Pedometer Activities to Enhance Cross-Curricular Learning

Pedometers are excellent tools for enhancing cross-curricular learning concepts. There are many ways to integrate the information learned from the Walk Smart, Virginia! program into cross-curricular lessons. Physical educators can build strong collegial support by reinforcing core academic concepts through physical education. Classroom teachers and administrators become allies when they see physical education teachers as part of the total "learning team."

The following cross-curricular activities are provided to help you develop creative, meaningful learning experiences for your students. We hope these suggestions will inspire you to create other fun, effective lessons that support your learning outcomes.

With permission from the Louisiana Department of Education, the basic content for the following lessons comes from their Pedometer Pizzaz book. These lessons have been aligned with the Virginia Standards of Learning for English, mathematics, science, history and social science so the Walk Smart, Virginia! program will also contribute to these instructional efforts at your school.

A Day in the Life

Subject Area: English
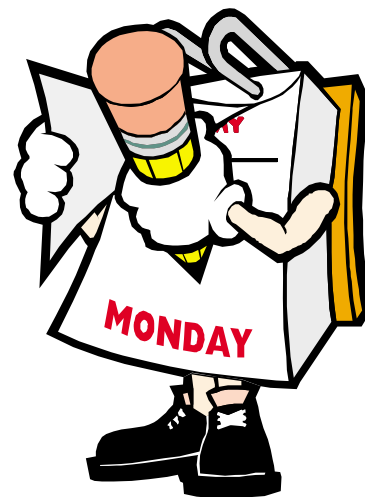
Standards of Learning:
English   1.12, 2.11, 3.10, 4.7, 5.8, 6.6, 7.8, 8.7

**Objective:**   The student will write a creative story about a day in the life of a pedometer.

Materials: Pedometers, paper, and pencils

Procedures: **1.** Brainstorm ideas about a day in the life of a dollar bill. Discuss what the dollar bill might see, hear, taste, smell, and touch. Discuss sensory words.

2. Allow the students to examine the pedometer for a few minutes to see how it works if they have not done so already.

3. Assign a creative writing assignment about a day in the life of a pedometer.

4. Have the students share their ideas.

Assessments: Class participation and rubric for creative writing

A Walk in the Park
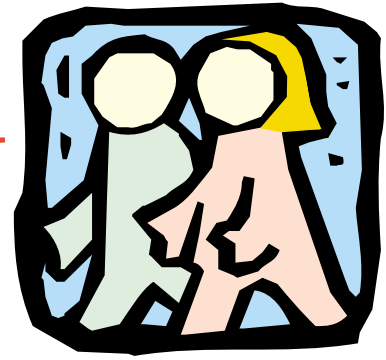
Subject Areas: English, Mathematics, Science, and History

Standards of Learning:

English	2.3, 3.1, 4.1, 5.1, 5.2
Mathematics	4.17, 6.19, 7.16
Science	LS.1, PS.1
History	VS.1f, g; USII.1f, g; WG1, 2, 3

Objectives: The student will determine his/her own average number of steps. The student will determine the average number of steps it would take to walk to various places.

Materials: Pedometers, paper, pencils, and maps

Procedures:

1. Review the instructions and uses for the pedometer.

2. Have each student wear a pedometer and march in place for 60 seconds, recording the number of steps as he/she finishes.

3. Each student should determine how many steps would be taken if he/she kept up the same pace for one hour. One week? One year?

4. Determine the class average by adding their total steps and dividing by the number of students.

5. In groups, determine how long it would take to walk to a Virginia city, using the class average.

Assessments: Class participation and data analysis

All About Pedometers

Subject Area: English

Standards of Learning:
English   1.12, 2.11, 3.10, 4.7, 5.8, 6.5, 7.6, 6.6, 8.6

Objectives: The student will recognize characteristics of an informational article. The student will research information about a pedometer. The student will create an original informational article about a pedometer.

Materials: Pedometers, informational articles, various research materials, paper, and pencils

Procedures: 1. Read and discuss the characteristics of an informational article.

2. Have the students research the uses and benefits of a pedometer.

3. The students will imagine that they are writing an informational article for a science magazine. They should include the information found in their research.

4. Determine the class average by adding their total steps and dividing by the number of students.

5. In groups, determine how long it would take to walk to a Virginia city, using the class average.

Assessments: Class participation and research rubric

Calorie Count

Subject Areas: English, Mathematics, and Science

Standards of Learning:

English	2.3, 3.1, 4.1, 5.1, 5.2, 6.3
Mathematics	2.2, 2.7, 3.3, 3.8, 4.1, 4.5, 4.7, 5.3, 6.4, 6.7, 7.4
Science	LS.3(b

Objectives: The student will identify the number of calories in various foods. The student will attempt to "walk off" the number of calories in various foods.

Materials: Pedometers, various candy bars, various nutritional snacks, paper, pencils, and Calorie Conversion Chart (See Appendix)

Procedures: 1. Discuss the key terms fat cell and calorie. (See Appendix)

2. Show the students a candy bar and discuss how many calories are in the candy bar.

3. Students will compute the number of steps it would take to walk off the calories in the candy bar. (See Appendix)

4. Show them a nutritional snack and discuss how many calories are in the snack.

5. Compare the difference between the two snacks.

6. Give them a time period and have them wear a pedometer to see if they are able to walk off the candy bar or the nutritional snack.

7. Have them discuss their observations.

Assessments: Class participation and research rubric

Clicker Chit Chat

Subject Area: **English**

Standards of Learning:

English   1.12, 2.3, 2.11, 3.1, 3.10, 4.1, 4.7, 5.1, 5.2, 5.8, 6.6, 6.7, 7.8, 7.9, 8.7, 8.8

Objectives: The student will compare and contrast a compass and a pedometer. The student will create a possible dialogue between a compass and a pedometer.

Materials: Pedometers, compasses, paper, and pencils

Procedures: 1. Discuss the uses of a compass and a pedometer. Allow the students to manipulate each as they are brainstorming.

2. Have the students create a dialogue between a compass and a pedometer. What do they have in common? How are they different? (A variation might be a pedometer and a treadmill.) The students should correctly use punctuation as they write.

3. Have the students share their conversations.

Assessments: Class participation, creative writing, and dialogue
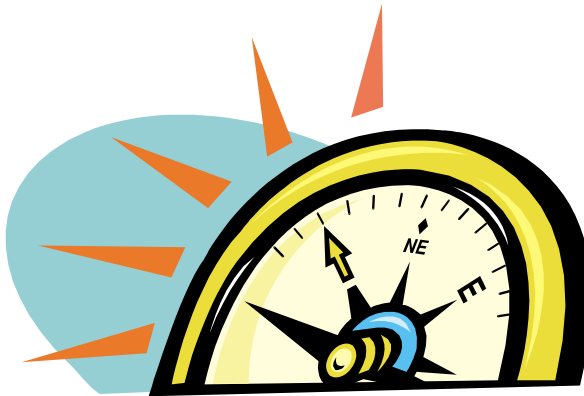
Clicker Comics

Subject Area: English

Standards of Learning:
English   1.12, 2.11, 3.10, 4.7, 5.8, 6.4, 7.5, 8.5

Objective: The student will create a comic strip about a super hero named Pedometer Man.

Materials: Comic strips, research on health and nutrition, paper, and colored pencils

Procedures: 1. Discuss the skills involved in sequencing (order of events, key words).

2. Have the students analyze several comic strips to emphasize the importance of sequencing.

3. Lead a discussion on the benefits and requirements of a healthy lifestyle.

4. Have the students create a comic strip about a super hero named Pedometer Man. This character should promote a healthy lifestyle.

