# Table of Contents

Preface .................................................................................................................................................. i

Section 1  FIVE COMPONENTS OF FITNESS  
Five for Life  
• Five for Life ............................................................................................................................ 1.1  
• Training Principles ................................................................................................................... 1.34

Section 2  HEALTH  
Healthy Habits for Life  
• Activity Log ............................................................................................................................... 2.1  
• Nutrition Log ............................................................................................................................... 2.16  
• Sleep Log ...................................................................................................................................... 2.30  
• Hydration Log ............................................................................................................................. 2.43

Section 3  SYSTEMS FOR MOVEMENT  
Cardiorespiratory System  
• Cardiorespiratory System for Life ............................................................................................. 3.1  
Skeletal System/Muscular system  
• Bones and Muscles for Life ....................................................................................................... 3.15

Section 4  FITNESS RELATED ACTIVITIES  
Functional and Circuit Training  
• Functional Training .................................................................................................................. 4.1  
• Circuit Training ......................................................................................................................... 4.42  
Heart Rate Monitors  
• Heart Health Pyramid ............................................................................................................... 4.78  
Pedometers  
• Steps for Life ............................................................................................................................ 4.96  
Fitness Measurements  
• Fitness Measurements ................................................................................................................. 4.114  
Goal Setting  
• Goal Setting for Life .................................................................................................................. 4.146

Section 5  WELLNESS  
Wellness ............................................................................................................................................ 5.1  
Lifetime Activities  
Safety ............................................................................................................................................... 5.2  
Leadership/Cooperation  
Individual/Team Sports Lifetime Activities

Section 6  RESOURCES  
Advanced Cumulative Assessment ................................................................................................. 6.1  
Advanced Cumulative Assessment Key and Rubric ........................................................................ 6.10  
Physical Education Yearly Plan ..................................................................................................... 6.30  
Vocabulary Words and Definitions ............................................................................................... 6.31  
National Standards for Physical Education .................................................................................... 6.35  
References .................................................................................................................................... 6.36
HEALTHY HABITS FOR LIFE - ACTIVITY LOG

Unit Title: Activity
Grade Level: Advanced
Section: Health
Time Frame: Continuously Integrated

Activities:
- Five for Life Activity Diamond Intensity Levels
- Activity Log

Key Vocabulary Words:
Activity Log, Age-Adjusted Heart Rate, Five for Life Activity Diamond, Max, Heart Health, Base, Daily Activity, Media/Seat, Maximum Heart Rate

Essential Questions:
- How active am I?
- Does my activity level meet health recommendations?

Unit Goals:
- Students will understand their patterns of activity and analyze how their everyday behaviors connect to long-term health
- Students will compare and contrast their everyday behaviors to long-term health recommendations

Student Objectives:
- Students will explain how heart rate relates to activity intensity levels in the five categories of the Five for Life Activity Diamond
- Students will log their everyday behaviors on the activity logs
- Students will apply health recommendations to their everyday behaviors by comparing and contrasting information gathered on logs
Lessons:

• Display essential questions
• Explain the purpose of logging everyday behaviors and its connection to long-term health (Student Introduction)
• Explain the activity log and its purpose (Activity and Log)
• Have students log their activity for a predetermined length of time and complete the Log Self-Reflection

Student Assessment:

• Log Self-Reflection
• Activity Unit Quiz

Subject Integration (Reading, Writing and Math):

• Student Introduction (Reading)
• Logs (Comparing and Contrasting Data)
• Self-Reflection (Writing)
• Age-Adjusted Maximum Heart Rate Conversion Chart (Math)

Safety:

Use Five for Life Safety Code to reinforce safe play with your students. (Note: See Safety section for directions)

Review the following safety cues before beginning an activity:

• Check his/her personal space
• Maintain control of his/her body at all times
• Respect equipment, others and self
• Always follow directions

Equipment Needed:

• Heart Rate Monitors (if available)
• Activity Packet
• Activity Log
• Five for Life Activity Diamond
• Self-Reflection Questions
• Heart Rate Conversion Chart

NASPE Standards:

