Lesson Title: Nutrient Fitness

<table>
<thead>
<tr>
<th>Standards</th>
<th>Time: 45 minutes</th>
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<tbody>
<tr>
<td>OSPI Health and Fitness Standards</td>
<td>Grade Level: 8</td>
</tr>
<tr>
<td>OSPI-Developed Assessments</td>
<td>(Middle School)</td>
</tr>
<tr>
<td>• Shop, Eat, Move!</td>
<td>Unit Name: Nutrition</td>
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<tr>
<td>• Concepts of Health and Fitness</td>
<td>Lesson Number: 4</td>
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<tr>
<td>OSPI-Developed Health and Fitness Assessments</td>
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This lesson will address Component 1.5 – Understands relationship of nutrition and food nutrients to body composition and physical performance.

<table>
<thead>
<tr>
<th>Key Concepts</th>
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<tr>
<td>Food groups, nutrient categories, and energy foods provide the body.</td>
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<table>
<thead>
<tr>
<th>Vocabulary</th>
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<tbody>
<tr>
<td>Food groups, grains, vegetables, fruits, milk, meat and beans, nutrient, carbohydrate, protein, fat, vitamin, mineral, water, nutrient benefit, dehydration, and calorie.</td>
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<table>
<thead>
<tr>
<th>Objective(s) for Student Learning:</th>
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<tbody>
<tr>
<td>1. Student will identify food groups.</td>
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<td>2. Student will identify nutrient categories.</td>
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<td>3. Student will identify foods that fit into each nutrient category.</td>
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<td>4. Student will understand the correlation between nutrients and needed energy.</td>
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<td>5. Student will understand the benefits nutrients provide the body.</td>
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<tr>
<td>6. Student will perform physical activities which improve components of health-related fitness.</td>
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<tr>
<td>7. Student will demonstrate safety rules and procedures in a variety of physical activities.</td>
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<td>8. Student will demonstrate sportsmanship and cooperative skills.</td>
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<table>
<thead>
<tr>
<th>Safety</th>
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<tr>
<td>During the fitness entry activity, students should:</td>
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<tr>
<td>• Be in a good personal space.</td>
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<td>• Travel in the same direction.</td>
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<tr>
<td>During the physical activity, the teacher will:</td>
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<tr>
<td>• Remind students to be aware of those around them and use good personal space as they move through the stations.</td>
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<tr>
<td>• Clearly state the running path and when the runner may start.</td>
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<tr>
<td>• Organize student activities, nutrition sheets, and pencils outside the running path.</td>
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<tr>
<td>Safety for stations:</td>
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<tr>
<td>• Triceps Dip – don’t lower body further than 90 degrees.</td>
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<tr>
<td>• Jump Rope – stay within the jump rope area.</td>
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<tr>
<td>• Modified Pull-Up Bar – partner stands on side for stability.</td>
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<tr>
<td>• Pencils and Task Sheets – keep at writing station, not in physical activity area.</td>
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<tr>
<th>Equipment/Materials</th>
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<tr>
<td>• 8 aerobic steps.</td>
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<td>• 3 sit-up mats.</td>
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<tr>
<td>• 2 modified pull-up bars.</td>
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<tr>
<td>• Bleachers (for triceps dips).</td>
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<tr>
<td>• Jump ropes, one per student in the jump rope station.</td>
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<tr>
<td>• 4 cones.</td>
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<tr>
<td>• Pencils, one per student.</td>
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<tr>
<td>• Diagram – Gym Set-Up. (Refer to page 3.)</td>
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<tr>
<td>• Station Signs. (Refer to pages 4–7.)</td>
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<tr>
<td>• Station Activity List. (Refer to page 8.)</td>
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<tr>
<td>• Nutrition Fitness Sheet, one per student. (Refer to page 9.)</td>
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<tr>
<td>• For teacher use, Answer Key for Nutrition Task Sheet. (Refer to page 10.)</td>
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<tr>
<td>• Help Nutrition Handouts printed for Help Wall. (Refer to page 11–13.)</td>
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<tr>
<td>• Exit Task Cards. (Refer to page 14.)</td>
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and/or social interaction.

National Health Education Standards
This lesson aligns with the National Health Education Standards.

