Exercise for Heart Health: Pulsemeter Method

Important Concepts for this station:

<u>Cardiovascular :</u> Pulse rate measures your heart beat which is an indicator of activity intensity. <u>Preactivity-Heart Rate</u> : A measurement of heart rate **Before** you engage in Physical Activity

Pulsemeter Directions

LCD MODE START/STOP BACK LIGHT BACK LIGHT MGN 0 C 0 C 0 C 0 C 0 C 0 C 0 C 0 C 0 C 0	Pulsemeter is an instrument of heart rate taken by counting your pulse
	 Sit down, with legs straight out Glide the clip of the Pulsemeter from your knee to you waist Clip the Pulsemeter to your waist band or belt Open, by pressing and pulling away and downward Place, don't push, your index finger into the finger slot Press the heart button The heart blinks when it is reading your pulse It will display your pulse rate in beats per minute (bpm)

Directions for Experiment 1:

1. Use the pulsemeter to take your pulse before dribbling pinball or jump rope and enter below:

Preactivity - Heart Rate

Postactivity - Heart Rate

- 2. Participate in one of the activities, either dribbling pinball or jump rope.
- 3. Then take your post activity heart rate and enter it on the line above.

Dribbling Pinball	Dribble around the hoops in the pinball station				
	Family members stand in hoops and try to tap the ball away.				
	Family members must keep both feet inside their hoop.				
Jump Rope	Single rope: Jump forward, backward, fast, slow, 1 foot, 2 feet, ski jumper, cross,				
	two jumpers (single rope)				
	Double Dutch (2 ropes): same as above				

Why is the physical activity important?

- Increases your cardiovascular endurance.
- Can help reduce blood pressure in some people with hypertension.
- Helps people with chronic, disabling conditions improve their stamina and muscular strength.
- Reduces symptoms of anxiety and depression and fosters improvements in mood and feelings of well-being.

Exercise for Heart Health: Manual Method

At this station you will measure your heart rate before and after you exercise.

<u>Cardiovascular</u>: Pulse rate measures your heart beat which is an indicator of activity intensity. <u>Pre-activity-Heart Rate</u>: A measurement of heart rate **BEFORE** you engage in Physical Activity Post-activity Heart Rate: A measurement of heart rate AFTER you engage in Physical Activity.

milles	Feel for your Carotid Pulse at your wrist.	Calculating your Heart Rate in	
	Move your index finger and middle finger down from your ear down into the grove on the side of your neck for	beats per minute (bmp). A family member will need to use a	
	you carotid pulse.	stopwatch or watch to time a 6	
	Feel for your Carotid Pulse at your neck.	will count the number of beats you feel.	
	Move your index finger and middle finger down from your ear down into the grove on the side of your neck for you carotid pulse		

Directions for this experiment.

- 1. At this station you will have the choice of two activities. Dribbling Pin Ball or Jumping Rope (instructions below). Write in the names of each family member
- For each family member, using the instructions above, measure the pre-activity heart rate at the wrist (radial) or neck (carotid) BEFORE dribbling pinball or jump rope. Participate for about 5 minutes. Then measure the post-activity heart rate AFTER participating and complete the table below.

	Pre-activity Heart Rate	Post Activity Heart Rate	
Name:			
Name:			
Name:			
Name:			8- <mark>00</mark>
Name:			6

Dribbling Pin Ball

Some family members must stand with both feet inside the hoops and try to knock away the ball being dribbled by the other family members who are moving around them.



Jump Rope Ideas.

Family members can jump individually or in groups using different combinations of single or double jump rope - Jump forward, backward, fast, slow, 1 foot, 2 feet, ski jumper, cross, two jumpers

Dr. Love's Healthy Heart Puzzle

This is a family word puzzle ! Together with your family try to discover the hidden words! Can you and your family try to find them ? Try to locate the words in the word bank below and then circle the words when you find them. Be on the look out, because the words can be spelled a straight line or in a diagonal orientation and can also be spelled backwards ! An example is done for you.

