



***Project Healthy Schools:
Community-University Collaboration
to Prevent Childhood Obesity***

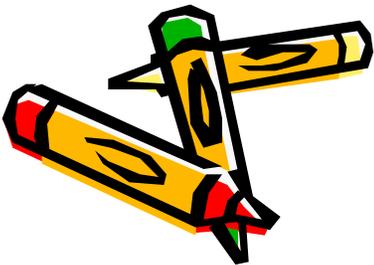
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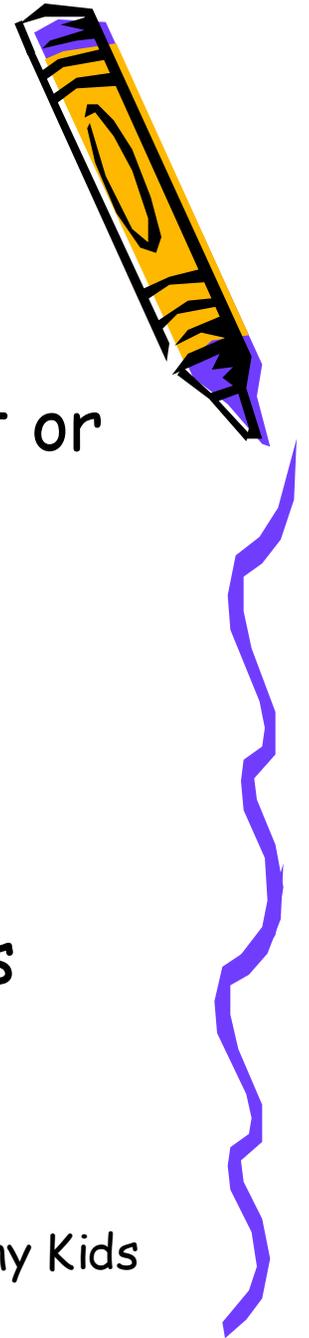
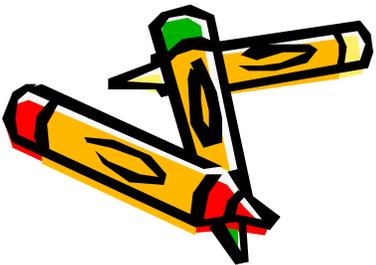
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America's Obesity Epidemic Our Children....

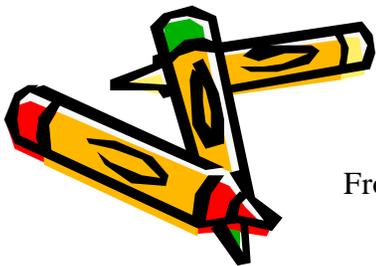
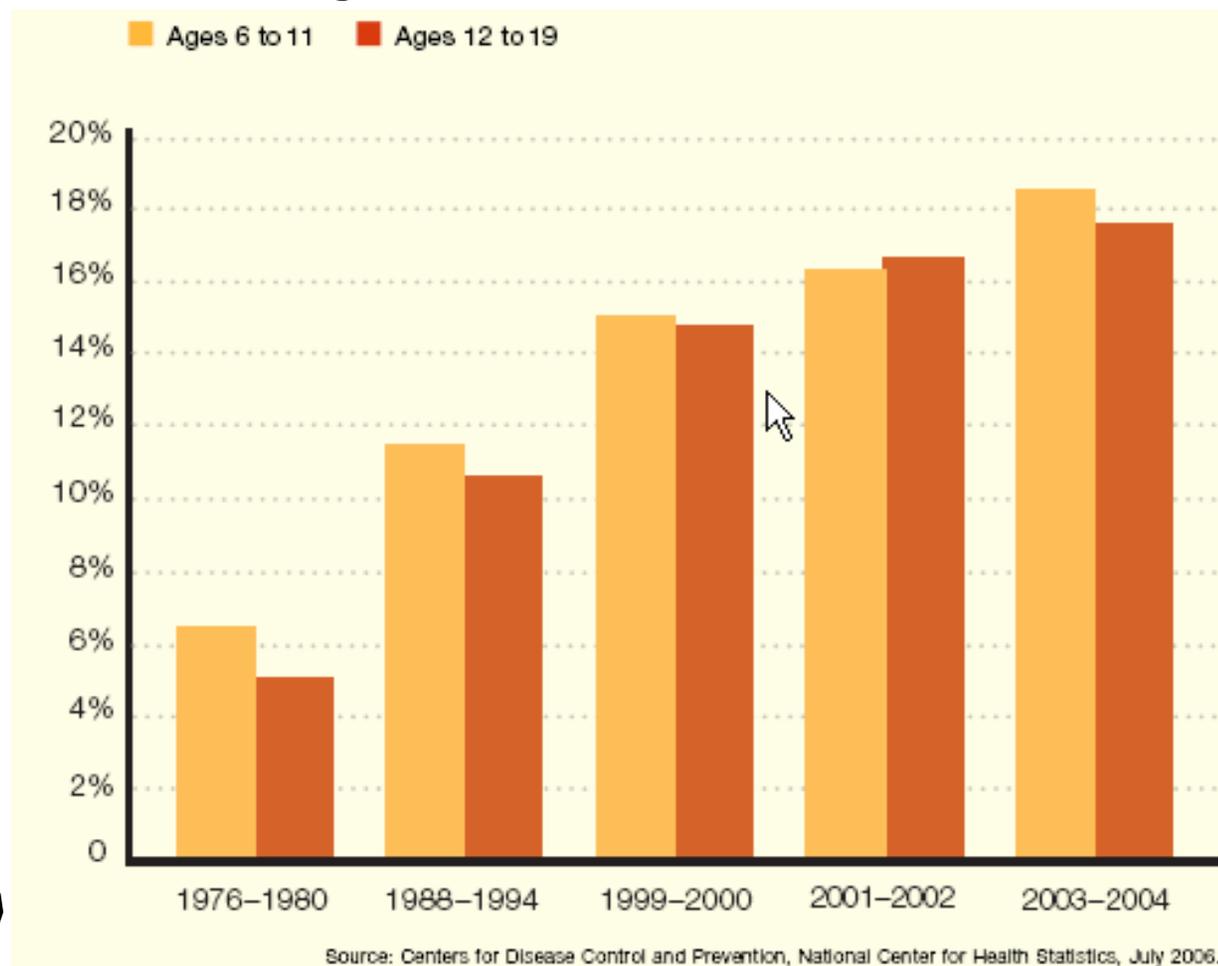
- More than 9 million youth are overweight or obese - three times more than in 1980.
- If trends continue, 80% of those will become obese adults.
- 75% get less than 20 minutes of vigorous physical activity each week.



Action for Healthy Kids

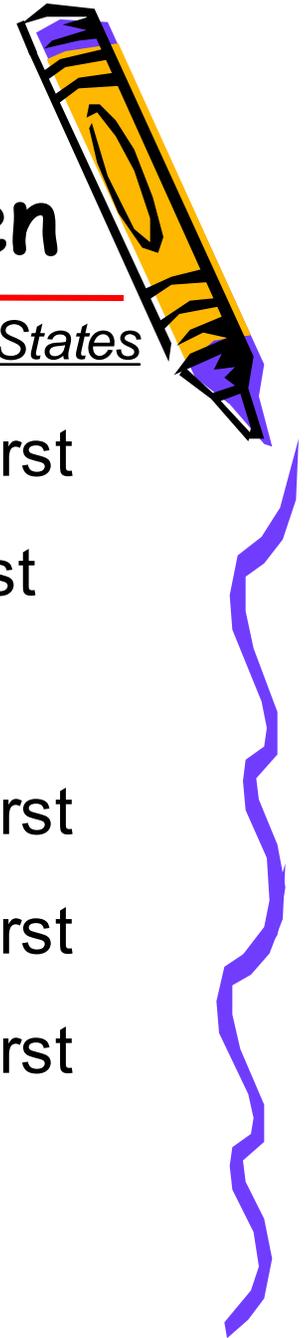


Prevalence of Overweight Among Children and Adolescents Ages 6-19 Years, 1976-2004

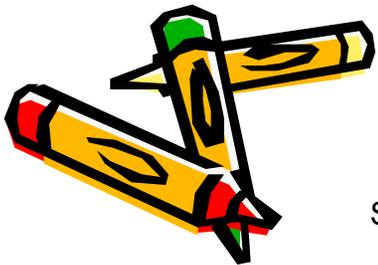


From: RWJF Report on State Action to Promote Nutrition, Increase Physical Activity and Prevent Obesity, October 2006

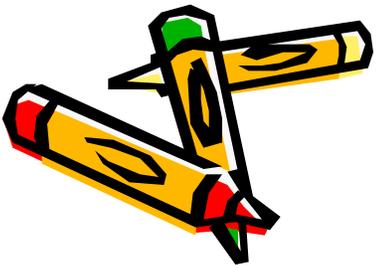
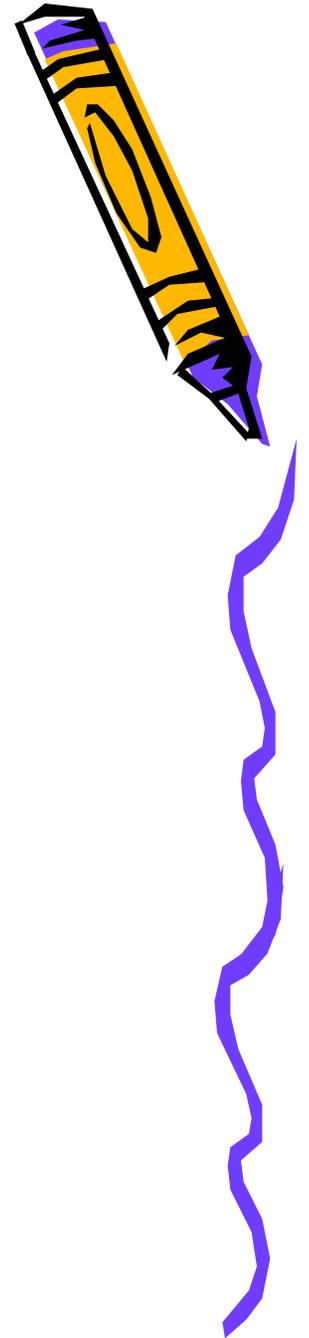
Michigan's Impending Cardiovascular Disease Burden