**Standard 1** – Students will comprehend concepts related to health promotion and disease prevention to enhance health.

**Standard 5** – Students will demonstrate the ability to use decision-making skills to enhance health.

**Standard 7** – Students will demonstrate the ability to practice health-enhancing behaviors and avoid or reduce health risks.

### Resources
- MyPlate
  - [ChooseMyPlate.gov](https://www.choosemyplate.gov)
- MyPyramid
  - [ChooseMyPlate.gov](https://www.choosemyplate.gov)
- OSPI Health and Fitness Vocabulary
  - [Grade 5](https://www.eatsmart.org)
  - [Grade 8](https://www.eatsmart.org)
  - [High School](https://www.eatsmart.org)
- Washington Dairy Council
  - [www.eatsmart.org](https://www.eatsmart.org)

### Essential Question
**Why is it important to eat a variety of foods from each food group?**
**Answer:** Different foods provide the body with the variety of nutrients needed.

**Prior to this activity, students have nutrition knowledge. Correct protocol for physical activities and exercises should be reviewed at the beginning of the class.**

### Procedure/Instruction

#### Activity Set-Up

**Fitness Entry Activity**

Students enter the classroom, put on pedometers, and begin walking in the clearly stated walk/jog path. On teacher command, students begin jogging to increase heart rate and prepare for the lesson. Upon completion of warm-up, students will meet the teacher in the designated area.

**Activity Set-Up**

- Equipment is set up for each station prior to students entering the gym. (Refer to Diagram – Gym Set-Up, page 3.)
- Place *Station Signs* around gym. (Refer to *Station Signs*, pages 4–7.)
- Place *Station Activity List* at each station. (Refer to *Station Activity List*, page 8.)
- Place *Help Nutrition Handouts* at the Help Wall. (Refer to *Help Nutrition Handouts*, page 11–13.)

**Activity Instructions:**

- Students are given the *Nutrition Fitness Sheet*, page 9, a pencil, and a set time to complete the station activities (approximately 30 minutes).
- Students are grouped in 2–3 and placed at a station. On teacher command, the groups will read the task at the station and begin exercising.
  - Students start at an assigned station and then rotate at their own pace through all stations.
  - At stations #9, #20 and #29 (Refer to *Station Activity List*, page 8), the students will complete one section of the *Nutrition Fitness Sheet*.
  - Students will complete their task sheet by identifying a benefit of carbohydrates, fats, and proteins as well as naming two foods that are a source of the nutrient. Students will also identify the appropriate nutrient needed to complete physical activities. For teacher use, the *Answer Key for Nutrition Fitness Sheet* is located on page 10.
  - *Help Nutrition Handouts* are located in two corners of the gym for students who need extra assistance.

**Closure/Assessment**

1. Students will line up at the exit door and return the completed *Nutrition Task Sheet* and pencil.
2. As an exit task, the teacher will have *Exit Task Cards* and flash one card per student. (Refer to *Exit Task Cards*, page 14.)
3. Each student will explain a benefit of one of the following *Exit Task Cards*: Carbohydrate, Protein, or Fat. When the student correctly provides a benefit of protein, carbohydrate, or fat, the student will state number of steps completed from pedometer.
4. The student will return pedometer in appropriate case.
5. Teacher provides positive reinforcement and/or corrects prompts as they exit.
Diagram – Gym Set-up

Jump Reach

Bicycle, Crunches
Push-ups, Shoulder Touches

Modified Pull-Ups

Jump Rope Area

Jump Rope Stand

Running path = ←→

Nutrient Fitness Sheet and Pencils
Help Wall

Help Wall

Step Ups

Students in groups of 2-3
Entrance/Exit Door

Bleachers

Triceps Dip

Run/Jog

XXX

Diagram – Gym Set-up

Jump Reach

Bicycle, Crunches
Push-ups, Shoulder Touches

Modified Pull-Ups

Jump Rope Area

Jump Rope Stand

Running path = ←→

Nutrient Fitness Sheet and Pencils
Help Wall

Help Wall

Step Ups

Students in groups of 2-3
Entrance/Exit Door

Bleachers

Triceps Dip

Run/Jog

XXX
Station Signs

Jump Reach

Run/Jog

Bicycle Crunches
Station Signs

Modified Pull-Ups

Triceps Dip

Jump Rope
Station Signs

Step-Ups

Push-Ups

Shoulder Touches
Help Wall
Station Activity List

**Nutrition Fitness**

# 1  Jog 2 laps
# 2  10 Step-Ups
# 3  Jump Rope—20 times each leg
# 4  5 Triceps Dip
# 5  10 Jump Reach
# 6  5 Bicycle Crunches
# 7  Modified Pull-Ups
# 8  Jog 4 laps
# 9  **Complete a worksheet section**