Standard 1: Demonstrates competency in motor skills and movement patterns needed to perform a variety of physical activities.
Standard 2: Demonstrates an understanding of movement concepts, principles, strategies, and tactics as they apply to the learning and performance of physical activities.
Standard 3: Participates regularly in physical activity.
Standard 4: Achieves and maintains a health-enhancing level of physical fitness.
Standard 5: Exhibits responsible personal and social behavior that respects self and others in physical activity settings.
Standard 6: Values physical activity for health, enjoyment, challenge, self-expression, and/or social interaction.
Activity, nutrition, hydration and sleep are the everyday behaviors that affect long-term health. These behaviors strongly influence the health, performance and appearance of an individual. A person can determine if his/her habits are producing the desired health benefits by logging activity, nutrition, hydration and sleep patterns.

Logs can help a person see how choices regarding activity, nutrition, hydration and sleep affect fitness and health. An individual can make a plan to improve fitness and health through lifestyle choices based on the information received from these types of logs. The improvement of health, performance and appearance will never fully be achieved without first understanding how activity, nutrition, hydration and sleep work together.

Activity

Health, performance and appearance are greatly affected by the type and duration of activities engaged in over a lifetime. People who live an active life have a lower risk of suffering from preventable diseases such as heart disease, stroke, cancer, and obesity. They maintain their muscular, skeletal and cardiorespiratory systems, have more energy and vitality, and improve their performance. They also improve their body composition, therefore enhancing their appearance.

Connecting the types of activities, the intensity of the activities, and the length of time spent in those activities are important contributors to long-term fitness. All activities, based on intensity, can be placed into the five categories of the Five for Life Activity Diamond, a tool used to distinguish intensity levels during physical activity. The five categories are Media/Seat, Daily Activity, Base, Heart Health and Max. Media/Seat (1) includes time spent sitting down in which a person can talk with no effort. Daily Activity (2) includes activities that are low in intensity and easy to perform. Base (3) activities are moderate, slightly uncomfortable and cause an individual to sweat a little. Heart Health (4) activities are vigorous. A person can still talk but it takes quite a bit of effort. Max (5) is the highest intensity level and performing activities at this level is very, very difficult. This is called the no talk zone and the activity can only be kept up for a short period of time.

The different levels of the Five for Life Activity Diamond are based on percentages of a person’s maximum heart rate, which is the highest number of times the heart can beat in one minute. It is accepted that the average maximum human heart rate is 220 beats per minute, minus a person’s age. An individual’s heart rate might be higher or lower because everyone is different, so 220 is just an average. A common way to figure out a person’s average maximum heart rate without doing a complicated test is the age-adjusted heart rate of 220 minus the person’s age. Based on the age-adjusted formula, 205 would be the maximum heart rate for a 15-year-old.

Watching TV, playing on a computer, doing homework, and reading a book are very sedentary, fit into the Media/Seat category and should be kept to a minimum. When performing activities in this category, a person’s heart rate will be below 40% of their maximum heart rate and talking should not be difficult at all.

Daily Activities, like making the bed, gardening, vacuuming or dusting, are low intensity activities, as are activities such as walking slowly, golfing with a power cart or doing light stretching. Activities such as these will raise a person’s heart rate between 40% and 50% of their maximum heart rate.

(continued)
(continued)

Base activities such as biking, walking briskly, golfing while pulling or carrying clubs, recreational swimming, and weight lifting are higher in intensity than Daily Activities, yet less intense than Heart Health activities. Mowing the lawn with a power mower or scrubbing floors or windows could be included in the Base category. A person’s heart rate will be between 51% and 65% of their maximum heart rate and talking requires some effort.

Activities such as race walking, jogging, running, swimming laps, circuit training, or moving or pushing furniture could be in the Heart Health category. Heart health activities will increase a person’s heart rate to 66% - 85% of their maximum heart rate. Talking at this level is difficult.

Jumping rope and sprinting are examples of activities in the Max category. Activities at this level can only be done for short periods of time, talking is nearly impossible and the heart rate is above 85% of a person’s maximum heart rate.

The Five for Life recommendation to maintain a fit and healthy life is to perform 60 minutes of Heart Health or Base activity per day, five days per week. Because time spent on activity to enhance health, performance, and appearance depends on intensity, a person participating in lower intensity activities would have to spend more time than a person participating in higher intensity activities to receive the same benefits.