<u>Risk factor</u>	<u>Prevalence</u>	<u>Rank Among US States</u>
Overweight Youth (Ages 10-17)	14.5%	#20- worst
Obese Adults (BMI greater than 30.0)	26.8%	#9- worst
Adult Physical Inactivity (Physical activity in past month)	22.5%	#28- worst
Adult Diabetes	8.3%	#11- worst
Adult Hypertension	27.3%	#13- worst



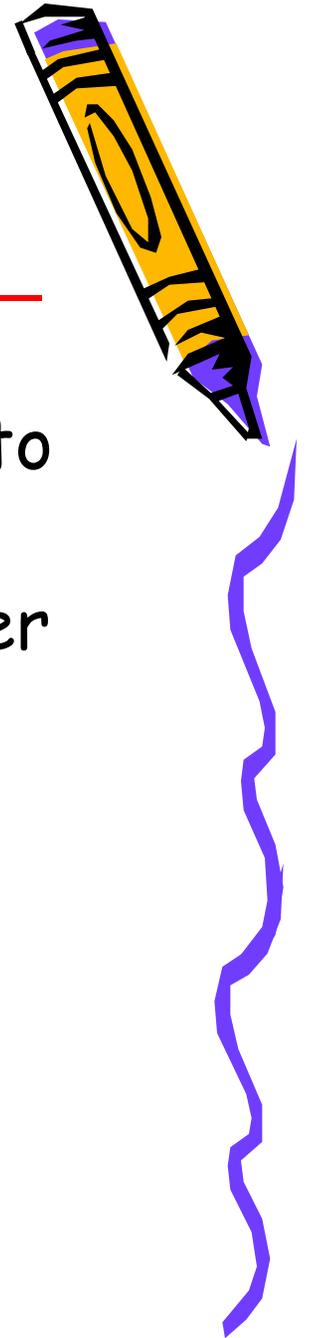
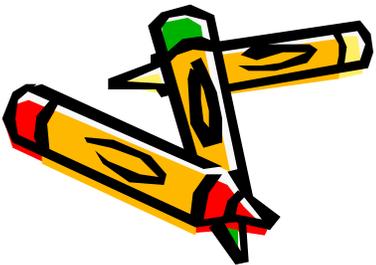
Source: Trust for America's Health, *F as in Fat: How Obesity Policies are Failing in America*, 2007



What Is Project Healthy Schools?

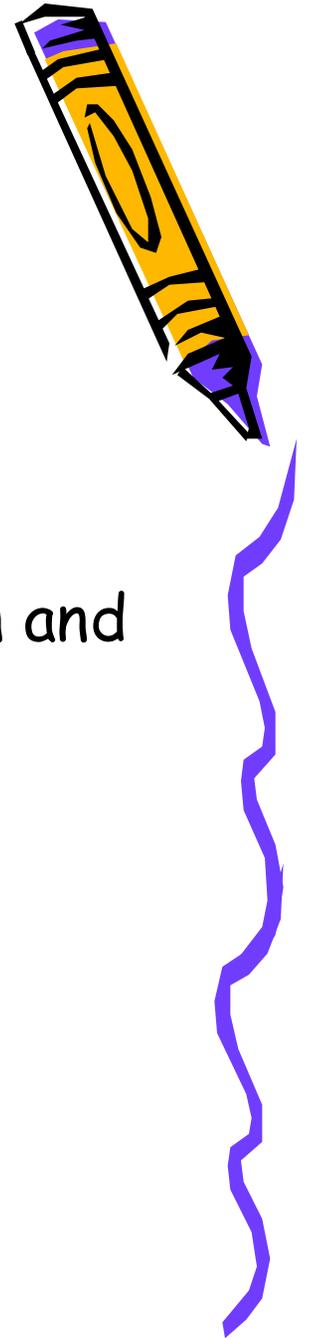
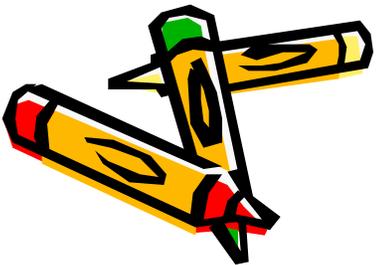
A program for 6th graders designed to increase physical activity and healthier food choices...

to begin now and last a lifetime!



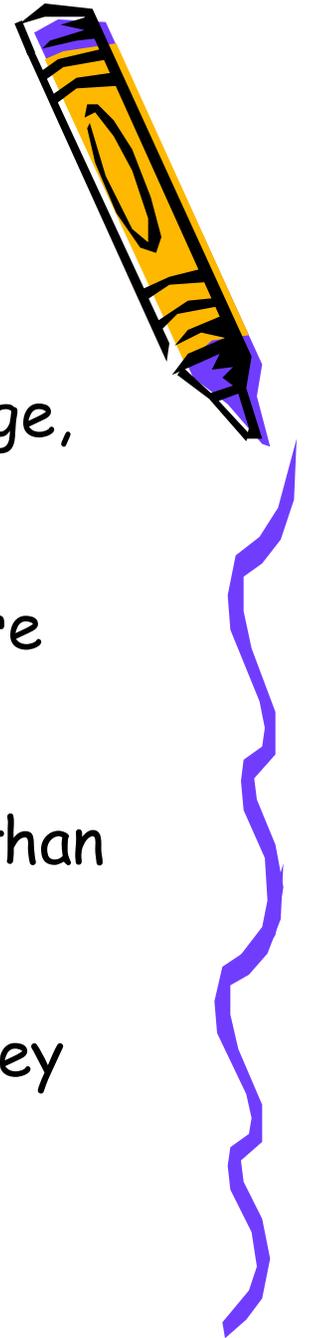
Why 6th graders?

- A transitional age:
 - Increased awareness
 - More independence in food choices, both in and out of school
- The pragmatics
 - Allows for follow-up through middle school
 - Time to practice!



Why a School-Based Program?

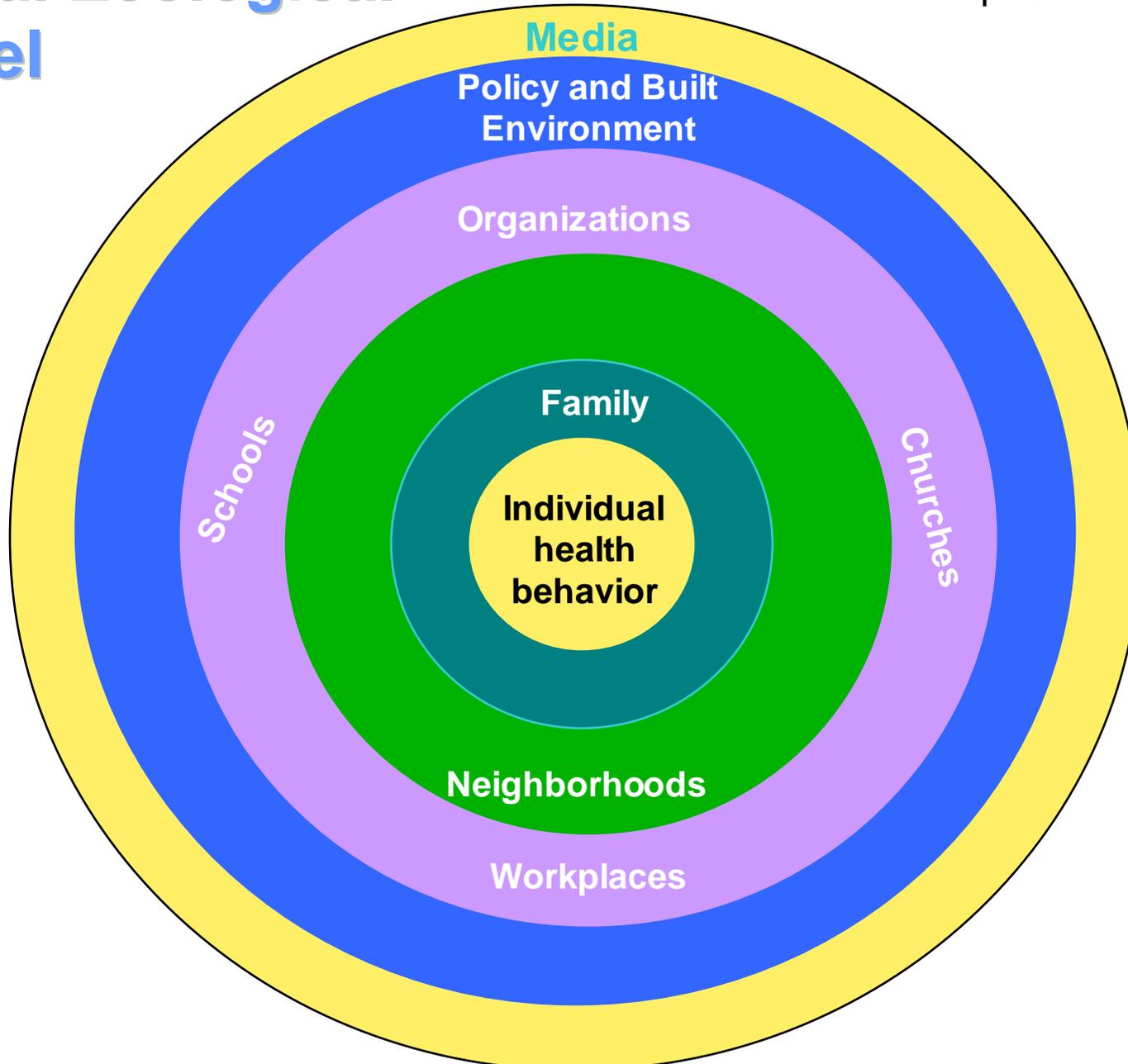
- Children in the United States spend, on average, 900 hours a year and 13 years in school.
- Schools are located in every community and are focal points of community life.
- Schools have more influence on young people than any other institution except the family.
- School-based approaches were identified as key to addressing the obesity crisis in a "Call To Action" issued by the U.S. Surgeon General.