# 10  15 Step-Ups
# 11  Jump Rope—40 times each leg
# 12  10 Triceps Dip
# 13  15 Jump Reach
# 14  10 Bicycle Crunches
# 15  Jog 6 laps
# 16  20 Step-Ups
# 17  Jump Rope—100 times
# 18  15 Triceps Dip
# 19  20 Jump Reach
# 20  **Complete a worksheet section**

# 21  15 Bicycle Crunches
# 22  Jog 8 laps
# 23  25 Step-Ups
# 24  Jump rope—200 times
# 25  20 Triceps Dip
# 26  10 Push-Ups
# 27  Jog 10 laps
# 28  30 Shoulder Touches
# 29  **Complete a worksheet section**

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**Nutrition Fitness**

# 1  Jog 2 laps
# 2  10 Step-Ups
# 3  Jump Rope—20 times each leg
# 4  5 Triceps Dip
# 5  10 Jump Reach
# 6  5 Bicycle Crunches
# 7  Modified Pull-Ups
# 8  Jog 4 laps
# 9  **Complete a worksheet section**

# 10  15 Step-Ups
# 11  Jump Rope—40 times each leg
# 12  10 Triceps Dip
# 13  15 Jump Reach
# 14  10 Bicycle Crunches
# 15  Jog 6 laps
# 16  20 Step-Ups
# 17  Jump Rope—100 times
# 18  15 Triceps Dip
# 19  20 Jump Reach
# 20  **Complete a worksheet section**

# 21  15 Bicycle Crunches
# 22  Jog 8 laps
# 23  25 Step-Ups
# 24  Jump rope—200 times
# 25  20 Triceps Dip
# 26  10 Push-Ups
# 27  Jog 10 laps
# 28  30 Shoulder Touches
# 29  **Complete a worksheet section**
NUTRIENT FITNESS SHEET

Use your prior knowledge to complete the following tasks. Place each exercise under the correct nutrient needed to perform the exercise. Answer the questions at the bottom before turning your paper in for points.

**CARBOHYDRATES** - List one physical benefit of carbohydrates. ____________________________

Name 2 foods that are sources of carbohydrates: ________________________________________

**FATS** - List one physical benefit of fats. _____________________________________________

Name 2 foods that are sources of fats: ________________________________________________

**PROTEINS** - List one physical benefit of proteins. _________________________________

Name 2 foods that are sources of proteins: ____________________________________________

Next to each activity identify which nutrient is needed to perform the exercise. Place a “C” (carbohydrates), if the activity requires instant energy. Place an “F” (fats), if the activity requires stored energy. Place a “P” (proteins), if the activity requires muscular strength to perform.

__ 100 Meter Run __ Jump Rope 100 times __ Bicycle Crunches
__ Jump Reach __ 5 mile run __ Step-Ups
__ Push-Ups __ 40 mile bike ride
__ Modified Pull-Ups __ Triceps Dip

**Questions**

Which three nutrients provide energy?

_________________________ ________________ _______________________

Which three nutrients do NOT provide energy?

_________________________ ________________ _______________________

Name five food groups:

_________________________ ________________ _______________________

_________________________ ________________ _______________________


Name: Answer Key

NUTRIENT FITNESS SHEET

**CARBOHYDRATES** - List one physical benefit of carbohydrates. *Gives your body energy to move.*

Name 2 foods that are sources of carbohydrates: Fruits, Vegetables

**FATS** - List one physical benefit of fats. *Gives the body energy to burn and maintain a long-term workout.*

Name 2 foods that are sources of fats: French Fries, Butter

**PROTEINS** - List one physical benefit of proteins. *Gives your body energy to build and repair muscle.*

Name 2 foods that are sources of proteins: Beef, Fish

Next to each activity identify which nutrient is needed to perform the exercise. Place a “C” (carbohydrates), if the activity requires instant energy. Place an “F” (fats), if the activity requires stored energy. Place a “P” (proteins), if the activity requires muscular strength to perform.