√ CARDIOVASULAR

O N W T H C Y H H K I M H ۲H ΑF HIPRLIDP DL Ν ⁄A W E C D H E C B L U A D \mathbf{R} Υ Υ Έ. AGNMETNEJL/D∕C Ν F Υ RADIALE C B S Ζ А С С Т ХUР Z W P M/O ΉΧΕ Ι GΝ JOMUGLN ٧⁄ U DBNBA Έ TARTR ΕH S OLLVR Ε ∕Ą S ΥUΕ T ′S∕ Χ Ζ IRLOIIU Ν S Т \mathcal{O} ′**C**∕ DRLE W O U Q WD ′**U∕** R G S A X D Y S P U N D G T۲ ΥT КНТАКСНVWE ΜВ В ICGWKMKO Ε В Ζ Y ŔΒ Х GUWC W Ι F GD FΝ R⁄ ΑЈЈWЅΗΜΧΤΥΜΗLΚW



Dr. Love's Healthy Heart

AEROBIC	BEAT	BLOOD	ENDURANCE	RADIAL

HEART HEART-RATE PULSE PULSEMETER

Cardiovascular Center

<u>Concepts to be learned</u>: Cardiovascular: Having to do with your heart and lungs. Pulse rate or Heart rate: The number of beats per minute. An indicator of activity intensity or how hard your heart is working.

Pulse	A place just under the skin where you ca moving through an artery. A pulse corres pump or beat of the heart.	n feel your blood ponds to the			
Radial Pulse	 A place on your wrist where you can feel blood pulsing through your radial artery. 1. Stand still and close your eyes. 2. Move your index and middle finger to your wrist 3. Move your fingers around the inside of your wrist, bit-by-bit, to find the beating of the radial pulse. 				
Carotid	 A place on the side of your neck where y blood pulsing through your carotid artery 1. Stand still and close your eyes. 2. Move your index and middle finger to y 3. Slide your fingers down from your ear 4. Press gently into the groove on the side to find your pulse. 	<i>ou can feel /.</i> your ear. to your neck. le of your neck			
Directions for Students:					
 Teach your family members to take t time them for 6 seconds using the store Multiply the number of beats by 10. (E X 10; Pulse rate = 80.) Write each family members PRE-ACT Names,	heir radial or carotid pulse and op watch Ex: If 6 sec. pulse = 8 beats; Multiple TIVITY pulse rate in the spaces below.	,			
Pre-Activity,	_,,,,,,,	beats per minute			
Post -Activity,		beats per minute			
4. Play the Crazy Cones activity. When and <u>carotid</u> pulse rates again and write POST-ACTIVITY pulse rate:	you finish the game, take your <u>radial</u> te it in the space above . This is your	 Crazy Cones Directions: 1. Half of your family members are the 'ups' players. Your goal is to place all cones in the upright position. 2. The other base are the 			
5. How many individual's pulse rates incr How many pulse rates decreased?	'down' players. Your goal is to knock all of the cones down using your				

Increasing your heart rate makes your heart stronger. It's Good for your health!! Benefits of moderate to vigorous physical activity for your health include:

- * Increases your cardiovascular endurance so you can climb steps easily
- * Can help reduce blood pressure in some people with hypertension.
- * Helps people with chronic, disabling conditions improve their stamina and muscle strength
- * Reduces feelings of anxiety and depression. Puts you in a better mood and increases feelings of well-being.
- check pulse, and count the results.5. Switch up and down players, and then play

4. After one minute, stop,

3. Avoid touching other

hands.

players.

again.

Name that Muscle (Part I: Front of Body)

Concept to be Learned: <u>Muscular Strength</u>: Scientists have identified specific exercises to strengthen specific muscles. The activities in this station involve performing muscle strengthening exercises which target 3 specific muscles on the front of your body: *Pectoralis, Abdominals, and Quadriceps*.

Why is Muscular Strength important? If you don't use your muscles regularly you can lose muscular strength and endurance. Being physically active and developing muscular strength and endurance are directly related to health and ability to perform daily tasks without difficulty.

Directions: As you and your family complete the activities within this experiment, help Mickey <u>identify the</u> <u>muscles</u> being strengthened on the front or **anterior** of the body. Using the word bank, below, label and shade the muscles.



Name that Muscle (Part II: Back of the Body)

<u>Concept to be learned</u>: <u>Muscular Strength</u>: Scientists have identified specific exercises to strengthen specific muscles. The activities in this station involve performing muscle strengthening exercises which target 3 specific muscles on the front of your body: *Latissimus Dorsi, Gluteus Maximus, and Hamstrings*.