Assessments: Class participation and comic strip (rubric)

Famous Footsteps

Subject Area: English

Standards of Learning:

English   2.3, 2.11, 3.1, 3.10, 4.1, 4.7, 5.1, 5.2, 5.8, 6.5, 6.6, 6.7, 7.6, 7.7, 7.8, 7.9, 8.6, 8.7, 8.8

Objectives: The student will research famous quotations. The student will create a paper incorporating famous quotations.

Materials: Pedometers, various research materials, paper, and pencils

Procedures: 1. Brainstorm famous quotations familiar to the students.

2. Review the instructions and uses for the pedometer.

3. Have the students research famous quotations that contain the words walk, step, etc., such as Neil Armstrong's quote, "That's one small step for man, one giant leap for mankind."

4. The students should write a paper and use at least five of the quotes they found while researching.

5. Allow the students to share their papers with the class.

Assessments: Class participation and paper

Feel the Burn!

Subject Areas: English, Mathematics, and Science

Standards of Learning:

English	2.3, 3.1, 4.1, 5.1, 5.2
Mathematics	K.14, 1.18, 1.19, 3.21, 4.20, 5.19, 6.18, 7.17, 7.18
Science	LS.1, LS.3(b)

Objective: The student will perform different activities to determine which activities burn more energy.

Materials: Pedometers, jump ropes, paper, pencils, and Calorie Conversion Chart (See Appendix)

Procedures: 1. Lead a discussion about calorie intake and how the body uses calories as energy.

2. Have the students hypothesize which activity burns more energy: hopping, skipping, jumping rope, jogging, or walking.

3. Group students and have them wear a pedometer and perform one of the tasks for a given period of time.

4. Chart each group's results using the Calorie Conversion Chart and discuss these findings. (See Appendix)

Assessments: Class participation and charts

Footsteps to Your Future

Subject Areas: English and Science

Standards of Learning:
   English   2.3, 2.11, 3.1, 3.10, 4.1, 4.7, 5.1, 5.2, 5.8
        Science   LS.1

Objectives: The student will brainstorm possible after-school activities. The student will compare and contrast active and inactive lifestyles. The student will record his/her activities and the number of steps taken during five hours each day. The student will use data to predict his/her lifestyle in the future.

Materials: Pedometers, paper, and pencils

Procedures:

1. Review the instructions and uses for the pedometer.

2. Brainstorm the activities the students are involved in after school.

3. Compare an active lifestyle to a sedentary lifestyle.

4. Have students wear pedometers after school for one week and record the number of steps they take each hour for five hours, as well as the activity in which they participate.

5. Compare the students' activity levels and their number of steps.

6. Have each student write a paragraph predicting his/her future if the activity level remains the same.

7. Allow students to share their paragraphs.

Assessments: Class participation and paragraphs (rubric)
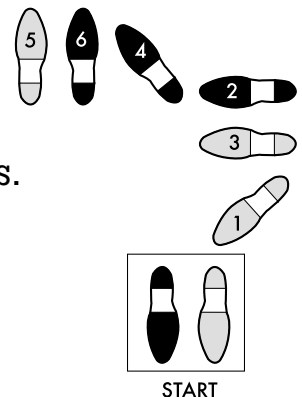
Forward March!

Subject Areas: English and Mathematics

Standards of Learning:

English	3.1, 4.1, 5.1, 5.2
Mathematics	5.19, 6.19, 7.16, A.17

Objective: The student will calculate distance traveled over time.

Materials: Pedometers, paper, and pencils

Procedures: 1. Review the instructions and uses for the pedometer.

2. Have the students wear a pedometer and march in place for one minute.

3. Divide the students into groups and have them find the average number of steps for the group.

4. Chart their results.

5. The students are to determine how long it would take to reach a certain number of steps. Example: How long would it take to reach one million steps traveling _____ number of steps per minute?

Assessments: Class participation, group participation rubric, and chart

Get on Your Feet!

Subject Areas: English

Standards of Learning:
English: 2.3, 3.1, 4.1, 5.1, 5.2, 6.3, 6.4, 6.5, 7.6, 8.6

Objective: The student will create a dance to match a particular step count.

Materials: Pedometers, story about a dancer, and a variety of music

Procedures: 1. Read a story to the students about a famous dancer.

2. Discuss the key dance terms; rhythm and step count with the students. (See Appendix)

3. Make up several step counts with the students and have them do the step counts. Check the step count with the pedometers.

4. Have the students create a step count dance and check their counts with the pedometers. Allow the students to teach the rest of the class their step count dance.

Assessments: Teacher observation, class participation, and dance steps (rubric)

Healthy Steps

Subject Area: English

Standards of Learning:
English   2.3, 3.1, 4.1, 5.1, 5.2, 6.4, 7.5, 8.5

Objectives: The student will identify the benefits of exercise in a person's life. The student will set realistic exercise goals for a nine-week period and evaluate their progress toward this goal at regular intervals.

Materials: Pedometers, story, foot pattern, and colored pencils

Procedures: 1. Read an inspirational story about someone who endured a hardship.

2. Discuss the importance of setting and meeting goals in life.

3. Discuss the benefits of exercise in everyone's life.

4. Have the students create an exercise goal for a nine-week period. This does not necessarily have to be a weight goal. Those who do choose a weight goal, however, should be allowed to use the pedometers to measure their progress. Each week, have the students evaluate their progress toward their goals. With each step they move toward their goal, the students should decorate or color a foot to be added to the wall with a title such as Stepping Towards Our Goal. When the nine weeks ends, evaluate and discuss each class' progress.

Assessments: Evaluation chart and class participation

Pedometer Persuasion

Subject Area: English

Standards of Learning:
English   3.10, 4.7, 5.8, 7.8, 7.9, 8.7, 8.8

Objectives: The student will identify characteristics of persuasive writing. The student will write a persuasive letter.

Materials: Examples of persuasive writing, paper, and pencils

Procedures: 1. Discuss characteristics of persuasive writing.

2. Read a persuasive piece of writing.

3. Have the students write a persuasive letter to a local merchant convincing the merchant to include pedometers in the store's inventory.

4. Make sure the students discuss the benefits of this measurement tool.

Assessments: Class participation and persuasive letter

Pedometer Poetry

Subject Area: English

Standards of Learning:
English   4.1, 4.1, 5.1, 5.2, 5.8, 6.4, 7.5, 8.5

Objective: The student will create original poetry about pedometers or something relevant to pedometers.

Materials: Pedometers, paper, pencils, colors or markers

Procedures: 1. Review the instructions and uses for the pedometer.

2. Discuss various types of poetry.

3. Have the students brainstorm words that relate to pedometers.

4. Students are to use the words from the brainstorming session to create poetry. Examples might include: acrostics, cinquains, limericks, and/or diamantes.

5. Students should illustrate their poetry.

6. Allow students an opportunity to share the poems.

Assessments: Class participation and poetry (rubric)
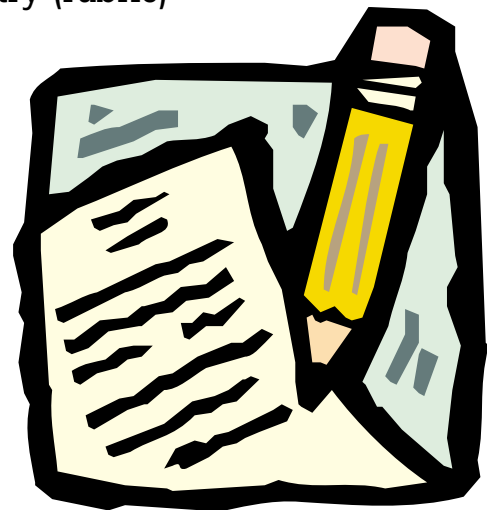
Pedometer Predator

Subject Areas: English and Science

Standards of Learning:

|	
English	4.1, 4.2, 4.7, 5.1, 5.2, 5.3, 5.8, 7.8, 7.9, 8.7, 8.8
Science	LS.1, PS.1, 4.1, 6.1

Objective: The student will create an original video game.