Using an activity log can help a person evaluate personal activity patterns in an average day and can help determine if he or she is meeting the recommendation to maintain a fit and healthy lifestyle. If a person’s activity level is too low, he/she can see this at a glance and begin to plan how to increase daily activity.
Key vocabulary words that will be introduced during this unit are:

- **Activity Log** – A system used to monitor a person’s activity habits
- **Age-Adjusted Maximum Heart Rate** – A method used to calculate maximum heart rate (220 – Age)
- **Base** – 51-65% of the maximum heart rate
- **Daily Activity** – 40-50% of the maximum heart rate
- **Five for Life Activity Diamond** – A tool used to distinguish intensity levels during physical activity
- **Heart Health** – 66-85% of the maximum heart rate
- **Max** – 86-100% of the maximum heart rate
- **Maximum Heart Rate** – The highest number of times the heart can beat in one minute
- **Media/Seat** – Below 40% of the maximum heart rate
Level: Advanced

Objective:
Students will explain how heart rate relates to activity intensity levels in the five categories of the Five for Life Activity Diamond

Explanation:
Health, performance and appearance are greatly affected by the type and duration of activities engaged in over a lifetime. Connecting the types of activities, the intensity of the activities, and the length of time spent in those activities are important contributors to long-term fitness. All activities, based on intensity, can be placed into the five categories of the Five for Life Activity Diamond, a tool used to distinguish intensity levels during physical activity. The five categories are Media/Seat, Daily Activity, Base, Heart Health and Max. Media/Seat (1) includes time spent sitting down in which a person can talk with no effort. Daily Activity (2) includes activities that are low in intensity and easy to perform. Base (3) activities are moderate, slightly uncomfortable and cause an individual to sweat a little. Heart Health (4) activities are vigorous. A person can still talk but it takes quite a bit of effort. Max (5) is the highest intensity level and performing activities at this level is very, very difficult. This is called the no talk zone and the activity can only be kept up for a short period of time.

The different levels of the Five for Life Activity Diamond are based on percentages of a person’s maximum heart rate which is the highest number of times the heart can beat in one minute. It is accepted that the average maximum human heart rate is 220 beats per minute, minus a person’s age (220 - age). An individual’s heart rate might be higher or lower because everyone is different, so 220 is just an average. A common way to figure out a person’s average maximum heart rate without doing a complicated test is the age-adjusted heart rate of 220 minus the person’s age. Based on the age-adjusted formula, 205 would be the maximum heart rate for a 15-year-old.

Directions:
1. Place the Five for Life Activity Diamond poster and the Heart Health Diamond Conversion Chart on the wall.
2. Using a white board or a chalk board, explain age-adjusted maximum and training heart rate formulas.
3. If heart rate monitors are available, have the students put them on. If not, then students will have to take their pulse when requested.
4. Have the students sit down. Review the Five for Life Activity Diamond with the students, explaining the different levels and the corresponding heart rate percentages.
Five for Life Activity Diamond
Intensity Levels - continued

5. Have the students look at their heart rate monitors or have the students take their pulse. Instruct students to place their index and middle finger on their carotid artery located on either side of their esophagus. On teacher’s cue students will count the number of heart beats in six seconds and place a “0” on the end.

6. Ask the students how they feel (talk test, breath, comfort level, etc.) based on the descriptors on the Five for Life Activity Diamond Poster. Ask the students what level they are currently in. They should recognize this is the Media/Seat level.

7. Have students give examples of what they do in daily life in which they feel the way they do now (when they are sitting).

8. Have the students get up and get into the Daily Activity level on the Activity Diamond, by walking around with a partner while talking. Have students perform this activity for 2 minutes.

9. Ask the students how they feel (talk test, breath, comfort level, etc.) based on descriptors on the Activity Diamond poster. Ask how long they think they could perform activity at this level.

10. Have students give examples of what they do in daily life in which they feel the way they do now.

11. Instruct students to get up and move around, raising the heart rate up to the Base level. Students may walk fast or jog lightly, depending on the person’s fitness level. Have students perform this activity for 2 minutes.

12. Repeat steps 8 and 9, getting the students to personalize how they feel, and to share activities they could do to achieve this level and how long they believe they could perform those activities.