Why is Muscular Strength important? If you don't use your muscles regularly you can lose muscular strength and endurance. Being physically active and developing muscular strength and endurance are directly related to health and ability to perform daily tasks without difficulty.

Directions: As you and your family complete the activities in this experiment, help Mickey identify the muscles on the back or **posterior** of the body being strengthened. Using the muscle back, below, label and shade the muscles you used.



Muscle Bank				
Hamstrings	Latisimus Dorsi	Gluteus Maximus		

Label Mickey's Mighty Muscles !

Help ! Mickey needs help to learn about the muscles in his body! Together with your family, use the word bank below to label all the muscles in the picture below.



Hamstrings Gastrocnemius Abdominals Pectoralis Latisimus Dorsi Triceps Biceps Trapezius Gluteus Maximus Quadriceps Obliques Deltoid

Mickey's Toner Band Workout

Concepts to be Learned at this station:

- <u>Muscular Strength:</u> The amount of work your muscles can perform; the amount of weight you can move.
- <u>Analyze:</u> To examine information by separating it into parts and studying the relationships between the parts.
- <u>Sets and repetitions (reps)</u>: A measurement of muscular endurance using the duration or amount of time that you can continue to exercise. A **repetition is equal to** one fully-performed movement; **sets** are made up of a number of repetitions.
- **Principle of Overload:** You strengthen muscles and achieve fitness and health benefits when you require your body to do *more work than you normally do*.

Directions for this station:

- 1. Students, explain to parents how to *safely* use the toner band.
- 2. Choose one toner band. If you find the toner band is too easy or too difficult to use, change to using a different toner band. **Record the color of the band** you use for each exercise in the chart below.
- 3. From the picture chart, choose two (2) exercises to perform using the toner band. Perform **3** sets of **5** repetitions for each exercise, if possible.
- 4. Record the number of sets and reps you actually complete, below.
- 5. Using the muscle chart, **analyze** which muscle group each exercise worked.

Exercise You Chose	How many sets Did you perform?	Color of toner band you used	What muscle group did this exercise work?
1.	set(s) of repetitions		
2.	set(s) of repetitions		

Did you **Overload** your muscles? Yes No How did you know?

What physiological changes did you feel in your muscles as you exercised?

Did they feel tired? Yes No Warm? Yes No Did they shake? Yes No

These changes are indications that you performed <u>more work with these muscles than you normally</u> <u>do.</u> Congratulations!! you have *overloaded and enhanced the muscular endurance of these muscles!* And you have increased your fitness and health. Do these exercises every other day to increase your muscular endurance and strength. Well done!!

Muscular Strength and Muscular Endurance

Concepts to be learned:

Muscular strength is the amount of force your muscles can produce **Muscular endurance** is the ability to use your muscles <u>continuously</u> without becoming tired.

On back, bend knees 140 degrees, feet flat on floor slightly apart, arms

Curl up until fingertips reach the opposite end of the strip. Lower back down slowly until the head touches the paper. Repeat.	straight down by sides. Place balled up piece of paper under performer's head. Place strip under knees, on the floor, so that the fingers of both hands just touch the front edge of the strip. Keep heels on the floor and curl shoulders upward so that fingers move across the cardboard strip. Curl up until fingertips reach the opposite end of the strip. Lower back down slowly until the head touches the paper. Repeat.						
Reach to knees On back, bend knees at 90 degrees, feet flat on floor slightly apart, hands on thighs. Keep heels on floor and curl shoulders upward so that fingers move up the legs to the top of the knee. Lower back down slowly, until head touches the paper. Repeat.	On back, bend knees at 90 degrees, feet flat on floor slightly apart, hands on thighs. Keep heels on floor and curl shoulders upward so that fingers move up the legs to the top of the knee. Lower back down slowly, until head touches the paper. Repeat.						
Arms crossed On back, bend knees at 45 degrees, feet flat on floor slightly apart, arms crossed in front with hands on shoulders. Keep heels on floor and curl shoulders upward so that elbows touch the knee. Lower back down slowly, until head touches the paper. Repeat.							
Legs up On back, bend knees slightly, slightly apart. Lift feet and legs off floor so th and knees are bent at a 45 degree angle. (Do not perform with straight leg Lower legs back down slowly, but do not let the heels touch the floor, repe	hat hips gs!). eat.						
Bicycles Bicycles Constant of the set of the set	45 aft elbow a bicycle. floor.						
 Instructions: Enter answers in table below. Read the descriptions of each curl-up above as your child demonstrates for you 	url Up						
Adults and Children perform 5 curl-ups of each type. Ising the stop watch, allow 10 sec. between each	Zone for Boys						
exercise. 3^{rd} $9-22$	9 – 24						
 Place each family member's initials on top row of table Enter Number of curl ups completed for each type and 	12 – 24						
circle the level of difficulty you felt for each curl-up.	15 - 28						
Type Easy Intensity Difficul	lt						
Reaching 1 2 3 4	5						
Reach to knees 1 2 3 4	5						
Arms crossed 1 2 3 4	5						
Legs up 1 2 3 4	5						
Bicycles 1 2 3 4	5						