Materials: Pedometers, poster board, various decorative supplies, paper, and pencils

Procedures: 1. Brainstorm what the students know about modern video games.

2. Review the instructions and uses for the pedometer and give each group one pedometer to use.

3. Have each group design an original video game using a pedometer. They should create a visual in the form of a storyboard to show what their game would be like. Additionally, the students should write the rules for their video game in the form of a booklet. A three-dimensional version may be made as an extension to this assignment.

4. Groups should display and explain their video game to the class.

Assessments: Group participation rubric, video game visual and explanation (rubric)
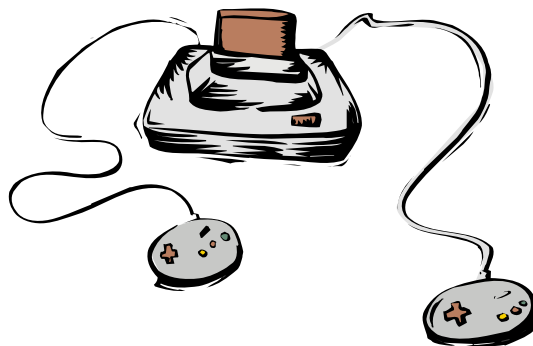
Pedometer Propaganda

Subject Area: English

Standards of Learning:
English: 4.1, 4.2, 4.7, 5.1, 5.2, 5.3, 5.8, 7.1, 7.2, 7.3, 7.8, 7.9, 8.3, 8.7. 8.8

Objectives: The student will distinguish between various propaganda techniques. The student will create an original advertising campaign for a pedometer.

Materials: Pedometers, a variety of advertisements and commercials for the students to analyze, posters, colored pencils, and video camera (if possible)

Procedures: 1. Discuss various propaganda techniques as the students view different advertisements and commercials.

2. Discuss the uses and benefits of the pedometer.

3. Have the students create an advertising campaign to introduce the pedometer to the public. Their campaign should include an advertising layout for a magazine, newspaper, or storyboard as well as a commercial.

4. Have the students present their campaign to the class. Video the commercials if possible.

Assessments: Teacher observation, class participation, advertising rubric, and oral presentation rubric
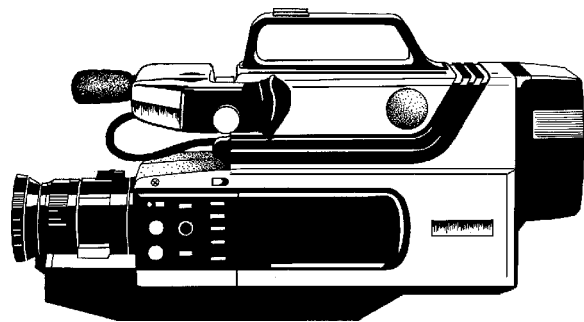
School Scaling

Subject Areas: English, Mathematics, and History

Standards of Learning:

|	
English	4.1, 5.1, 5.2
Mathematics	4.13, 5.8, 5.11, 6.11, 7.6, 8.8
History	USI.1, USI.2, WG.1a

Objectives: The student will use a diagram of the school to predict the area. The student will use a pedometer to measure distances within a school. The student will draw a scaled map of the school.

Materials: Pedometers, paper, pencils, and graph paper

Procedures: 1. Have the students draw a diagram of the school.

2. The students will predict how many steps it will take to go from the classroom to a variety of places within the school.

3. The students will use the pedometer to measure the actual steps it takes to reach these places within the school.

4. The students will use graph paper to draw a scale map of the school using their number of steps.

Assessments: Teacher observation, class participation, and scale drawings
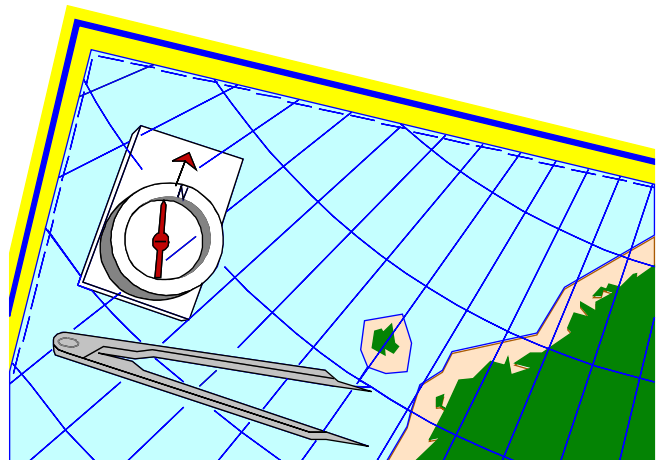
Sellin' Steps

Subject Area: English

Standards of Learning:
English   4.1, 4.7, 5.1, 5.8, 7.3, 7.8, 7.9, 8.3, 8.7, 8.8

Objectives: The student will analyze advertising to identify various propaganda techniques. The student will create a brochure or flyer advertising a pedometer.

Materials: Various advertisements, paper, and colored pencils

Procedures: 1. Explain the various propaganda techniques used in different advertisements. Have the students identify different types of techniques as they are shown a variety of advertisements.

2. Have the students use one of the propaganda techniques learned to create a brochure or a flyer advertising a pedometer.

Assessments: Class participation, brochure or flyer

EXTRA!!! The Times EXTRA!!!

FREE
Pedometers!

Show Me the Steps

Subject Areas: English and History

Standards of Learning:

|	
English	3.1, 3.10, 4.1, 4.7, 5.1, 5.8, 6.6, 6.7, 7.8, 8.8, 8.8
History	1.4, 1.5, 2.5, 2.6, 3.6, VS.1, USI.1, USII.1, WG.1

Objective: The student will create a set of directions using a community map.

Materials: Pedometers, community maps, paper, pencils, and Steps–to–Miles Conversion Chart (See Appendix)

Procedures: 1. Review the instructions and uses for the pedometer with the students.

2. Divide the class into groups and provide each group with a community map.

3. Have the students study the map and write directions from the school to various places within the community. Each group should convert the miles into steps. (See Appendix)

4. Groups should then exchange directions, convert them back to miles, follow them and tell the class where they feel the map would lead them.

Assessments: Class participation, group participation rubric, and maps

5,280 FT = 1 MILE
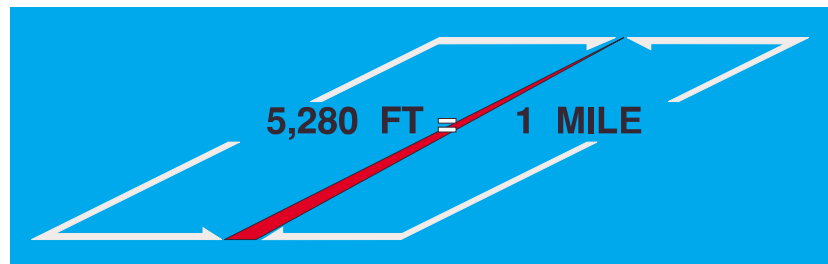
Show Me the Way

Subject Area: English

Standards of Learning:
English   3.10, 4.7, 5.8, 6.5, 6.6, 6.7, 7.6, 7.8, 7.9, 8.6, 8.7, 8.8

Objective: The student will create a paragraph about following directions.

