



NFL PLAY 60 Challenge
The Influence of Science and Technology in Sports and Physical Activity
Family Activity

Activity Overview

The American Heart Association (AHA) recommends at least 60 minutes of physical activity, per day, for ages 2-17. Most of this time should be spent doing either moderate- or vigorous-intensity aerobic activity. A portion of the time should be spent doing muscle- or bone-strengthening activities.

For ages 18 and over, the AHA recommends at least 150 minutes of moderate intensity physical activity or 75 minutes of vigorous aerobic activity each week; or an equal combination of moderate- and vigorous-intensity aerobic activity. One way to help make sure that you meet these recommendations each day is to track your duration and type of physical activity. Working in family teams and using materials available in your home, you will design a prototype tool or application of a new tool that could help your family track your physical activity each day.

Activity Duration: Will vary

Objectives:

- Identify criteria (needs) and constraints (limitations) of tracking and measuring tools
- Create a prototype that inspires tracking of physical activity

Materials:

- Tracking or measuring tools around the home - will vary
- Variety of materials to build prototype. All materials must be found in the home.
- Sports and Activity Information Sheet

Introduction

1. Invite family members to identify any tools around the home that could be used to measure physical activity. Discuss the purpose and function of each, including:
 - a. What do these tools track?
 - b. What information do they provide?
 - c. How do or would these tools help us track our physical activity?
 - d. Why is it important to track our physical activity?
 - e. What types of things related to physical activity would be important to track?

Challenge

1. Look again at the tools you have selected, and determine if they can help you track both the amount of time you are active and the types of physical activities you do. For example:
 - a. Can these tools provide you with all the information you need?
 - b. Will they track how many minutes you spend on an activity?
 - c. Will they track the type of activity that you did, including aerobic and bone- and muscle-strengthening?
 - d. How easy are these tools to use? What age groups can use them?
 - e. Do they make tracking activity fun?
2. Decide if you will work on this challenge as individuals or in small teams.

3. Your goal is to create a prototype tool or application of a new tool that can be used to track physical activity in a fun and exciting way. The design should incorporate the AHA Recommendations for physical activity.
4. Begin by identifying and listing the criteria (needs) for a tool or application that would be able to track real-time physical activity. Use your discussions from the questions in No. 1 as well as your own thoughts and ideas to develop your list. If possible, use the Internet or take a trip to the local library to find out the trends, reviews, and capabilities of current tracking tools and applications.
5. With the criteria identified and your [NFL PLAY 60 Challenge Game Planner](#), begin to brainstorm ideas for a new tracking tool. The best way to brainstorm is to list everything down that you can think of. Make sure to consider everyone's ideas.
6. Discuss the possibilities of each idea and narrow down your choices to one idea that meets most, if not all, of your criteria. Refer to the "Sports and Activity Information Sheet" for background information on the recommendations and types of activities.

Designing a Solution

1. Now that you have an idea, discuss the materials that could be used for your prototype. You can incorporate existing tools that could be modified or use other materials and build a tool from scratch. This is a time for creativity and fun. Set a time limit on the amount of time for 'scavenging' materials to use in the prototype.
2. Once everyone has gathered materials, discuss the requirements for the challenge. The prototype must be accurate in size. Be sure to consider where it will be? (Will it be carried, in a pocket, worn around the neck, on an arm, leg or ankle? There are many options!)
3. Set time for a Family Challenge Event night when everyone can share their prototypes.
4. Discuss with each other how each design creates a solution to the challenge of tracking real-time data of physical activity in an inspired way.

Sports and Activity Information Sheet

- **Strengthening** activities:
 - Promote growth and flexibility.
 - Are short-intensity activities which use energy.
 - Chemical substances produce fuel for energy.
 - Categorized as:
 - Bone strengthening - strengthen bones from force of impact or tension. Examples include:
 - Walking
 - Jumping rope
 - Football
 - Children's outdoor games
 - Dancing and cheerleading
 - Muscle strengthening - strengthen muscles from force applied in weight-bearing or resistance. Examples include:
 - Stretching/Warming-up
 - Pilates
 - Yoga
 - Walking up stairs
 - Weight training
 - Gardening
- **Aerobic** activities:
 - Build endurance
 - Are moderate- to high-intensity activities over longer periods of time.
 - Require oxygen for energy.
 - Examples include:
 - Walking
 - Swimming
 - Riding a bike
 - Running
 - Dancing
 - Hiking

Many activities incorporate one or more types (aerobic, bone-strengthening and/or muscle-strengthening).

For example:

- Martial arts
- Cheerleading
- Skateboarding/Roller skating
- Gymnastics
- Walking/running

American Heart Association Physical Activity Recommendations

- The AHA recommends that children age 2 and older should participate in at least 60 minutes of enjoyable, moderate-intensity physical activities every day that are developmentally appropriate.
- The AHA recommends that adults be physically active for:
 - At least 150 minutes of moderate intensity physical activity each week
OR
 - At least 75 minutes of vigorous aerobic activity each week; or an equal combination of moderate- and vigorous-intensity aerobic activity