Facts courtesy of F as in Fat 2007

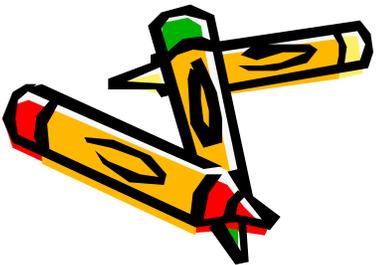
Social Ecological Model

“The spheres of influence”

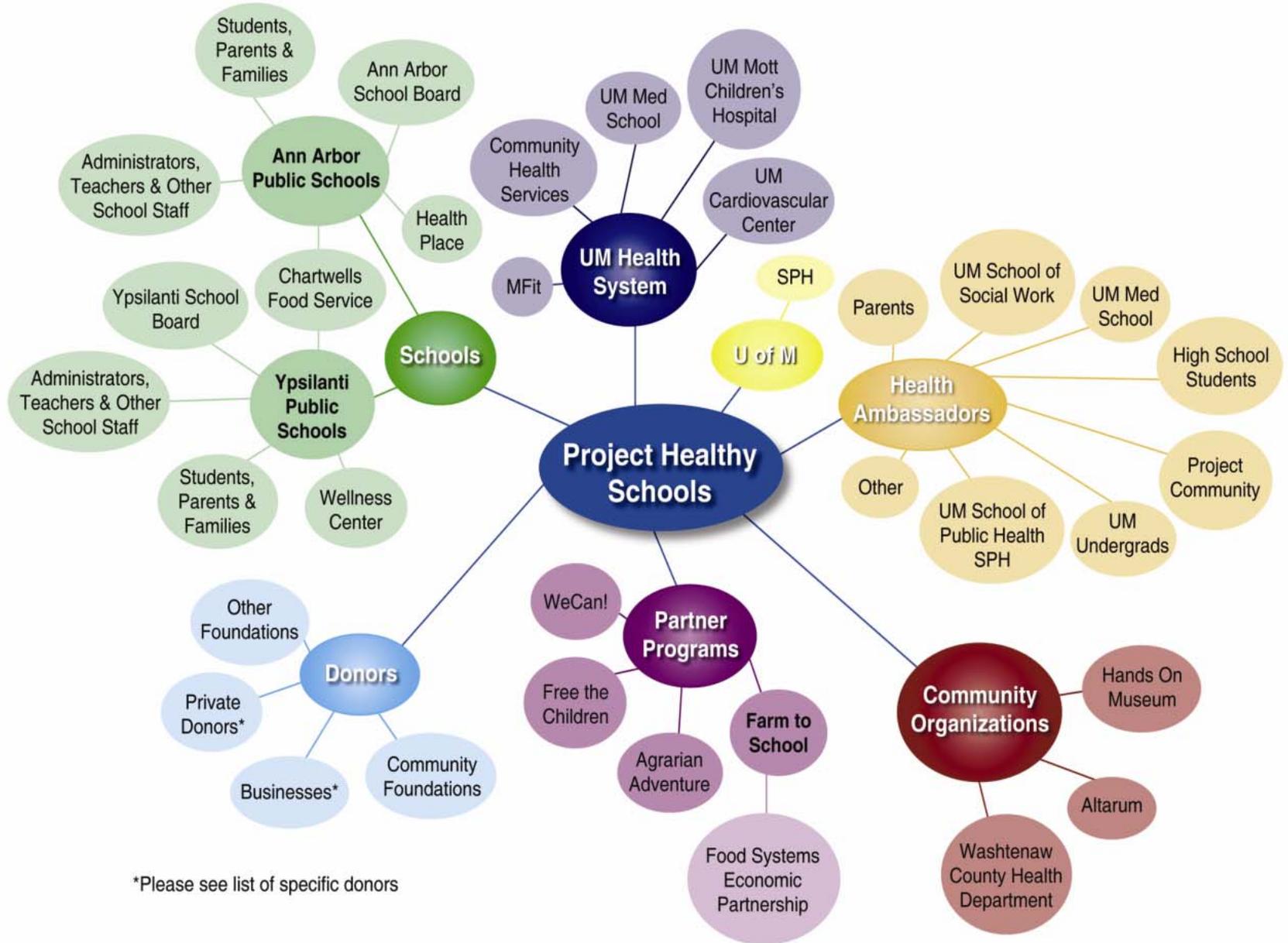


Project Healthy Schools Collaborative Approach

- Developed to bring the resources of the community and the university together.
- Includes innovative strategies by involving a range of stakeholders in solutions.
- Has influence afforded by wide community engagement.

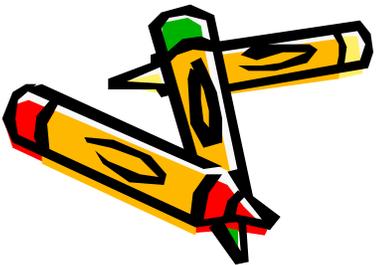
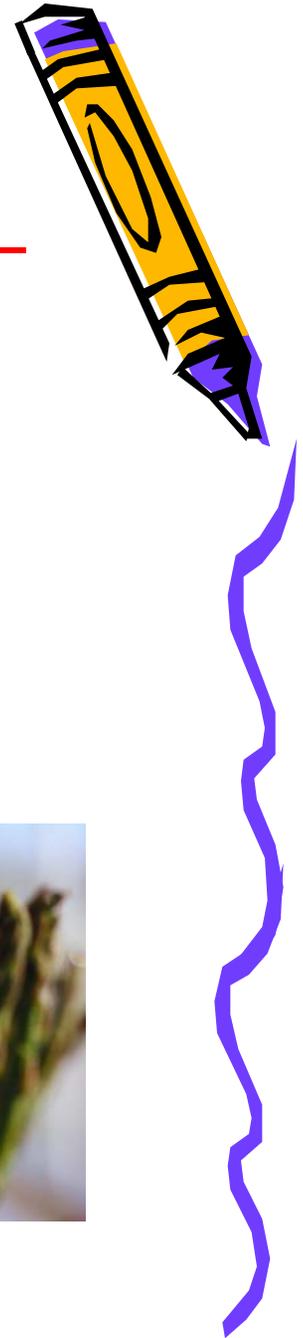


The Project Healthy Schools Collaborative



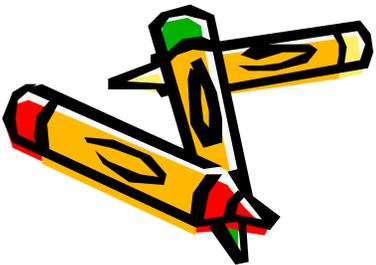
Project Healthy Schools 5 GOALS

#1- Eat more
fruits and
vegetables



Project Healthy Schools 5 GOALS

2-
Make Better
Beverage
Choices

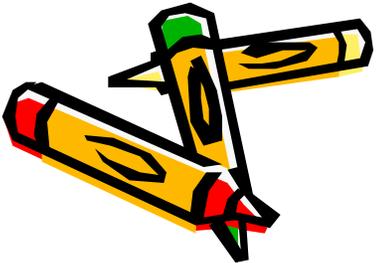
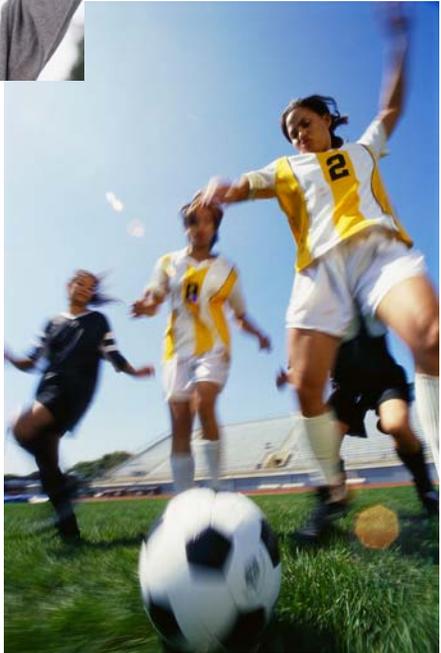