Materials: Pedometers, paper, pencils, and examples of following directions paragraphs

Procedures: 1. Discuss the importance of following directions and sequencing.

2. Orally read some examples of following directions paragraphs.

3. Allow the students a few minutes to manipulate the pedometer.

4. Have the students write a paragraph teaching someone else to use a pedometer. Stress the importance of sequencing correctly as they write.

Assessments: Class participation and paragraphs

Sports Steps
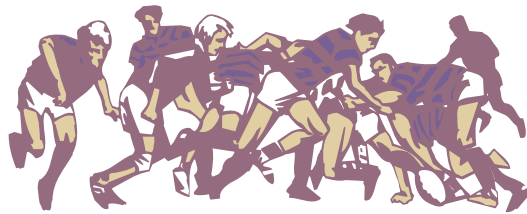
Subject Area: English, Mathematics, and Science

Standards of Learning:

English	3.1, 4.1, 5.1
Mathematics	3.21, 3.22, 4.20, 5.18, 6.18, 7.17, 7.18, 8.12
Science	LS.1, LS.3b, PS.1

Objectives: The student will predict which sport might burn the most calories. The student will participate in a group sport.

Materials: Pedometers, various sports equipment, paper, and pencils

Procedures: 1. Review the instructions and uses for the pedometer.

2. Pose the following question: "Which activities burn fat the fastest? Which sport?"

3. Discuss the calorie content in a favorite snack food.

4. Have the students predict how they can burn that number of calories the fastest.

5. Divide the students into groups and have them put on a pedometer.

6. Assign different sports to the various groups. Examples might include: football, kickball, relay races, and basketball.

7. After a certain period of time, have each student check his/her pedometer and record the number of steps taken.

8. Discuss the data to determine which group burned the most calories. Which person burned the most calories?

9. Graph the results.

Assessments: Class participation (rubric) and graphing results

Step n' Stride

Subject Areas: English, Mathematics, and Science

Standards of Learning:

|	
English	4.1, 5.1
Mathematics	4.8, 5.5
Science	PS.1

Objectives: The student will calculate his/her own stride length. The student will predict the number of steps taken factoring in stride length.

Materials: Pedometers, paper, and pencils

Procedures: 1. Have two students wear a pedometer and walk a given distance. Record their number of steps.

2. Discuss stride length and its effect on the number of steps a person walks.

3. Have each student calculate his/her own stride length by walking a set distance and dividing the distance walked by his/her number of steps.

4. Graph the class results.

5. Predict a student's number of steps based on his/her stride length. Have each student walk that distance and check for accuracy.

Assessments: Class participation and graphs
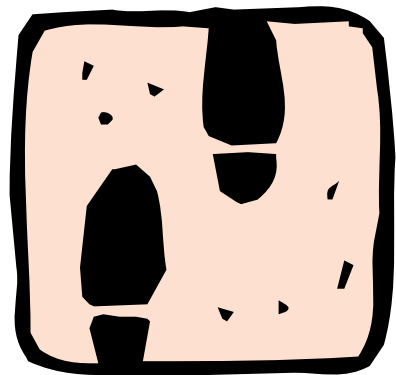
Steppin' Songs

Subject Area: English

Standards of Learning:

English   3.1, 3.10, 4.1, 4.7, 5.1, 5.2, 5.8, 6.4, 6.6, 7.5, 7.8, 8.5, 8.7

Objective: The student will create an original song to a familiar tune.

Materials: Pedometers, songs about steps or walking, paper, and pencil

Procedures: 1. Play a song dealing with steps or walking. Suggestions might include: These Boots Are Made for Walking, Walk this Way or Every Step You Take.

2. Review the instructions and uses for the pedometer.

3. Have groups of students explain the uses and benefits of a pedometer by writing an original song to a familiar tune. Suggestions might include theme songs to: Gilligan's Island, The Brady Bunch, Green Acres, Cheers.

4. Each group should present their song to the class.

Assessments: Class participation, original song (rubric), and oral presentation rubric

Steppin' South

Subject Areas: English and History

Standards of Learning:
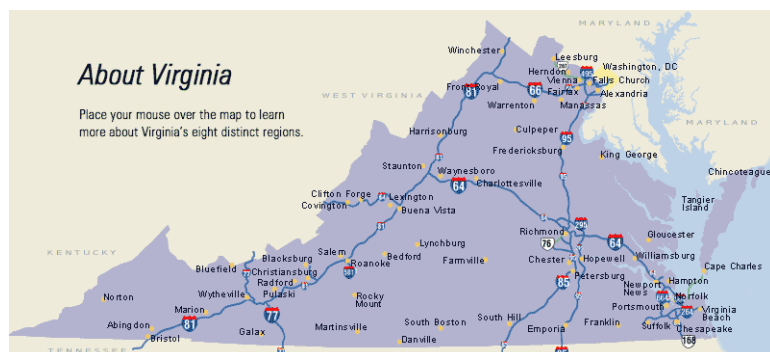|	
English	3.10, 4.7, 5.8, 6.6, 7.8, 8.7
History	VS.1, VS.2, VS.10, USI.1, USI.2, USII.1

Objectives: The student will research routes to a certain destination. The student will create journal articles about a walking trip to a particular destination.

Materials: Pedometers, research materials, paper, and pencils

Procedures: 1. Review the instructions and uses for the pedometer.

2. Research different routes one might take from Fairfax to the Danville.

3. Divide the class into groups and assign each group a route.

4. Students should pretend they are walking this route. Have them keep a journal of their trip. They should tell the distance they have traveled each day along with what they have seen, smelled, tasted, touched, and heard along the way. Pedometers may be used to convert steps to miles and vice versa. Their information should be accurate and align with the assigned route.

Assessments: Class participation, group presentation, and journal writings

About Virginia

Place your mouse over the map to learn more about Virginia's eight distinct regions.

Take Me Out to the Ball Game

Subject Areas: English

Standards of Learning:
English   4.1 and 5.1

Objectives: The student will predict who walks a greater distance in a sports event. The student will compare the results of his/her findings.

Materials: Pedometers, paper, and pencils

Procedures: 1. Review the instructions and uses for the pedometer.

2. Discuss the differences between a referee and an umpire.

3. Have the students predict who they feel walks a greater distance in a game: a baseball umpire (behind the plate and in the field), a basketball referee, or a football referee.

4. Give the pedometer to each student and have him/her wear it during a game and record the results.

5. Discuss the findings with the class as well as any unexpected results.

Assessment: Class participation

Teacher Tracks

Subject Areas: English and Mathematics

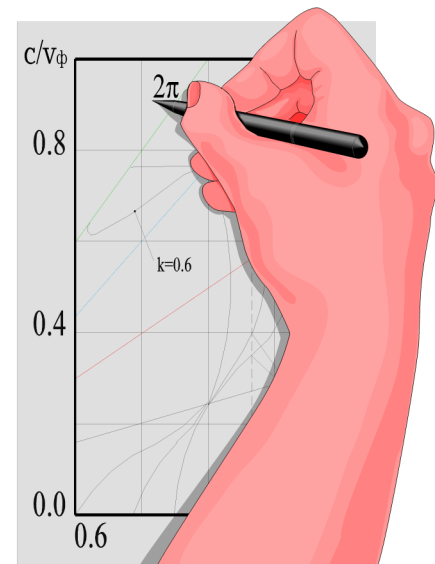**Standards of Learning:**

English	4.1, 5.1
Mathematics	5.18, 5.19, 6.18, 6.19, 7.16, 7.17, 7.18, A.17

Objectives: The student will make predictions, analyze, and chart data.

