faster reaction time
   B. Better sleep
   C. Impaired coordination and balance
   D. Improved hydration

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