Project Healthy Schools

5 GOALS

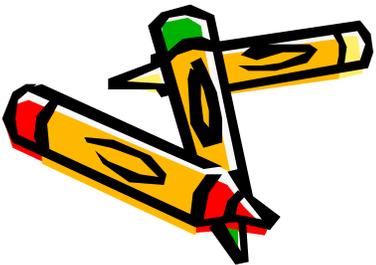


#3-
Perform at least
150 minutes of
physical activity
each week



Project Healthy Schools 5 GOALS

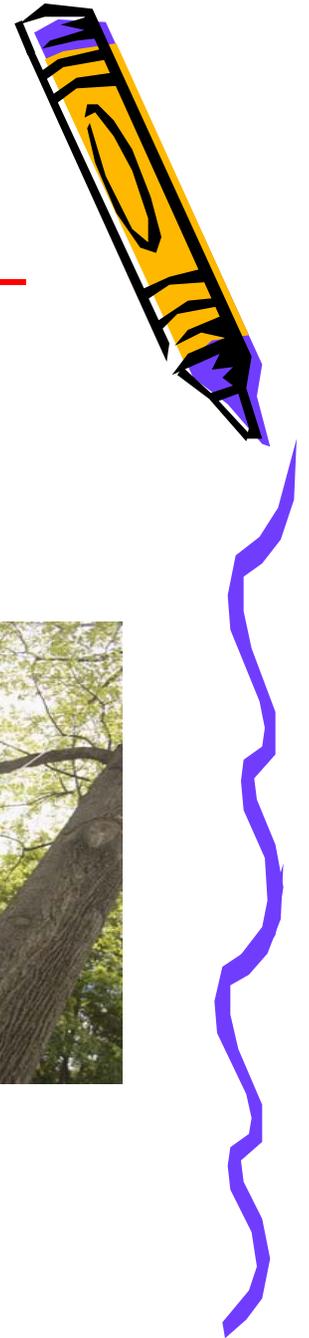
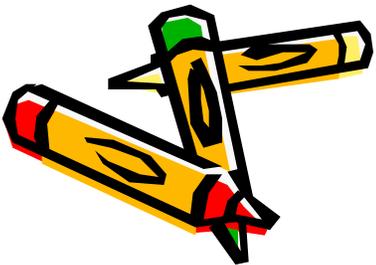
#4-
Eat less fast
and fatty food



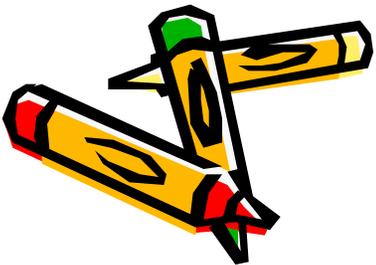
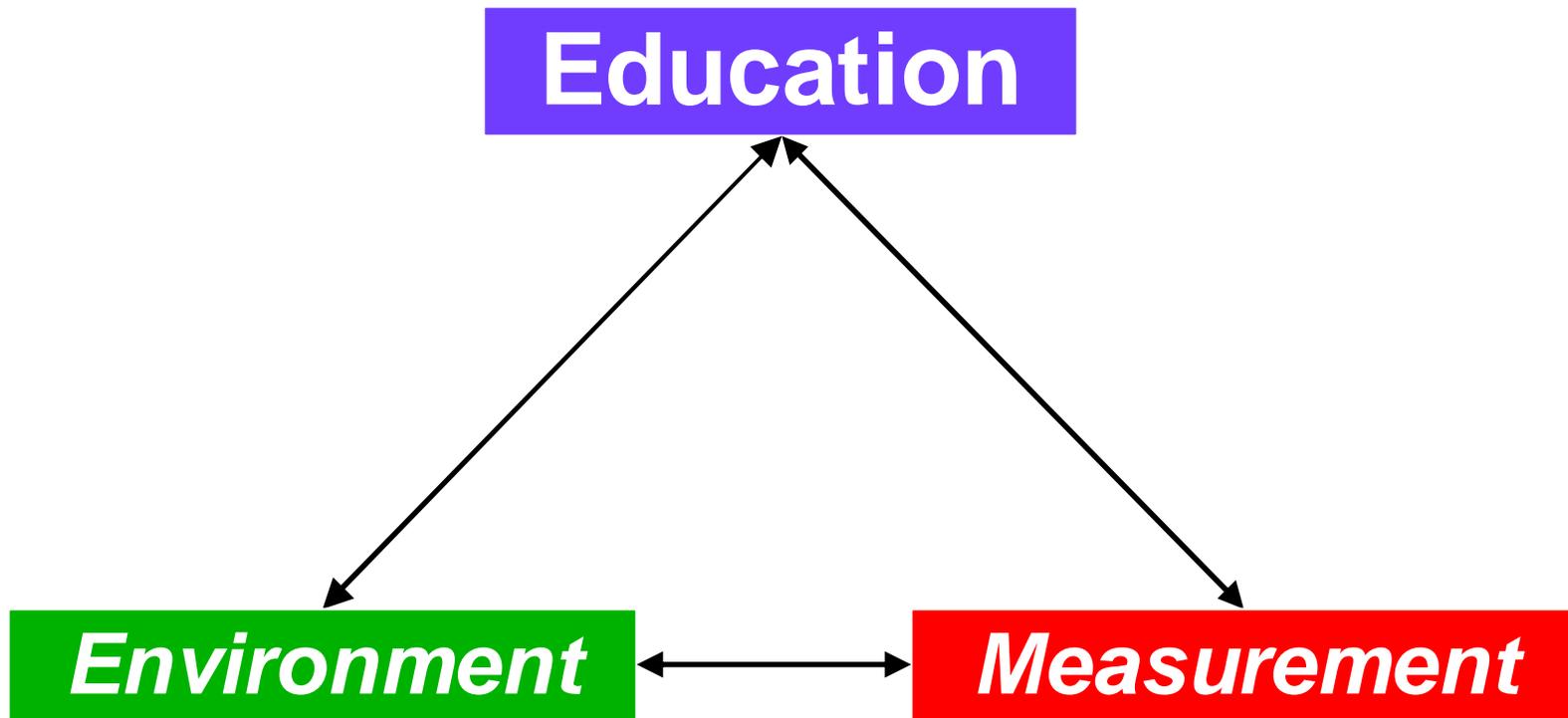
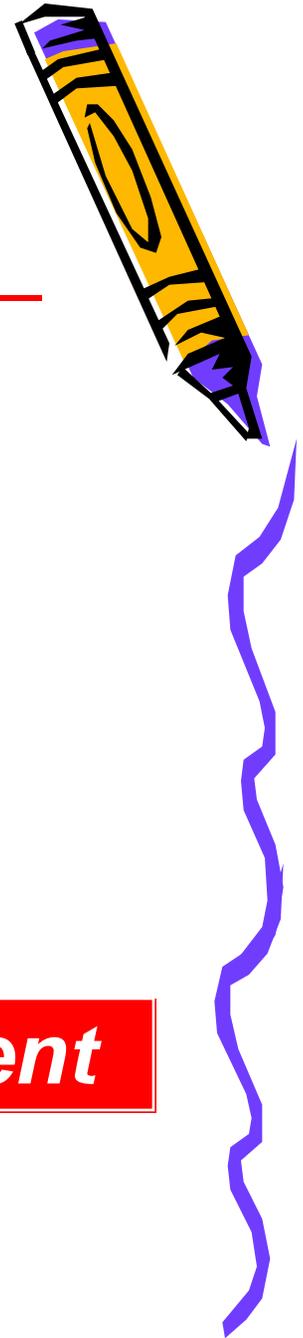
Project Healthy Schools

5 GOALS

#5-
Spend less
mindless time in
front of the TV
and computer

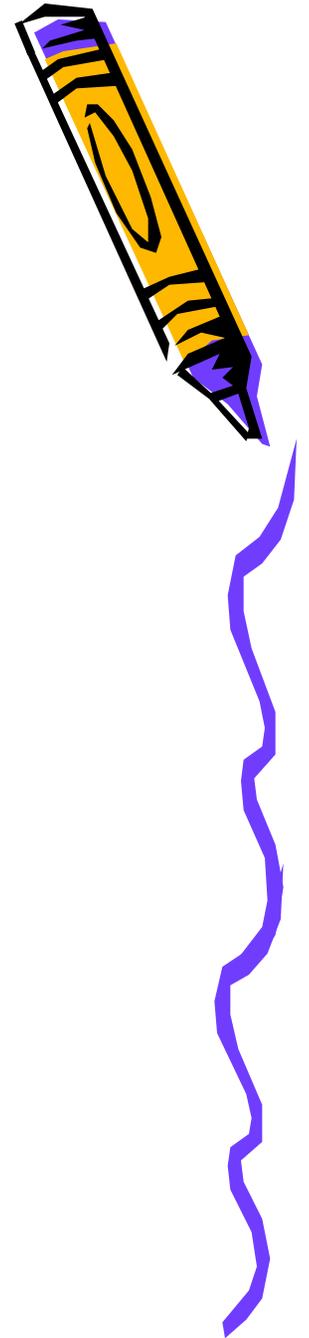
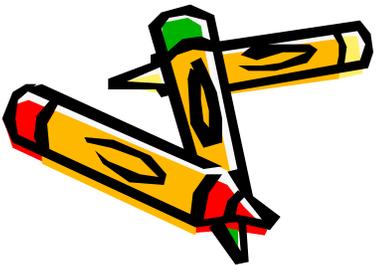