C 100 Meter Run  C Jump Rope 100 times  P Bicycle Crunches
C Jump Reach  F 5 mile run  C Step-Ups
P Push-Ups  F 40 mile bike ride
P Modified Pull-Ups  P Triceps Dip

Questions

Which three nutrients provide energy?  
*Carbohydrates, Proteins, Fats*

Which three nutrients do NOT provide energy?  
*Vitamins, Minerals, Water*

Name five food groups:  
*Dairy, Fruits, Vegetables, Grains, Protein Foods*
Carbohydrates

• **Function:**
  – Major source of energy

• **What foods have carbohydrates?**
  – Breads, pasta, rice, corn, peas, fruits, milk, and sources of sugar

• **What food groups do these come from?**
  – Grains, vegetables, fruit, and milk
Proteins

• Function:
  – Provide energy
  – Build and maintain body tissues and muscle

• What foods have proteins?
  – Meat, fish, eggs, nuts, milk, cheese, soy, and dry beans

• What food groups do these come from?
  – Protein foods, dairy, and vegetables
Fats

• Function:  
  – Provides energy that can be stored long term

• What foods have fats?  
  – Butter, margarine, oils, meats, nuts, and cheeses

• What food groups do these come from?  
  – Protein foods, dairy
Exit Task Cards

Carbohydrates

Proteins

Fats
Vocabulary – Nutrient Fitness

Activity Levels –
  Active – 60 or more minutes a day of moderate physical activity.
  Moderate – 30 to 60 minutes a day of moderate physical activity.
  Sedentary – Fewer than 30 minutes a day of moderate physical activity.

Balanced Diet – Eating and drinking the right amount of nutrients to make your diet healthy.

Benefit – Something promoting a favorable result.

Body Composition – The amount of lean body mass compared to the amount of body fat.

Calcium – Helps build strong bones and healthy teeth. Food examples: dairy products, broccoli, soybeans, and leafy green vegetables.

Calorie – A unit of energy found in food.

Caloric requirements for boys and girls –
  An active 14-year old boy needs about 2,800 calories per day.
  A moderately active 14-year old boy needs about 2,400 calories per day.
  A sedentary 14-year old boy needs about 2,000 calories per day.
  An active 14-year old girl needs about 2,400 calories per day.
  A moderately active 14-year old girl needs about 2,000 calories per day.
  A sedentary 14-year old girl needs about 1,800 calories per day.

Carbohydrate – A major source of energy for the body. Food examples: whole grains, vegetables, and fruits. Most sugars and starches also contain carbohydrates.

Dehydration – A dangerous lack of water in the body resulting from inadequate intake of fluids or excessive loss through sweating, vomiting, or diarrhea.

Diet – A selection of foods.

Energy Balance – The amount of food energy you take in is equal to the amount of energy you use.

Essential Nutrients – The nutrients that a person gets from food are called the essential nutrients. The six classes of essential nutrients include:
  • Carbohydrate – A major source of energy for the body. Food examples: whole grains, vegetables, and fruits. Most sugars and starches also contain carbohydrates.
  • Fats – Provides energy, helps growth and repairs cells, and dissolves and carries certain vitamins to cells.
  • Minerals – Essential for the proper functioning of the body. The body uses minerals to perform many different functions – from building strong bones to transmitting nerve impulses.
  • Protein – Used for building, maintaining, and repairing tissues and cells.
  • Vitamin – A nutrient needed in small amounts for growth and repairs body cells.
  • Water – Approximately 60% of the adult human body is composed of water. An essential role of water is to maintain body temperature through evaporation, as in sweating. Helps digest food and gets rid of waste.

Exercise – Purposeful physical activity that is planned, structured, and repetitive and that improves personal fitness.

Fat – Provides energy, helps growth, repairs cells, and dissolves and carries certain vitamins to cells.

Fiber – Helps slow digestion and prevents constipation.

Fitness – The ability of the body to perform daily physical activities without getting out of breath, sore or overly tired.