Maintaining Caloric Balance

Science concept: Physical activity helps you to maintain caloric balance and maintain a healthy weight. A <u>calorie</u> is a unit of energy stored in food. To maintain a healthy weight, we want to be in caloric balance, meaning <u>we burn as many calories as we take in.</u> Physical activity helps us burn those calories to stay in proper caloric balance and maintain our weight.



The Centers for Disease Control and Prevention (CDC) suggests that adults engage in moderateintensity activities for at least 30 minutes on five or more days per week. Be sure to pick physical activities you enjoy doing, and encourage physical activity for the whole family. Why not take a family walk together?

Directions:

- Select the first family member to try this experiment and write her/his name in <u>column #1</u> of the "Data" table, below.
- 2. Set the pedometer to zero and place the hip, directly above the knee.
- 3. Choose one of the snack items to eat and record the calories of that snack in <u>column #2</u>.
- 4. Predict how far (how many cones you will have to walk around) to burn the amount of calories in that snack. Write this prediction in column #3
- 5. Now walk around the cones 4 times
- 6. Record the distance you walked (in steps; how many steps) in column #4
- 7. Flip the card to find the <u>actual</u> distance you needed to walk to burn off your snack.
- 8. and achieve caloric balance. Write this distance in column #5
- 9. Repeat now with each of your family members

Column #1	#2	#3	#4	#5		
Family Member's Name	Calories of the snack each person selected	Each person's prediction of distance	Distance each person actually walked (number of cones passed)	<u>Actual</u> distance each person needs to walk to achieve caloric balance		

Caloric Balance Data Table

Body Statistics Experiment

Did you know that people come in all different shapes and sizes ? Do you know how tall you are or how much you weigh ? In this activity, together with your family members you will need to measure your height and weight and log it in the space below.



Did you know you can compute your BODY MASS INDEX if you know your height and weight ? The Body Mass Index (BMI) is a useful tool to measure the weight status of the individual.

At the computer, go to : <u>http://www.cdc.gov/nccdphp/dnpa/bmi/calc-bmi.htm</u>

Next, using the information from the above table, compute the BMI for all adults, children or teens in your family and log the information in the last row of the above table.

Finally, check compare your results with the different categories indicated online.

Create your own Pyramid Plan Online Activity & My Pyramid For Kids.

All family members are encouraged to work together on this internet based activity. There are two activities which you can do together.

1. Create your own Pyramid Plan Online Activity.

Go to http://www.mypyramid.gov/mypyramid/index.aspx



This is an activity for all the members of the family. Did you know that in 2005, the **United States Department** of Agriculture (USDA) released the new food and activity pyramid on its website? At this site you can find out what types of food you should be eating. Go to the above link and type in your age, gender and the duration of physical activity. Once you submit this information you will be presented with the food recommendations that will enable you to eat a healthy diet. You can view and print out results. Do this for each member of your family.

You cal also print out a PDF file of a helpful Meal Tracking Worksheet which you can take home and use to monitor your eating behaviors.

2. My Pyramid for Kids.

Go to http://www.mypyramid.gov/kids/index.html

This is an online activity which parents and children can do together. Go to the above link. You will then have access to the following activites

- 1. My Pyramid Blast Off Computer Game
- 2. Tips for Families
- 3. My Pyramid for kids coloring page.