Materials: Pedometers, paper, and pencils

Procedures:

1. Review the instructions and uses for the pedometer.

2. Discuss the different subject areas or disciplines within a school.

3. Have the students predict how many steps each teacher walks in an average day.

4. Ask a teacher representing each discipline to wear a pedometer each day for three consecutive days and record his/her number of steps.

5. Have the students create a chart for each day and discuss the results. Which discipline appears to walk more? Why? Predict reasons for any unexpected results.

6. Create a master chart by averaging each teacher's three-day results.

Assessments: Predictions, class participation, group participation rubric, and charts

The Tortoise and the Hare

Subject Areas: English and Mathematics

Standards of Learning:

|	
English	3.1, 3.10, 4.1, 4.10, 4.7, 5.1, 5.8, 6.4, 7.5
Mathematics	5.11, 6.9

Objectives: The student will estimate the distance in a race. The student will convert steps to miles. The student will create a new ending to a familiar fable.

Materials: Pedometers, pencils, paper, The Tortoise and the Hare fable, and Steps to Miles Conversion Chart (See Appendix)

Procedures: 1. Orally read and discuss the fable The Tortoise and the Hare.

2. Have the students estimate the distance of the race.

3. Using the step conversion, have the students figure the number of steps each animal would have taken in the course of the race. It will be important to remember how each animal moves. (See Appendix)

4. Have the students create a different ending to the story and share with the class.

Assessments: Class participation and story endings
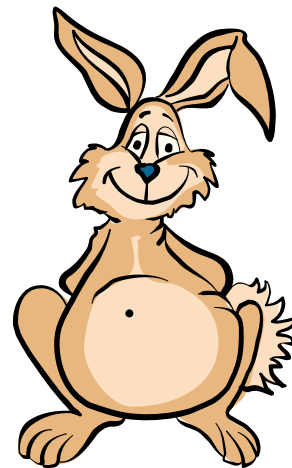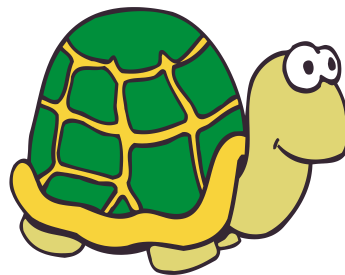
Trail Travel Tips

Subject Areas: English and History

Standards of Learning:

English	3.1, 3.10, 4.1, 4.7, 5.1, 5.8, 6.5, 6.6, 6.7, 7.6, 7.7, 7.8, 7.9, 8.6, 8.7, 8.8
History	3.6, VS.1, VS.2, VS.4, USI.2, USI.8

Objectives: The student will research information about hiking trails. The student will plan a weeklong hiking trip. The student will create a map and a brochure to accompany their hiking trip.

Materials: Pedometers, research materials, paper, colored pencils, and Steps to Miles Conversion Chart (See Appendix)

Procedures: 1. Have the students research and plan a weeklong hiking trip to a destination of their choice.

2. The students should decide how far they will hike each day and where they will camp for the night.

3. Using the pedometer, the students will convert steps to miles and decide how many steps they would have to make each day to reach their goal. (See Appendix)

4. Students would then create a map of their hiking trail and a brochure to advertise their trip.

5. Have the students share their hiking trip information, map, and brochure with the class.

Assessments: Class participation, teacher observation, map, and brochure

Treasure Hunting

Subject Areas: English and History

Standards of Learning:
            English   3.1, 4.1, 5.1
            History   USI.8

Objectives: The student will discuss a period in history. The student will correctly use a Global Positioning System (or GPS) and a pedometer. The student will correctly follow directions.

Materials: Pedometers, GPS, treasure maps, and treasure

Procedures: 1. Review information about a time and/or place in history in which people searched for some kind of treasure (ex. California Gold Rush).

2. Explain the instructions and uses for the pedometer and for a GPS.

3. Give the students a treasure map and have them use the pedometer and the GPS to find a treasure.

Assessments: Class participation rubric, and treasure

Walk This Way

Subject Areas: English, Mathematics, and History

Standards of Learning:

English	4.1, 5.1
Mathematics	3.8, 4.5, 5.3
History	USI.1, USII.1

**Objective:** The student will follow a set of directions to create a design.

Materials: Pedometers, instruction (direction) sheets, string, and markers

Procedures: 1. Review the instructions and uses for the pedometer.

2. Give the students a list of directions and have them walk them off using the pedometers. Allow them to carry a string and lay it down as they walk. Have them place a marker on the ground each time they change directions. When they finish, they should have constructed a design. One example might be:
10 steps Northeast
10 steps Southeast
10 steps West Northwest
10 steps East
10 steps West Southwest
**If done correctly, they will have created a star. **

3. Have the students calculate the total distance walked and the displacement (number of steps in a straight line from where they started to where they ended).

Assessments: Class participation and design
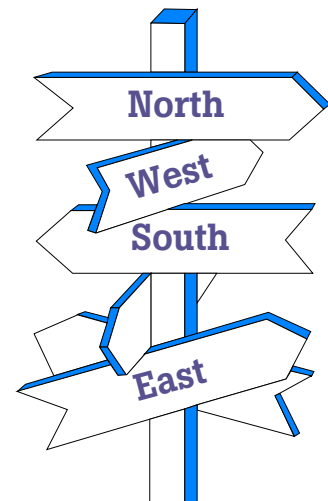
Walk Your Socks Off!

Subject Areas: English and Science

Standards of Learning:
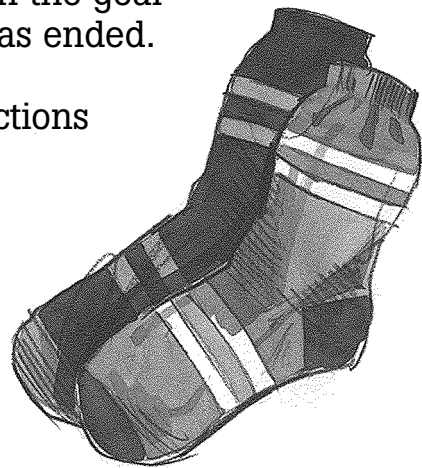
English	4.1, 5.1
Science	4.1, 6.1, LS.1, PS.1

Objectives: The student will predict the number of steps taken in a given timeframe. The student will participate in a walking marathon.

Materials: Pedometers, stopwatch (optional), paper, and pencils

Procedures: 1. Discuss the key term marathon with the students. (See Appendix)

2. Set a goal of a number of steps or a timeframe and have a walking marathon.

3. Predict how many steps the students believe they will walk in the given timeframe.

4. Have the students walk and count their steps. When one gets tired, another student must take over and continue the marathon. Use the pedometer to measure the number of steps taken.

5. The marathon is over when the goal is reached or the time limit has ended.

6. Revisit the students' predictions and compare them with the actual results.

Assessment: Class participation rubric

Walking in the Real World

Subject Areas: English and Mathematics

Standards of Learning:
English	3.1, 4.1, 5.1
Mathematics	3.21, 3.22, 4.20, 5.18, 6.18, 7.17, 8.12

Objectives: Given a list of school–related occupations, the student will predict whom they feel walks the greatest distance in an average day. The student will chart his/her findings.

Materials: Pedometers, pencils, colored pencils, and poster boards or paper

Procedures: 1. Discuss different job descriptions of school–related personnel.

2. Have the students make predictions from these job descriptions as to which they feel walks the greatest distance in an average day.

3. Ask someone representing each job to wear a pedometer for a day and record his or her results.

4. Graph the results in various ways.

5. Discuss the findings.

Assessments: Class participation and graphs

Who Walks More?