Project Healthy Schools



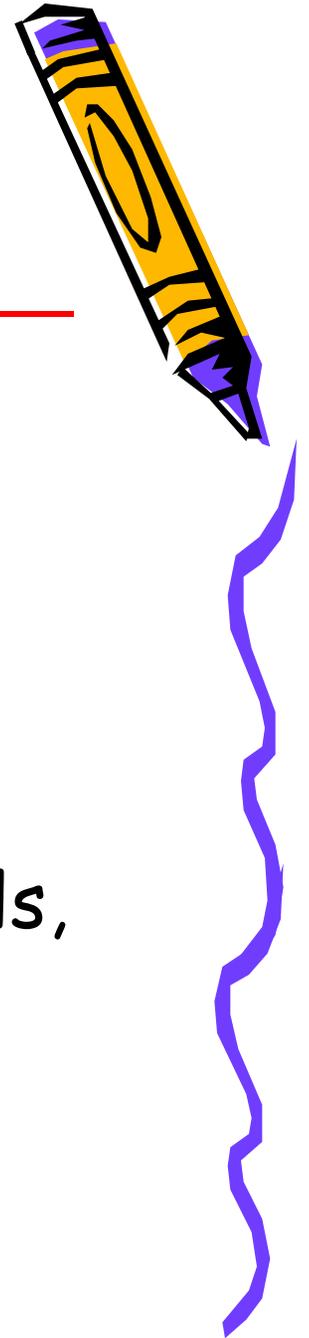
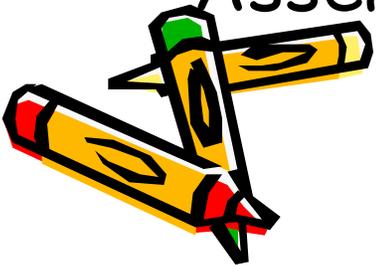
Program Components

- Hands-On Activities
- Fitness Assemblies
- Incentive Program
- Cafeteria Changes
- Education Campaign
- Outcome Measures



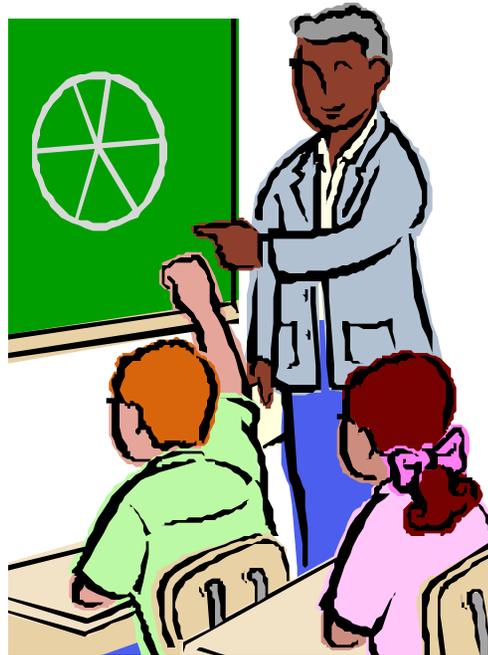
Education

- 10 Health Activities in Advisory Period
- Incentive Program
- Web site for Students and families
- E-News for Parents
- E-communication with teachers, principals, teams
- Assemblies

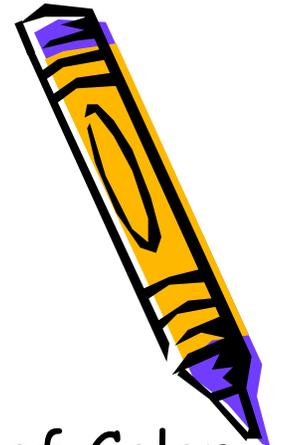
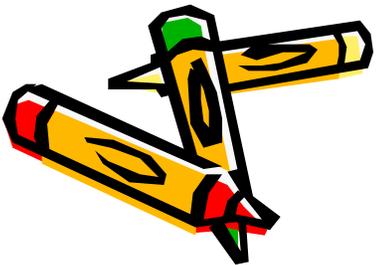


The Activities:

- Physical Activity
- My Pyramid
- Portion Distortion
- Get the Beat
- Assessing Advertising

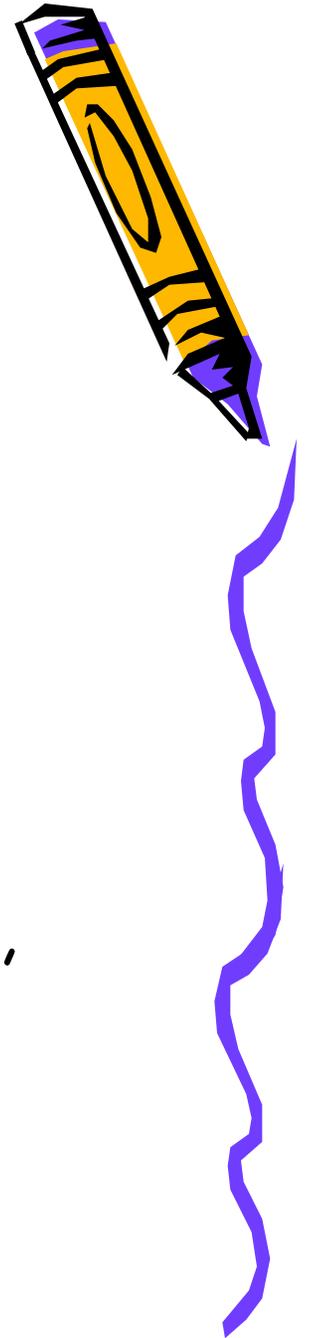
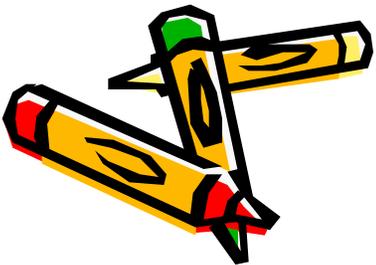


- Rainbow of Color
- The Facts on Fat
- Reducing Screen Time
- Better Beverages

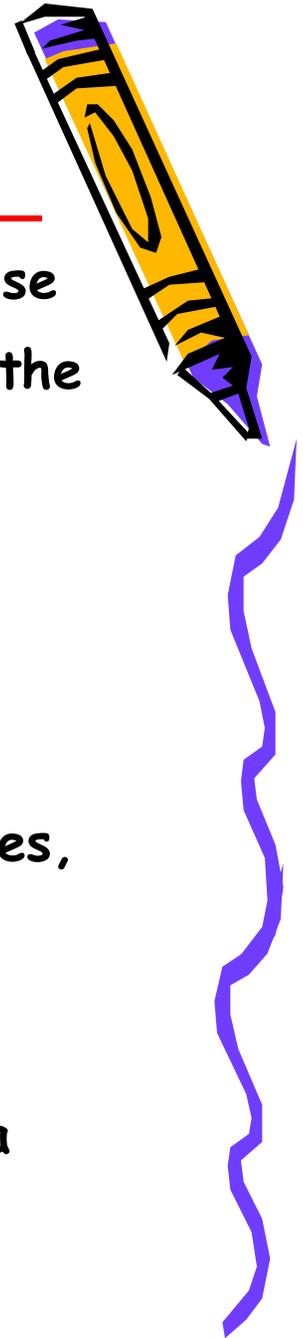


Activity Details

- Offered in advisory period "homeroom" (about 20-25 minutes long)
- Simple lessons
- Interactive
- Hands on Props
- Taught by teachers, health ambassadors, volunteer parents, or PHS staff



Incentive Program

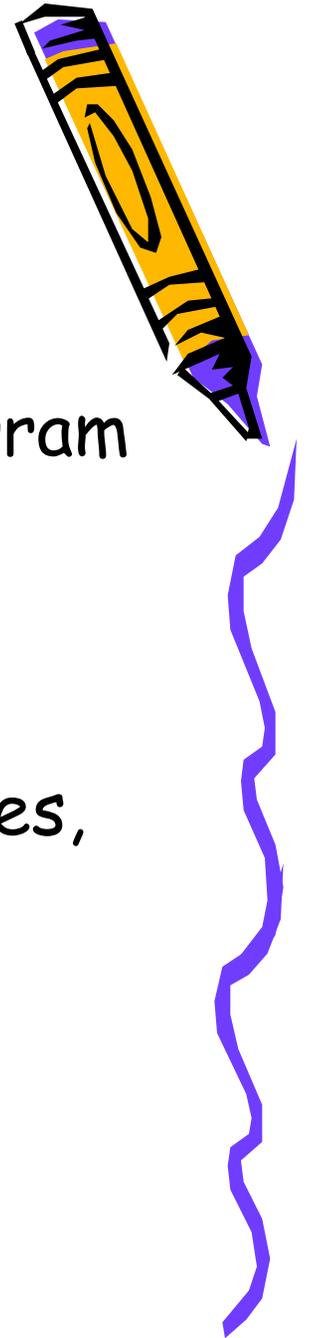
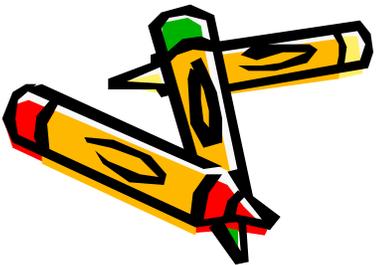


- Students receive points for recording minutes of exercise and healthy lunch options for the first three weeks of the program.
- Competition between advisory classrooms -a traveling "Wellness Trophy" awarded to the winning advisory.
- Participating students are entered in a drawing for rewards, such as Ipod shuffles, Borders gift certificates, water bottles and t-shirts.
- All participating students receive a small prize.
- The winning advisory is awarded a smoothie party and a field trip.