Body Composition

Concepts to be Learned:

- Body Composition: the percentage of fat, muscle, bone and tissue that makes up your body
- Body Mass Index (BMI): A method of assessing body composition using height and weight
- Useful Websites to calculate your Body Mass Index National Center for Chronic Disease Prevention and Health Promotion (Nutrition & Physical Activity) <u>http://www.cdc.gov/nccdphp/dnpa/bmi/calc-bmi.htm</u>
 - National Institutes of Health (National Heart, Lung, and Blood Institute) http://www.nhlbisupport.com/bmi/bmicalc.htm

BMI Record for Family Members

Name	Height	Weight	Score (BMI)	Categories
1.				
2.				
3.				

BMI Assessment Categories:

Adults		Children			
Categories	Score (BMI)	Categories	Score (BMI)		
Underweight	Less than 18.5	Underweight	BMI-for-age < 5th percentile		
(Under the normal, desired weight)					
Normal weight	18.5 – 24.9	At risk of	BMI-for-age 85th percentile		
		overweight	to < 95th percentile		
Overweight:	25.0 - 29.9	Overweight	BMI-for-age > 95th percentile		
(Above the normal, desired weight)		_			
Obese: (The condition of being overfat	30.0 or higher				
or having a very high percentage of					
body fat)					

• Directions for Use of Body Fat Analyzer/Scale:



- It provides measurements in just 7 seconds.
- Start out by standing up straight with your feet slightly apart.

- Select your personal data number from the analyzer's 4 person memory storage and press START.

Body fat percentage and Body Mass Index measurements are displayed on the large digital panel.

• **Body Mass Index Formula**: If you are unable to use the BMI calculator, or if you are interested in how BMI is calculated, you can the mathematical formula using feet, inches, and pounds with this equation.

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BMI =

Weight in Pounds (Height in inches) x (Height in inches)

) x 703

Experiment 9 (continued)

- A general *Direct* way to assess body composition using height, weight, age, and sex
- Directions for Use of Body Fat Analyzer



- Press On/Off.
- Select your personal data number (height, weight, age, sex) by using Set and Up & Down.

- Start out by standing up straight with your feet slightly apart.

- Press START.
 - Wait for **7 10 seconds** until the process is finished.
 - Body fat percentage and Body Mass Index

measurements are displayed on the large digital panel.

No.	Name	Height (feet & inches)	Weight (Ib)	Age	Sex	Score (% Fat/ Fat Mass)	Categories
1						1	
2						1	
3						1	
4						1	

• Percent (%) Body Fat Record for Family Members

Body Composition Classification According to Percent (%) Body Fat

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- Male (Men/ Boys)

Age	Underweight	Excellent	Good	Moderate	Overweight	Significantly Overweight
≤ 19	< 3	12.0	12.1 – 17.0	17.1 – 22.0	22.1 – 27.0	≥ 27.1
20 – 29	< 3	13.0	13.1 – 18.0	18.1 – 23.0	23.1 – 28.0	≥ 28.1
30 – 39	< 3	14.0	14.1 – 19.0	19.1 – 24.0	24.1 – 29.0	≥ 29.1
40 – 49	< 3	15.0	15.1 – 20.0	20.1 – 25.0	25.1 – 30.0	≥ 30.1
≥ 50	< 3	16.0	16.1 – 21.0	21.1 – 26.0	26.1 – 31.0	≥ 31.1

- Female (Women/ Girls)

Age	Underweight	Excellent	Good	Moderate	Overweight	Significantly Overweight	
≤ 19	< 12	17.0	17.1 – 22.0	22.1 – 27.0	27.1 – 32.0	≥ 32.1	
20 – 29	< 12	18.0	18.1 – 23.0	23.1 – 28.0	28.1 – 33.0	≥ 33.1	
30 – 39	< 12	19.0	19.1 – 24.0	24.1 – 29.0	29.1 – 34.0	≥ 34.1	
40 – 49	< 12	20.0	20.1 – 25.0	25.1 – 30.0	30.1 – 35.0	≥ 35.1	
≥ 50	< 12	21.0	21.1 – 26.0	26.1 – 31.0	31.1 – 36.0	≥ 36.1	

WWW Resources for Parents and Children

Focused on Activity, Health, Fitness, and Fun!

• <u>PE Central's Get Active Stay Active Log Web Site</u> (http://www.getactivestayactive.com/)

PE Central and PepsiCo, in collaboration with the President's Council on Physical Fitness and Sports, have partnered to bring you an exciting Web site designed to encourage middle school students to increase their physical activity participation. The site features cool graphics and cutting edge tools that allow students to record their physical activity minutes and/or pedometer steps.