Subject Areas: English, Mathematics, and Science

Standards of Learning:

English	4.1, 5.1
Mathematics	3.21, 3.22, 4.20, 5.18, 6.18, 7.17, 8.12
Science	4.1, 6.1, LS.1, PS.1

Objective: The student will predict the number of steps taken to a certain destination.

Materials: Pedometers, pencil, and paper

Procedures: 1. Review the instructions and uses for the pedometer.

2. Have the students predict how many steps their mothers walk during a trip to the grocery store or to a local merchant and how many steps their fathers walk during the same trip.

3. Ask several mothers and fathers to wear a pedometer to the grocery store and/or to a local merchant. Have them submit their number of steps, and how many items they purchased.

4. Discuss the students' findings and any unexpected results. Were their predictions accurate? Why or why not?

Assessment: Class participation

Baby Steps

Subject Area: Mathematics

Standards of Learning:

Mathematics   1.12, 2.12, 3.14, 4.11, 4.13, 5.8, 5.11, 6.10, 7.7

Objectives: The student will estimate distance. The student will recreate a design using pedometers. The student will compare calculations.

Materials: Pedometers, sheet of designs, a measuring device, paper, and pencils

Procedures: 1. Give the students several designs to look at and estimate which designs can be done in the fewest number of steps.

2. Review the instructions and uses for the pedometer.

3. Have the students recreate the design using a pedometer and record their number of steps.

4. The students should then actually measure the designs and compare the actual measurements with their estimates and number of steps.

5. Discuss their results.

Assessments: Class participation and comparisons

Creative Conversions

Subject Area: Mathematics

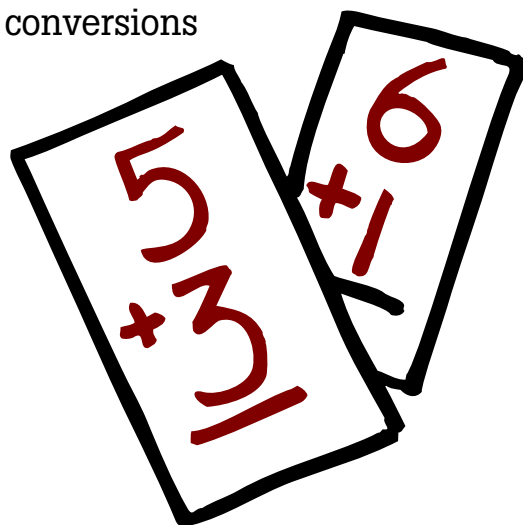**Standards of Learning:**

Mathematics   4.11, 5.11, 6.9

Objectives: The student will wear a pedometer for a day and record the number of steps taken. The student will use a conversion table to convert steps to yards and miles.

Materials: Pedometers, paper, pencils, and Steps–to–Miles Conversion Chart (See Appendix)

Procedures: 1. Review the instructions and uses for the pedometer.

2. Have the students in the class wear pedometers for one week and find the sum of all the steps they take.

3. Convert the number of steps taken to yards first and then to miles using the Steps to Miles Conversion Chart. (See Appendix)

4. Determine how many steps it would take to reach a certain destination based on yards and miles.

5. Share the results.

Assessments: Class participation and conversions

Crusin' Campus
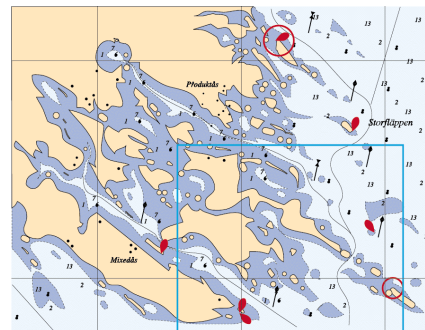
Subject Areas: Mathematics and History

Standards of Learning:

Mathematics	5.19, 6.19, 7.16, A.17
History	1.4, 1.5, 2.5, 2.6, 3.6, VS.1, USI.3i, USII

Objectives: The student will use a pedometer to calculate an average stride length for his/her group. The student will study a schedule and a map to determine the shortest and the fastest route a college student might take to class.

Materials: Pedometers, map of college campus, schedule of classes, paper, pencils, and Steps to Miles Conversion Chart (See Appendix)

Procedures: 1. Review the instructions and uses for the pedometer.

2. Study and discuss a chart of a college student's schedule.

3. Study and discuss a map of a college campus.

4. Divide students into groups and have them calculate their average stride length over a given distance.

5. Each group would then use their average stride length to address the following situation: A college student must decide on the shortest distance to class on certain days. Use your knowledge of maps, map legends, and charts to help him decide which route to take each day based on his schedule. Convert his route to steps by using the step-to-mile conversion chart. (See Appendix)

6. Chart their suggestions in the form of a table or chart.

Assessments: Class participation, group participation rubric, table

Every Little Step We Take

Subject Area: Mathematics

Standards of Learning:
Mathematics   5.18, 6.19, 7.16, A.17

Objectives: The student will record the number of steps taken each day for one week. The student will calculate averages from data.

Materials: Pedometers, paper, and pencils

Procedures: 1. Discuss the key term averaging with the class. (See Appendix) Find the average of several things within the classroom.

2. Review the instructions and uses for the pedometer.

3. Have every student in the class wear a pedometer for one day. Students should record the number of steps taken at the end of the day.

4. Discuss the results the following day and determine the class average for the day.

5. Continue this process for one week and develop a class average for the week.

6. Discuss the results.

Assessments: Class participation and record log

Fancy Feet

Subject Areas: Mathematics and Science

Standards of Learning:

Mathematics	5.19, 6.19, 7.16, A.17
Science	LS.1, PS.1, PS.10a

Objectives: The student will formulate an average number of steps in a given time. The student will analyze data to answer a question.

Materials: Pedometers, paper, and pencils

Procedures: 1. Have each student wear a pedometer and walk in place for 60 seconds.

2. Analyze the data and develop a class average. Convert the average for one minute to a class average for an hour.

3. Pose the following question for students to answer: "If we travel at (class hourly average) and slow down two steps per minute after the first hour, how long would it take for us to come to a complete stop?"

4. Allow the students to answer the question individually or in groups.

Assessments: Class participation and data analysis

Go the Distance

Subject Area: Mathematics

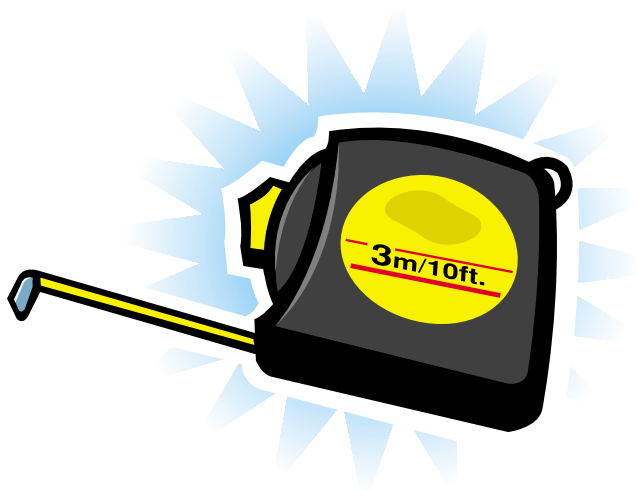**Standards of Learning:**
Mathematics   4.11, 5.11, 6.9

Objectives: The student will measure various distances and convert distance to meters. The student will chart results of conversions.

Materials: Pedometers, yardsticks or tape measures, paper, pencils, and markers to mark distances

Procedures: 1. Review the instructions and uses for the pedometer.