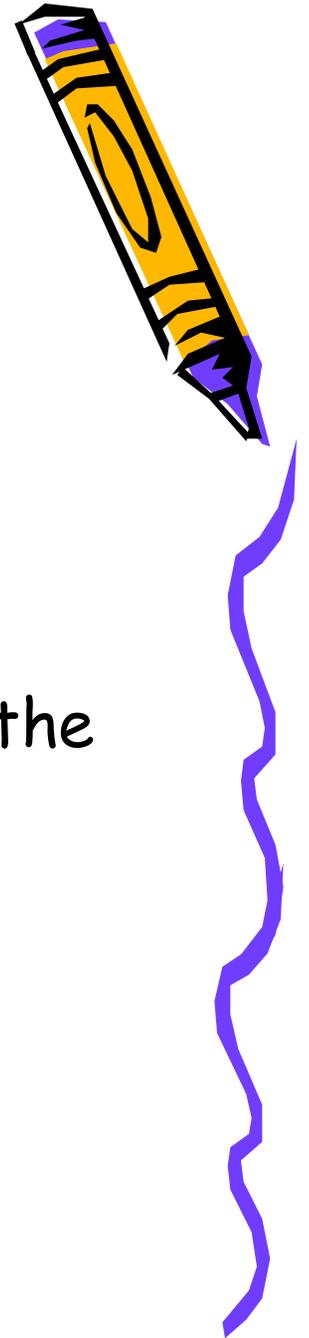
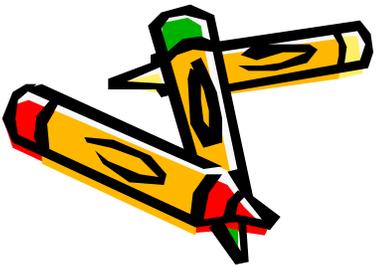
Assemblies

- Kickoff assemblies to introduce the program and get kids excited about activity.
- PE Activities teach kids about fun alternatives to typical exercise (i.e. Pilates, yoga, use of dyna-bands and loops)



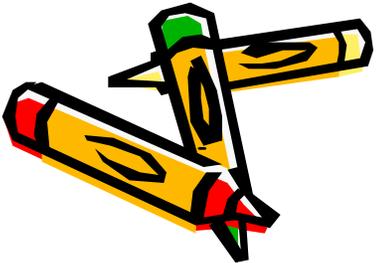
The Health Ambassador Program

- Student volunteers who teach weekly activities, assist with health screenings, PE activities, and kickoffs.
- The program started last year to provide an educational link between the university and the community.
- Volunteers include graduate students from social work, public health, medical students, undergraduate students and parents.



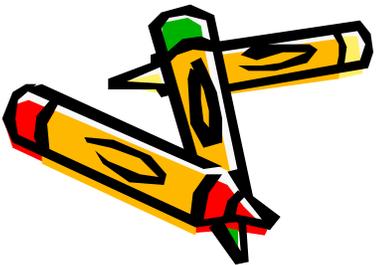
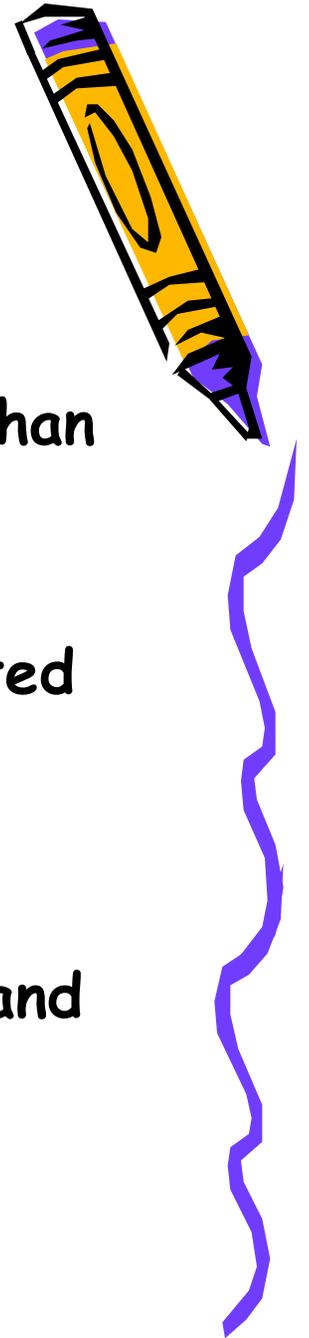
Health Ambassador Program features:

- training in screening and data collection
- education to provide classroom activities
- hands on experience in the community
- opportunities to work in the schools to assist in environmental and policy change
- monthly seminar series connecting them to health-related programs and community and university leaders



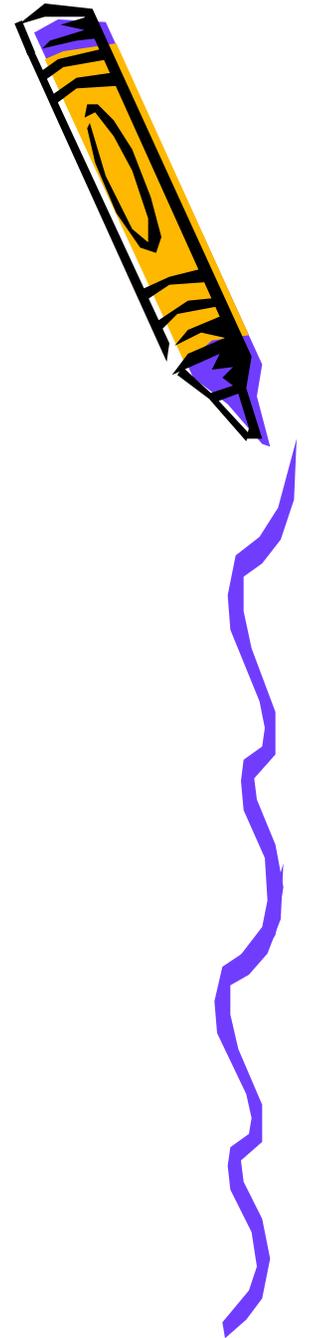
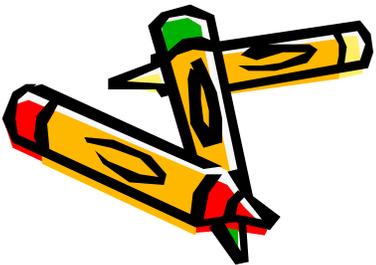
Health Ambassadors are essential to PHS

- Enables PHS to reach out to more students than would be possible with current staff
- Provide valuable link to university health related programs
- Ensure PHS program sustainability through longterm relationship between the university and the school system.



Environment

- Cafeteria re-engineering
- Vending machines healthier options
- Healthy fund raisers
- Changes in school store options
- “Celebrate Health” communication campaign
 - posters
 - bulletin boards
 - winning students and classrooms
- Field Days



Cafeteria Changes



Eliminated

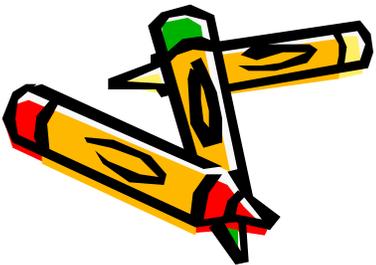
- 2 for 1 Hot Dogs
- Double Cheeseburgers
- Candy in lunch line
- High fat meat pizza
- Pop Tarts
- Donuts
- Pastries
- Cookies
- Candy in Stores

Changed

- White flour bread/whole wheat bread
- Fried chips/Baked chips
- Coca-cola soda/Dasani water
- Slushy machine/100% Juices
- Reduced pepperoni on pizza

Offered

- Salad/Fruit bar
- Carrots/ranch dip
- Yogurt
- Celery/peanut butter
- Whole grain products
- Fresh fruit when available
- More Milk Choices
- Hard boiled eggs

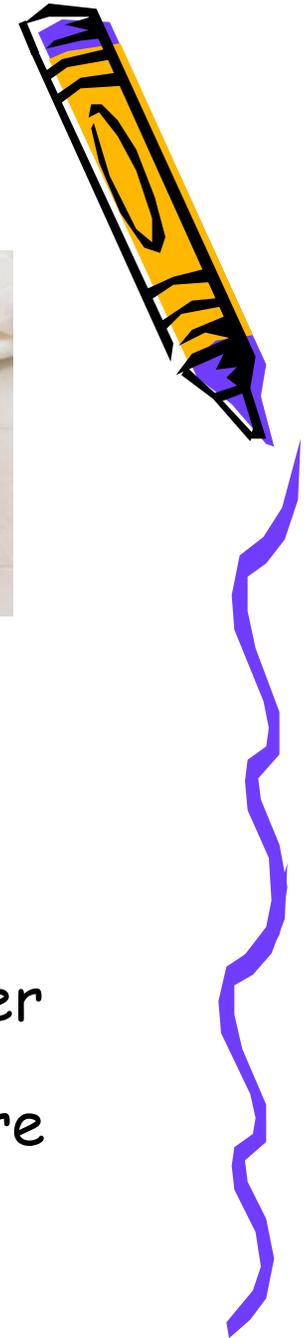
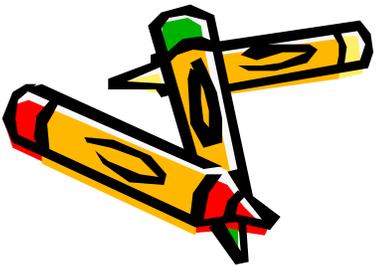