Food Groups – Food groups is a collection of foods that share similar nutritional properties. The groups include fruits, grains, protein foods, dairy, and vegetables.
  • Fruit Group – Any fruit or 100% fruit juice counts as part of the Fruit Group. Fruits may be fresh, canned, frozen, or dried, and may be whole, cut-up, or pureed. Food examples: apples, strawberries, and melon.
Vocabulary – Cont.

- **Grains Group** – Whole-grain products such as whole-wheat bread, oatmeal, and brown rice are recommended because they have more fiber and help you feel full. Food examples: bread, cereal, rice, tortillas, and pasta.
- **Protein Group** – Protein builds up, maintains, and replaces the tissues in your body. Food examples: beef; poultry; fish; eggs; nuts and seeds; and beans and peas like black beans, split peas, lentils, and even tofu and veggie burgers.
- **Milk Group** – Foods in this group provide nutrients that are vital for health and maintenance of your body, especially improved bone health. These nutrients include calcium, potassium, vitamin D, and protein. Food examples: milk, yogurt, cheese, and fortified soy milk.
- **Vegetable Group** – Any vegetable or 100% vegetable juice counts as a member of the Vegetable Group. Vegetables may be raw or cooked; fresh, frozen, canned, or dried/dehydrated; and may be whole, cut-up, or mashed. Food examples: broccoli, navy beans, and asparagus.
- **Oil Group** – Oils are fats that are liquid at room temperature, like the vegetable oils used in cooking. Food examples: canola oil, corn oil, olive oil, safflower oil, and shortening.

**Iron** – Important in the formation of red blood cells which transports oxygen throughout the body. Food examples: beef, tuna, salmon, eggs, beans, leafy green vegetables, raisins, and whole grains.

**Minerals** – Essential for the proper functioning of the body. The body uses minerals to perform many different functions – from building strong bones to transmitting nerve impulses.

**MyPlate** – MyPlate is the current nutrition guide published by the United States Department of Agriculture (USDA), depicting a plate and glass divided into food groups.

**MyPyramid** – MyPyramid is an update on the American food guide pyramid that was used until June 2, 2011, when the USDA’s MyPlate replaced it. A tool for choosing a healthy diet by selecting a recommended number of servings from each of the food groups e.g., grains, vegetables, fruits, oils, dairy, meat, and beans.

**Nutrient** – A substance in food that provides energy or helps form body tissues and that is necessary for life and growth.

**Nutrient Benefit** – Increases the general well-being from consumption of a nutrient or dietary ingredient.

**Nutrient Categories** – Good nutrition can help prevent disease and promote health. There are six categories of nutrients that the body needs to acquire from food: carbohydrates, fats, minerals, proteins, vitamins, and water.

**Nutrition** – A study of foods and how they nourish the body.

**Protein** – Used for building, maintaining, and repairing tissues and cells.

**Saturated Fat** – Eating too much can raise blood cholesterol levels and increase the risk of heart disease. Food examples: meat and other animal products, butter, cheese, milk products (except skim), palm and coconut oils are all examples of saturated fats.

**Trans Fat** – Trans fats can raise blood cholesterol levels and increase the risk of heart disease. Food examples: margarine, many snack foods, hamburgers, and fried foods.

**Unsaturated Fat** – Needed for good heart health. Helps the body absorb some vitamins and is important for growth and development. Food examples: olive oil, peanut oil, canola oil, nuts, seeds, albacore tuna, and salmon.

**Vitamin** – A nutrient needed in small amounts for growth and repairs body cells.

**Water** – Approximately 60% of the adult human body is composed of water. An essential role of water is to maintain body temperature through evaporation, as in sweating. Helps digest food and gets rid of waste.
Sincere appreciation is extended to the members of the Health and Fitness Video Production Team and the Review Panel for their time, expertise, and commitment to ensuring that all students in Washington achieve the state standards and assessments in health and fitness.

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<tr>
<th>Elementary</th>
<th>Middle School</th>
<th>High School</th>
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<tr>
<td>Patricia Jean Jarvis, Central Valley School District</td>
<td></td>
<td>Tracy Krause, Tahoma School District</td>
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For more information about the contents of this document, please contact the Program Supervisor for Health and Fitness Education.

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