2. Discuss how to convert feet or yards to meters.

3. Have several places marked off for the students to measure.

4. They should measure each distance in steps using the pedometers, in yards using a tape measure, and in meters by doing a metric conversion.

5. Have the students chart their results.

Assessments: Teacher observation, class participation, and charts

3m/10ft.

Healthy Hearts

Subject Areas: Mathematics and Science

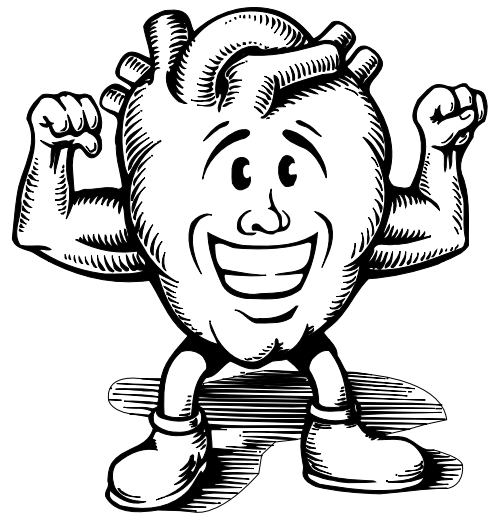**Standards of Learning:**

Mathematics	3.21, 4.20, 5.18, 6.18, 7.17, 7.18, 8.12
Science	LS.1, LS.3b, PS.1, PS.10a

Objective: The student will measure and record his/her pulse rate and number of steps over a given distance at various speeds.

Materials: Pedometers, paper, and pencils

Procedures: 1. Review the instructions and uses for the pedometer, how to take a pulse rate, and the class graph made in Step to the Beat.

2. Pose the following question: "Does speed affect pulse rate?"

3. Using the pedometer, have the students travel the same distance at three different speeds and record their number of steps and their pulse rates as they finish. One should be slow, one should be average, and one should be fast.

4. Make a classroom comparison of their number of steps and their pulse rates.

5. Analyze the data with the students. What can be inferred from the information? Why are there differences among students?

Assessments: Class participation and data gathering

Journeys from the Past

Subject Areas: Mathematics and History

Standards of Learning:

|	
Mathematics	5.11, 6.9
History	US1.8

Objective: The student will calculate the number of steps men and women walked in historic events.

Materials: Pedometers, various research materials, paper, and pencils

Procedures: 1. Research a famous event in Virginia history.

2. Have the students learn about the event and discover how many miles were walked. Calculate the number of steps the men and women walked.

Assessment: Class participation
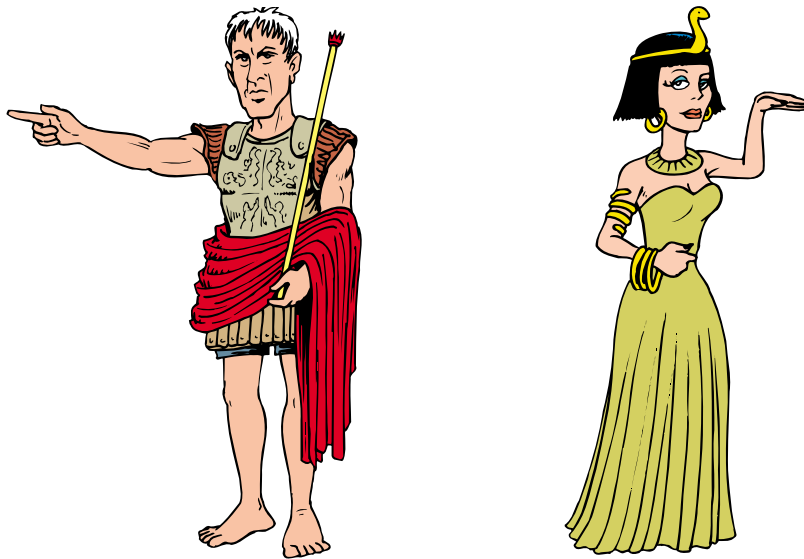
Pedometer Perimeter

Subject Area: Mathematics

Standards of Learning:
Mathematics   2.12, 4.13, 5.8, 5.10, 6.11, 7.7

Objective: The student will find and diagram the perimeter of different areas.

**Materials:**   Pedometers, paper, and pencils

Procedures: 1. Discuss the key term perimeter and how to discover it using the pedometer. (See Appendix)

2. Give the students a list of several places in the school and have them step off and discover the perimeter of each area.

3. Have them draw a diagram of each area and label each side.

4. Allow the students to share diagrams.

Assessments: Class participation (rubric) and diagram
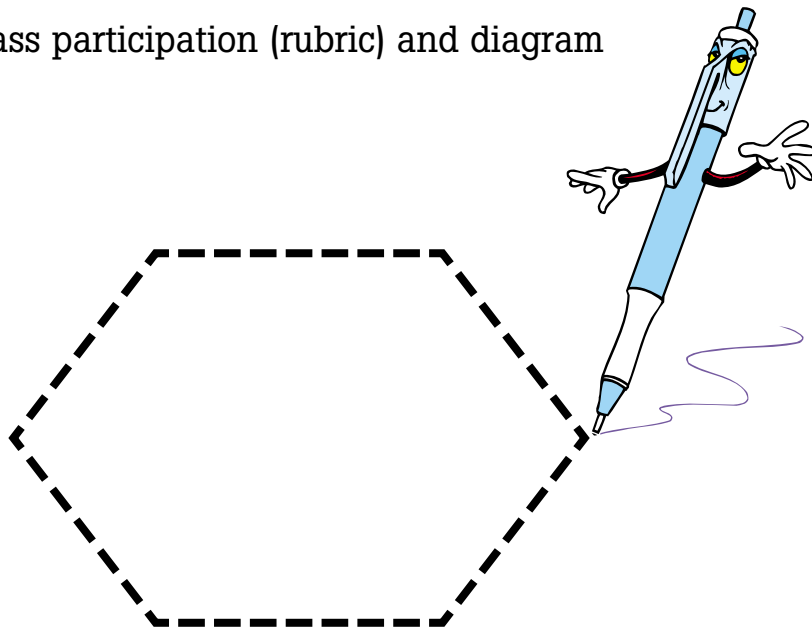
Solar Steps
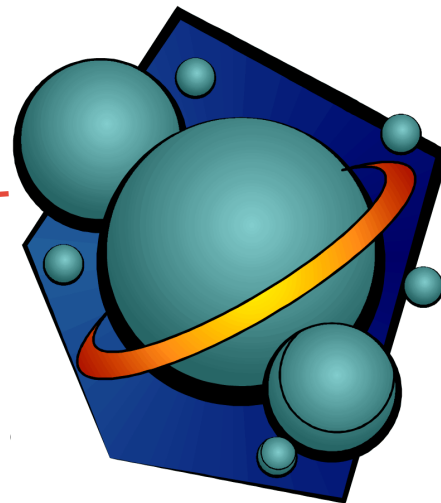
Subject Areas: Mathematics and Science

Standards of Learning:

Mathematics	5.11, 6.2, 6.9,
Science	4.7, 6.8(c)

Objectives: The student will position markers to create a large-scale model of the solar system. The student will convert a standard unit of measure to a non-standard unit of measure to form a ratio.

Materials: Pedometers, long distance such as a football field, and markers for the planets

Procedures: 1. Discuss the relative distances between the planets in our solar system.

2. Pose the following question: "If the sun were on one goal line of a football field and Pluto were on the other goal line, what is the ratio of miles per step from the sun to Pluto?"

3. Have the students compute the answer using a pedometer.

4. Using the ratio determined, have the students position the other planets on the football field.

5. Analyze the results.

6. Have a different student perform the same task. Compare the number of steps between students. Does the ratio hold true even if the number changes?