Measurement

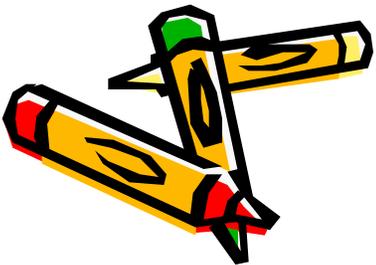
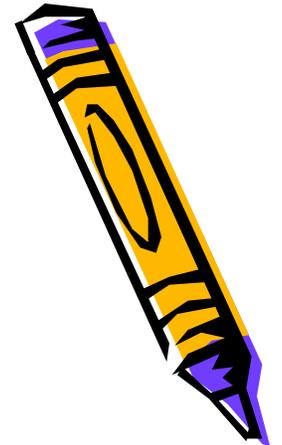
- Height
- Weight
- BP
- 3 min. Step Test



- Lipid Profile
- Glucose
- Before/After Questionnaire

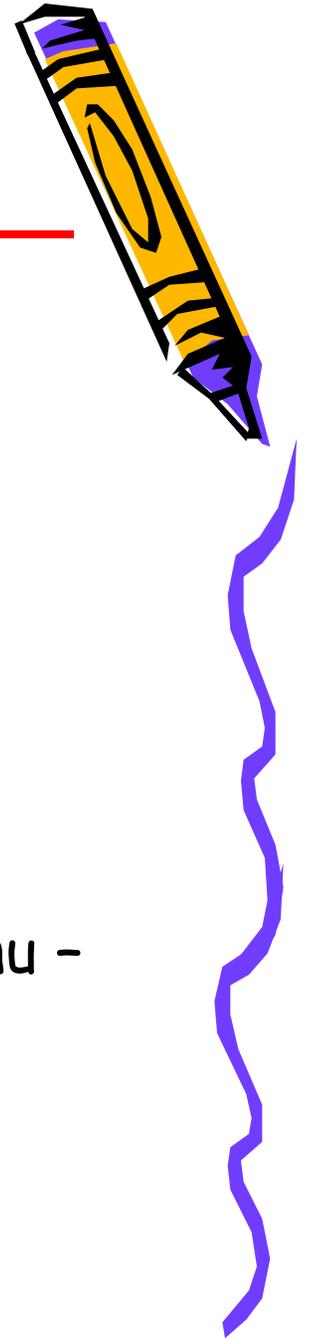
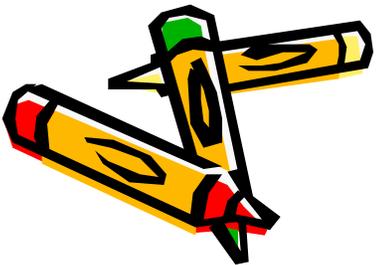


Health Screenings

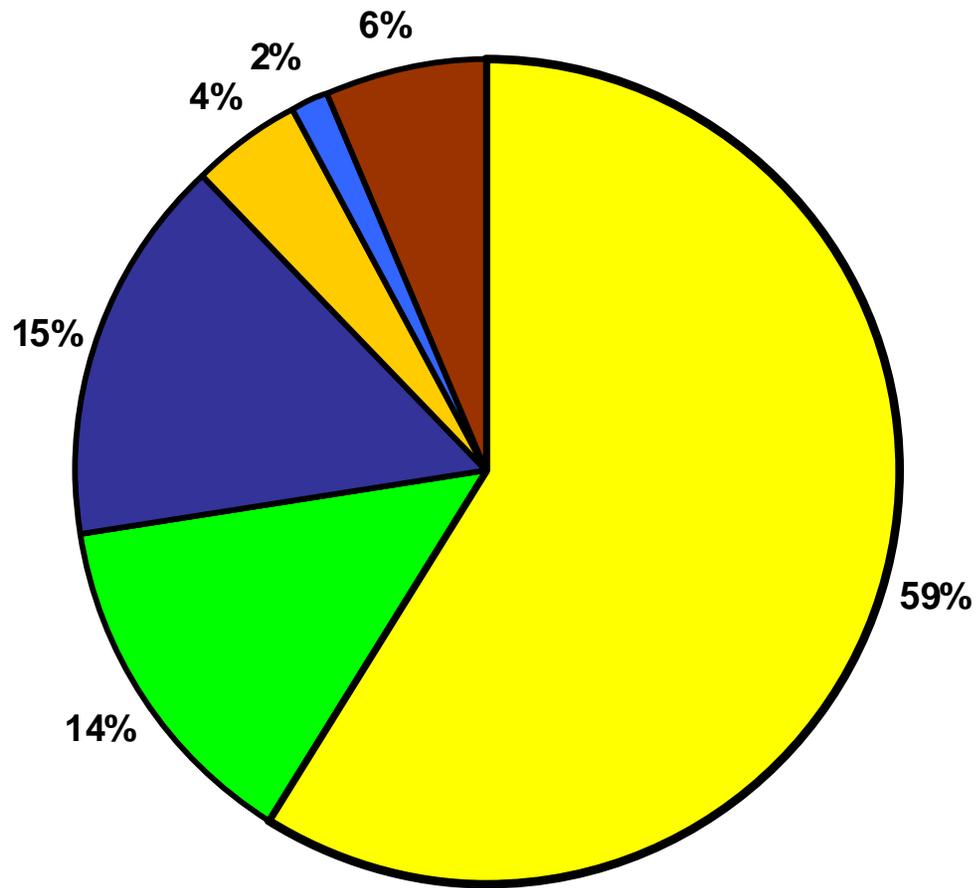


Program Results to Date

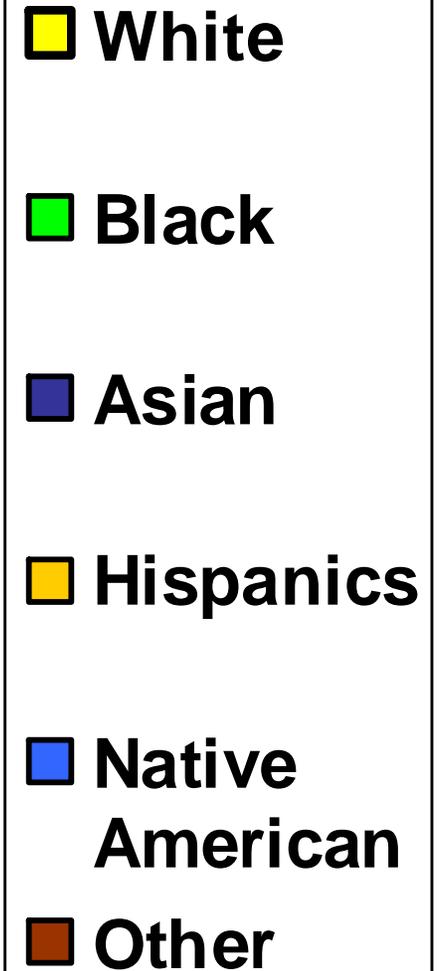
- Response to the program has been overwhelmingly positive
- 5 Schools, 1,250 students, many teachers involved
- 581 Students participated in 2006-07 screening
- Healthy choices have been added to the school menu - 10% increase in fruits/vegetables consumption in cafeterias



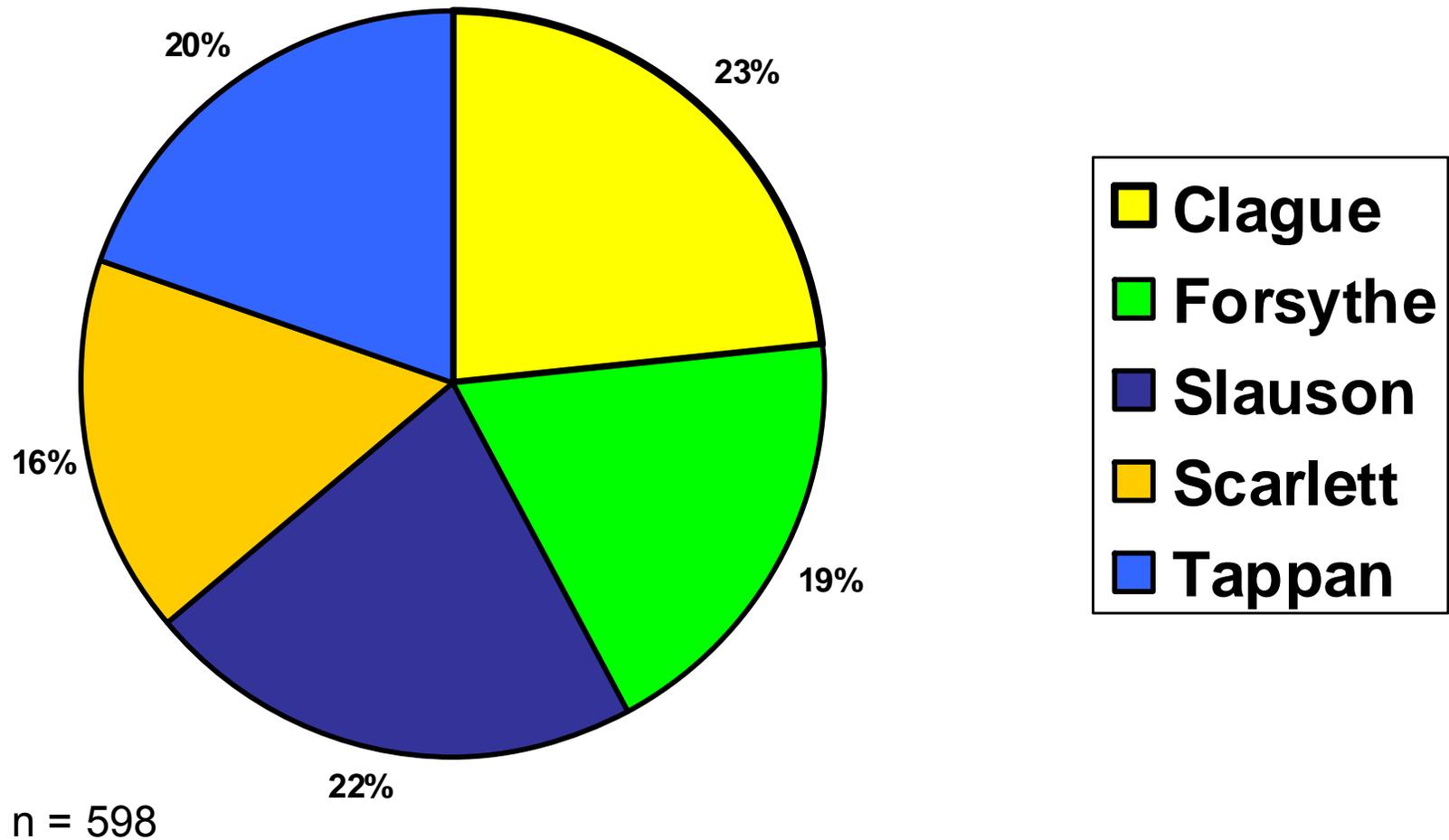
Student Study Population- Racial Distribution