13. Have the students get up and move around, increasing their heart rate to the Heart Health Level. Perform this activity for 2 minutes.

14. Repeat steps 8 and 9, getting the students to personalize how they feel, and to share activities they could do to achieve this level and how long they believe they could perform those activities. Emphasize that this level is usually achieved through an intentional activity like jogging.

15. Instruct the students to get up and move around, raising the heart rate up to the Max Level. Perform this activity for 1 minute or less.

16. Repeat steps 8 and 9, getting the students to personalize how they feel, and to share activities they could do to achieve this level and how long they believe they could perform those activities. Emphasize that activities at this level can only be done for a short period of time and are usually not done unless training for something specific. An example of an activity at this level would be running lines training for basketball.

Reflective Questions:

1. Use reflective questions throughout the activity written within the directions.
# Five for Life

## Heart Health Diamond

### Heart Rate Conversion Chart

<table>
<thead>
<tr>
<th>(% of MHR)</th>
<th>age</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
<th>15</th>
<th>16</th>
<th>17</th>
<th>18</th>
<th>19</th>
<th>20</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MAX</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>100%</td>
<td>Max HR</td>
<td>210</td>
<td>209</td>
<td>208</td>
<td>207</td>
<td>206</td>
<td>205</td>
<td>204</td>
<td>203</td>
<td>202</td>
<td>201</td>
<td>200</td>
</tr>
<tr>
<td>86%</td>
<td></td>
<td>181</td>
<td>180</td>
<td>179</td>
<td>178</td>
<td>177</td>
<td>176</td>
<td>175</td>
<td>174</td>
<td>173</td>
<td>172</td>
<td></td>
</tr>
<tr>
<td><strong>HEART HEALTH</strong></td>
<td>85%</td>
<td>179</td>
<td>178</td>
<td>177</td>
<td>176</td>
<td>175</td>
<td>174</td>
<td>173</td>
<td>172</td>
<td>171</td>
<td>170</td>
<td></td>
</tr>
<tr>
<td></td>
<td>66%</td>
<td>139</td>
<td>138</td>
<td>137</td>
<td>136</td>
<td>135</td>
<td>135</td>
<td>134</td>
<td>133</td>
<td>133</td>
<td>132</td>
<td></td>
</tr>
<tr>
<td><strong>BASE</strong></td>
<td>65%</td>
<td>137</td>
<td>136</td>
<td>135</td>
<td>134</td>
<td>133</td>
<td>133</td>
<td>132</td>
<td>131</td>
<td>131</td>
<td>130</td>
<td></td>
</tr>
<tr>
<td></td>
<td>51%</td>
<td>107</td>
<td>107</td>
<td>106</td>
<td>106</td>
<td>105</td>
<td>105</td>
<td>104</td>
<td>104</td>
<td>103</td>
<td>103</td>
<td>102</td>
</tr>
<tr>
<td><strong>DAILY ACTIVITY</strong></td>
<td>50%</td>
<td>105</td>
<td>105</td>
<td>104</td>
<td>104</td>
<td>103</td>
<td>103</td>
<td>102</td>
<td>102</td>
<td>101</td>
<td>101</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>40%</td>
<td>84</td>
<td>84</td>
<td>83</td>
<td>83</td>
<td>82</td>
<td>82</td>
<td>82</td>
<td>81</td>
<td>81</td>
<td>80</td>
<td>80</td>
</tr>
<tr>
<td><strong>MEDIA/SEAT</strong> Below 40%</td>
<td>&lt;84</td>
<td>&lt;84</td>
<td>&lt;83</td>
<td>&lt;83</td>
<td>&lt;82</td>
<td>&lt;82</td>
<td>&lt;82</td>
<td>&lt;81</td>
<td>&lt;81</td>
<td>&lt;80</td>
<td>&lt;80</td>
<td></td>
</tr>
</tbody>
</table>

Age-Adjusted Maximum Heart Rate (MRH) = 220 - age
**Activity Log**

**Level:** Intermediate

**Objective:**
Students will describe how the activity choices they make affect their overall health, performance and appearance.

**Equipment:**
Activity Packet
- Activity Diamond (page 2.10)
- Five for Life Activity Log (page 2.11)
- Healthy Habits for Life Activity Log Self-Reflection (page 2.12)(opt.)