 This exercise should reinforce why we use standard units of measure

Assessments: Class participation, scale model, and ratio formed

Step to the Beat

Subject Areas: Mathematics and Science

Standards of Learning:

|	
Mathematics	3.21, 3.22, 4.20, 5.18, 6.18, 7.17, 7.18, 8.12
Science	LS.1, LS.3b

Objectives: The student will determine his/her pulse rate after walking a given distance. The student will make a data table or graph the classroom results.

Materials: Pedometers, paper, and pencils

Procedures: 1. Review the instructions and uses for the pedometer.

2. Pose the following question: "Does everyone's heart rate remain the same when walking a set distance?"

3. Teach the students how to take their own pulse.

4. Using pedometers have the students walk a long distance such as a track around a football field.

5. As they finish, have them immediately record their pulse rate.

6. Create a class graph of the results.

Assessments: Class participation, graph or data table
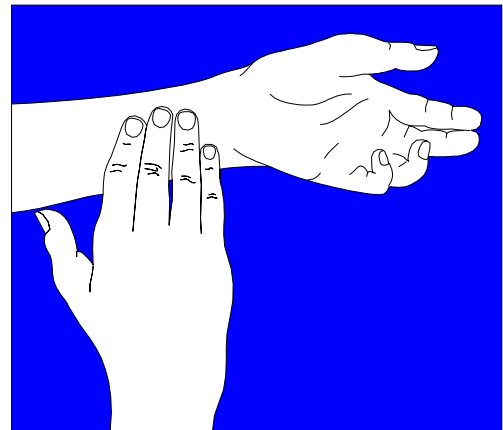
Sum Up My Steps

Subject Area: Mathematics
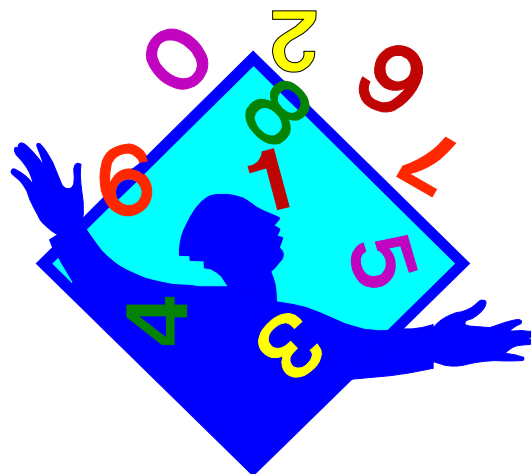
Standards of Learning:

        Mathematics   5.19, 6.19, 7.16, A.17

Objectives: The student will wear a pedometer for a given period of time and record his/her number of steps. The student will calculate measures of central tendency.

Materials: Pedometers, paper, and pencils

Procedures:

1. Review the instructions and uses for the pedometer.

2. Have each student in the class wear a pedometer and walk for a given period of time.

3. Each child should record his/her results.

4. Find the sum of steps for the entire class.

5. Calculate the class average, mean, median, and mode.

6. Break the class into groups and have each group find its own average, mean, median, and mode.

Assessments: Class participation, group participation (rubric), and calculations

Clikin' Calories

Subject Areas: Science

Standards of Learning:
Science   LS.3b

Objective: The student will determine the number of steps it would take to burn a particular number of calories.

Materials: Books or Web pages showing number of calories, paper, pencils, and Calorie Conversion Chart (See Appendix)

Procedures: 1. Have the students choose a fast food restaurant.

2. Using a calorie book or Internet resource, have the students write down the total calories of their favorite meal.

3. The students should then figure out how many steps it would take to walk or jog off the entire meal. (See Appendix)

4. Allow them to choose one part of the meal and attempt to walk or jog enough steps to burn that number of calories in a given timeframe.

5. Discuss their results.

Assessment: Class participation

Scientific Steps

Subject Area: Science

Standards of Learning:
Science   LS.1, PS.1, 4.1, 6.1

Objectives: The student will design a pedometer experiment using the steps of the scientific method. The student will conduct an experiment and discuss the findings.

Materials: Pedometers, paper, and pencils

Procedures: 1. Review and discuss the steps in the scientific method.

2. Review the instructions and uses for the pedometer.

3. Have the students create a scientific experiment using a pedometer.

4. Each student or group of students should write each step of the experiment, perform each step, and record his/her findings.

Assessments: Class participation and scientific method worksheet
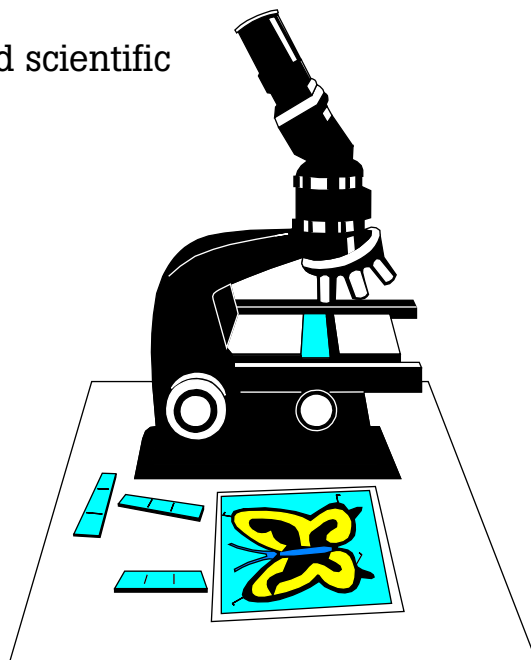
Footloose!

Subject Area: History and Social Science

Standard of Learning:
   History   1.12, 2.12, 3.2, 3.12, VS.1c, USI.5, USI.8

Objectives: The student will identify elements of culture. The student will learn a traditional dance. The student will demonstrate traditional dance steps.

Materials: Pedometers, CD or tape player

Procedures: 1. Discuss the key term culture. Point out that dances are a part of the culture of a region or place. (See Appendix)

   2. Teach the students two traditional dances such as the Virginia Reel. Using the pedometer, have the students discover how many steps are in some of the traditional dances.

   3. Allow the students to demonstrate some contemporary dance steps. Use the pedometer to see how many steps are in some modern dances.

Assessment: Class participation

Mapmaker, Mapmaker, Make Me a Map

Subject Area: History and Social Science

Standard of Learning:
History   1.4, 1.5, 2.5, 2.6, 3.6, VS.1, USI.1, USII.1

Objective: The student will create a map of their school by using the pedometer

Materials: Pedometers, paper, and pencils

Procedures: 1. Review basic map skills and discuss the key terms direction, scale, legend and key with the students. (See Appendix)

2. Ensure each student knows how to correctly use the pedometer.

3. Show the students how to convert steps to feet or yards.

4. Have the students create a map of the school to scale by walking off distances using the pedometer and converting their steps to feet or yards.

5. Allow students to share their maps.

Assessments: Teacher observation, class participation, and map (rubric)

Steps in Time

Subject Area: History and Social Science

Standard of Learning:
History   1.2, 2.4, 3.3, USI.3, USI.8

Objective: The student will brainstorm ways a pedometer, had it been invented, may have helped famous people in history.

Materials: Pedometers, paper, pencils, and markers

Procedures: 1. Discuss some famous people in history, ex. Christopher Columbus, Lewis and Clark, George Washington, American Indians (First Americans), George Washington Carver.

2. Review the instructions and uses for the pedometer.

3. Divide your students into groups and allow them to brainstorm ways in which a pedometer might have helped these people.

Assessments: Class participation and brainstorming ideas