• <u>PE Central's LOG IT Program (http://www.peclogit.org</u>)

Log It invites students, teachers, schools, classes, and parents to record their physical activity steps, miles, or kilometers online!

• <u>Kidnetic</u> (http://www.kidnetic.com)

Kidnetic.com is a web site that communicates healthy eating and active living information in meaningful and relevant ways to kids aged 9-12 and their families. Kidnetic.com is intended to encourage kids and their families to begin the process of behavior change toward healthy lifestyles. Kidnetic.com is the first component of ACTIVATE, a healthy eating and active living initiative. ACTIVATE is committed to promoting healthy family lifestyles to help prevent kids from becoming significantly overweight and to reduce their risk of suffering from obesity-related chronic diseases as adults.

• PE Central's Kids Quiz (http://www.pecentral.org); go to "Kids Quiz"

The Kids Quiz is a daily online quiz which challenges kids under the age of 18 and tests their knowledge about nutrition, fitness, health, physical education, sports, and a host of other topics and trivia. Features include answering a question each day with the chance for both the students and the teacher at the school to win weekly prizes in a drawing.

• Kid's Running Online (http://www.kidsrunning.com/)

The Kid's Running site for kids is an excellent page for kids (and parents/teachers) who are interested in running.

• <u>BAM!</u> (http://www.bam.gov/)

Aimed at youth ages 9 - 13, BAM! was created to answer kids' questions on health issues and recommend ways to make their bodies and minds healthier, stronger, and safer.

• <u>Sports Illustrated for Kids</u> (http://www.sikids.com/)

Sports Illustrated has designed this site for intermediate/middle school age children interested in the latest information on the hottest sports. The site includes news clips, puzzles, sports games, and comics.

• Exploratorium: Sport Science (http://www.exploratorium.edu/sport/)

Learn how different sports really work from the scientific point of view. Included are baseball, surfing, skateboarding, etc.

Web Resources Page 2:

• <u>KidsHealth</u> (http://www.kidshealth.org/)

This site helps parents, children, and professionals find answers to commonly asked health questions. Topics include the benefits of different types of vitamins, the food pyramid, healthy children's recipes, how to read food labels, and keeping fit. Children can also submit their own questions. Check out the "Childhood Infections" section under "Parents" for information about appendicitis, meningitis, mumps, and more. For a good laugh, be sure to read the entry for that most common of all childhood afflictions, cooties. A great site but be patient this site may take a little longer to download.

• <u>Dole 5 a day</u> (http://www.dole5aday.com/)

Based on the popular Dole 5 a Day CD Rom, this Web site, appropriate for elementary age children, uses fruit and vegetable characters to help children learn about the importance of eating at least 5 fruits and vegetables a day.

• <u>Kellogg's™ Nutrition Camp</u> (http://www.nutritioncamp.com/index.html)

At this site you can learn all about nutrition with the help of neat games and activities they provide. In the Professors Lab students learn about nutrition, reading labels, and there is an activity calculator which helps you understand how many calories you are burning during activities.

• <u>Get Kids in Action</u> (http://www.getkidsinaction.org/kids)

Kids will have fun exploring the site's "Actionland" with games designed to motivate them to spend more time on-the-move and introduce them to more ways to be active.

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of Family members attending Activity Night _____

(Please circle) My child is a girl or boy.

My child is in 3rd, 4th, or 5th grade.

		Stro Agree	ngly Agree	Disc	igree D	Strongly Disagree
1.	We were able to find all 9 of the stations	5	4	3	2	1
2.	We had enough time at each station to complete the activities	5	4	3	2	1
3.	The Lab Notebook Station sheets were easy to understand	5	4	3	2	1
4.	The science information at each station was interesting	5	4	3	2	1
5.	The science and physical activity information is important to my family	5	4	3	2	1
6.	Learning science in physical education is important for my child	5	4	3	2	1
7.	The knowledge my student learns in physical education can help in science	5	4	3	2	1
8.	My child talks with me about information learned in physical education	5	4	3	2	1
9.	Physical activity is important to the health of my family	5	4	3	2	1
10	. This program helped me think about physical education in a new way	5	4	3	2	1