**Explanation:**
Health, performance and appearance are greatly affected by the type and duration of activities engaged in over a lifetime. Connecting the types of activities, the intensity of the activities, and the length of time spent in those activities are important contributors to long-term fitness. All activities, based on intensity, can be placed into the five categories of the Five for Life Activity Diamond, a tool used to distinguish intensity levels during physical activity. The five categories are Media/Seat, Daily Activity, Base, Heart Health and Max. Media/Seat (1) includes time spent sitting down in which a person can talk with no effort. Daily Activity (2) includes activities that are low in intensity and easy to perform. Base (3) activities are moderate, slightly uncomfortable and cause an individual to sweat a little. Heart Health (4) activities are vigorous. A person can still talk but it takes quite a bit of effort. Max (5) is the highest intensity level and performing activities at this level is very, very difficult. This is called the no talk zone and the activity can only be kept up for a short period of time.

Understanding activity patterns in an average day and using an activity log can provide the information needed to evaluate activity and determine whether it meets the recommendations to maintain a fit and healthy lifestyle. The Five for Life recommendation to maintain a fit and healthy life is to perform 60 minutes of a Heart Health or Base activity per day, five days per week.

**Directions:**
1. Hand out and explain to students the contents of the Activity Packet.
2. Demonstrate how to fill out an activity log. Write a check for the level of activity completed for that half hour if more than 15 minutes was spent at that level. At the end of the day, total the number of checks at the bottom of each column.
3. Set timeline for the recording of the activity log. Use a minimum of three days, including a weekend day to average the amount of activity.
4. Set aside time each day to allow the students an opportunity to record the previous day’s activities or allow students to record activity time on their own and then return the activity log after recording period is over.
5. Optional: Have students fill out Healthy Habits for Life Log Self-Reflection.
### ACTIVITY DIAMOND™

<table>
<thead>
<tr>
<th>Percentage of Maximum Heart Rate (MHR)</th>
<th>Intensity Level (RPE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Above 85%</td>
<td>MAX 5</td>
</tr>
<tr>
<td>66-85%</td>
<td>HEART HEALTH 4</td>
</tr>
<tr>
<td>51-65%</td>
<td>BASE 3</td>
</tr>
<tr>
<td>40-50%</td>
<td>DAILY ACTIVITY 2</td>
</tr>
<tr>
<td>Below 40%</td>
<td>MEDIA/SEAT 1</td>
</tr>
</tbody>
</table>
FIVE FOR LIFE

ACTIVITY LOG # 1 2 3 4 5 (please circle)

NAME ____________________________________________
STUDENT ID _______________________________________
PERIOD___________________________________________
TEACHER _________________________________________

INSTRUCTIONS:
• Put a ✗ for the level of activity completed for that half hour if more than 15 minutes at that level.
• Total the number of ✗’s at the bottom of each column.

FOR EXAMPLE:

<table>
<thead>
<tr>
<th>Date: 1/24</th>
<th>Level 1- Media/Seat</th>
<th>Level 2- Daily Activity</th>
<th>Level 3- Base</th>
<th>Level 4- Heart Health</th>
<th>Level 5- Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>6:00-6:30</td>
<td>✗</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6:30-7:00</td>
<td></td>
<td>✗</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7:00-7:30</td>
<td></td>
<td>✗</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total ✗’s</td>
<td>1</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

INSTRUCTIONS:
• Put a ✗ for the level of activity completed for that half hour if more than 15 minutes at that level.
• Total the number of ✗’s at the bottom of each column.

FOR EXAMPLE:

MAX - Level 5 (very hard)
Very, very difficult; no-talk zone; I can only keep up this pace for a short period

HEART HEALTH - Level 4 (hard)
Vigorous; I can still talk, but really don’t want to; sweating

BASE - Level 3 (moderate)
Moderate; I am slightly uncomfortable; sweating a little and talking requires some effort

DAILY ACTIVITY - Level 2 (light)
Easy; I am comfortable and could maintain this pace all day long; I can talk with almost no effort

MEDIA/SEAT - Level 1 (light)
Very easy; I am sitting; I can talk with no effort