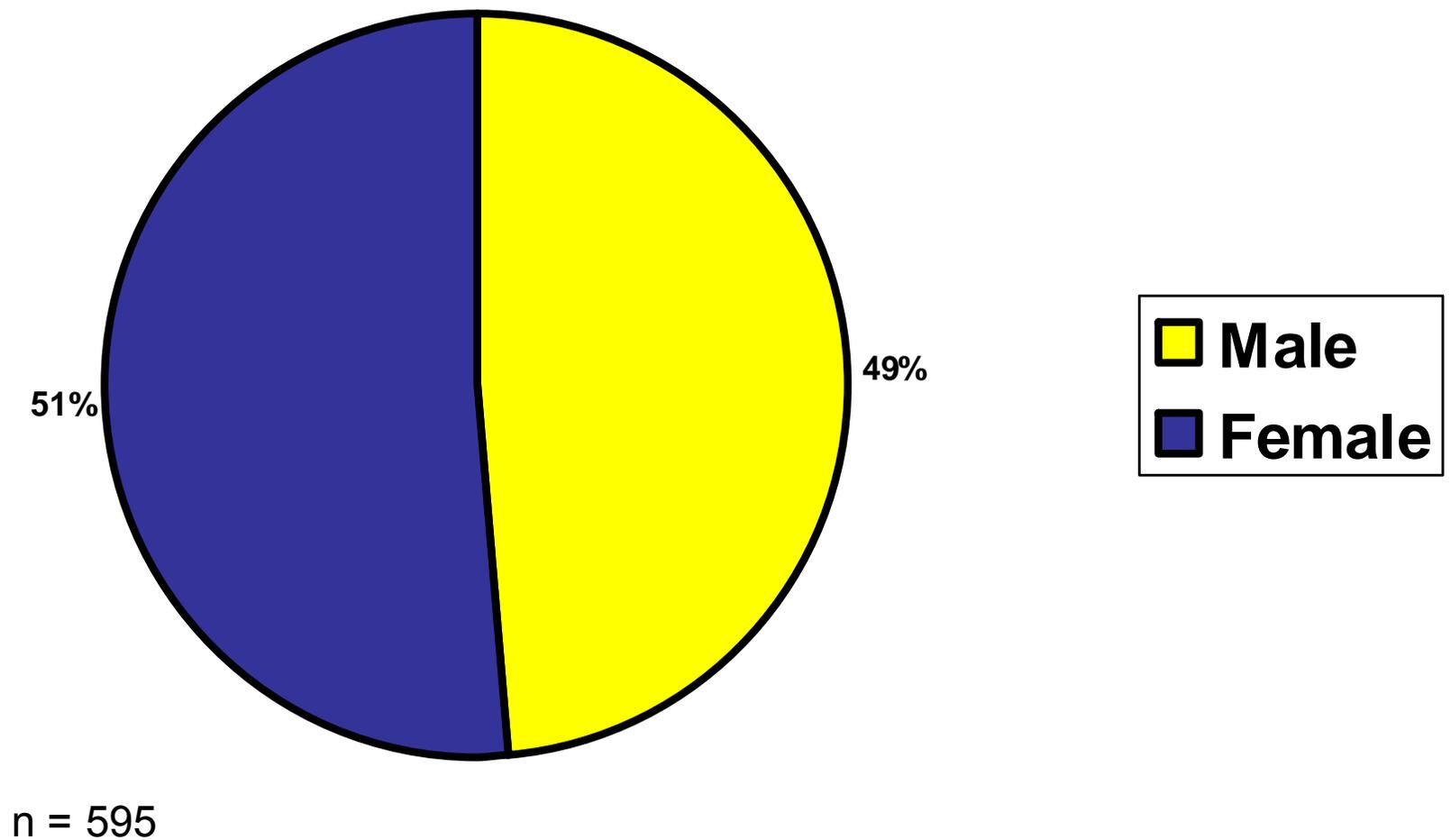
n = 590



Student Study Population- School distribution



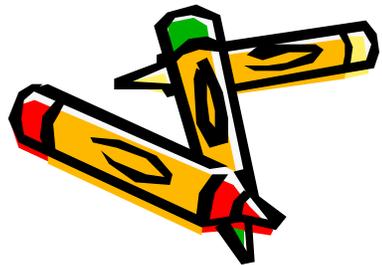
Student Study Population- Gender Distribution



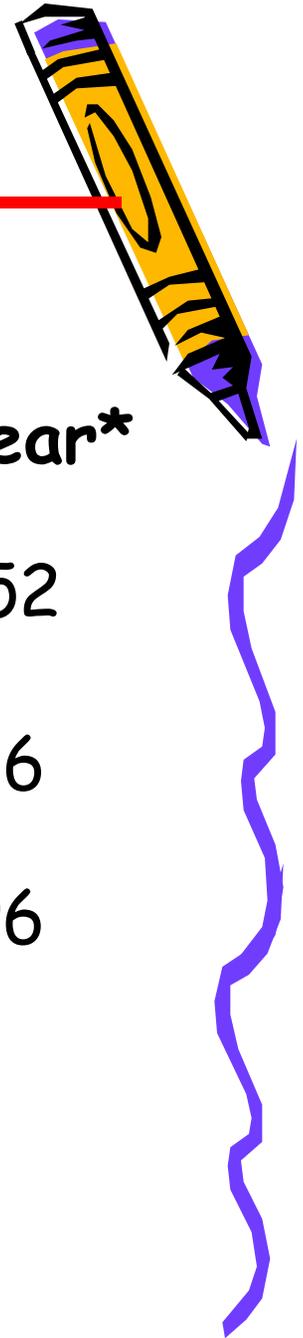
Screening Results

Pilot Data

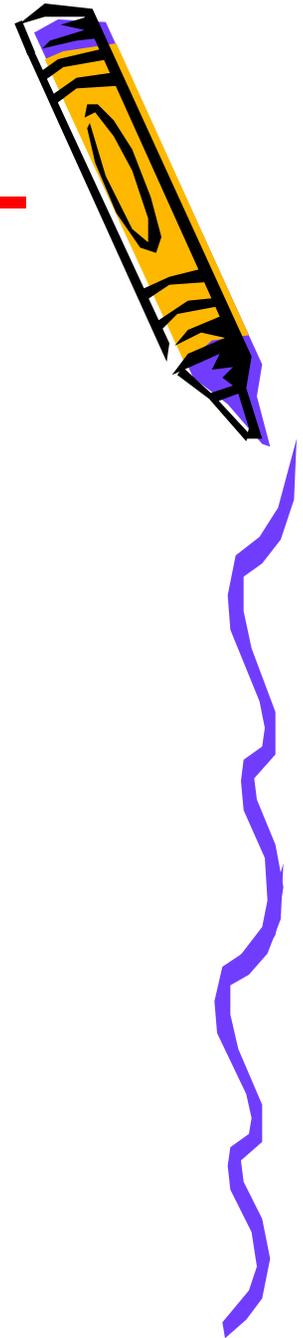
	Before	After	1 year*
Total Cholesterol	169	151	152
LDL Cholesterol	90	74	86
Serum Glucose	103	97	96



N=88 students
Data from 2004-05 one school
*One year post follow-up



What Have We Found?

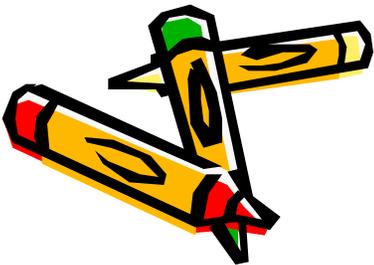


<u>Risk Marker</u>	<u>Frequency</u>
Overweight >85%	32.0% (92)
Obese > 95%	5.0% (13)
Systolic BP \geq 124 mmHg	8.4% (24)
Total Cholesterol \geq 200	7.3% (21)
HDL Cholesterol < 35	5.4% (12)
"At Risk" -	40% (116)*

*One or More of BMI, SBP, TC, LDL, HDL, Glucose

N= 292

Data from 2005-06 Three Schools

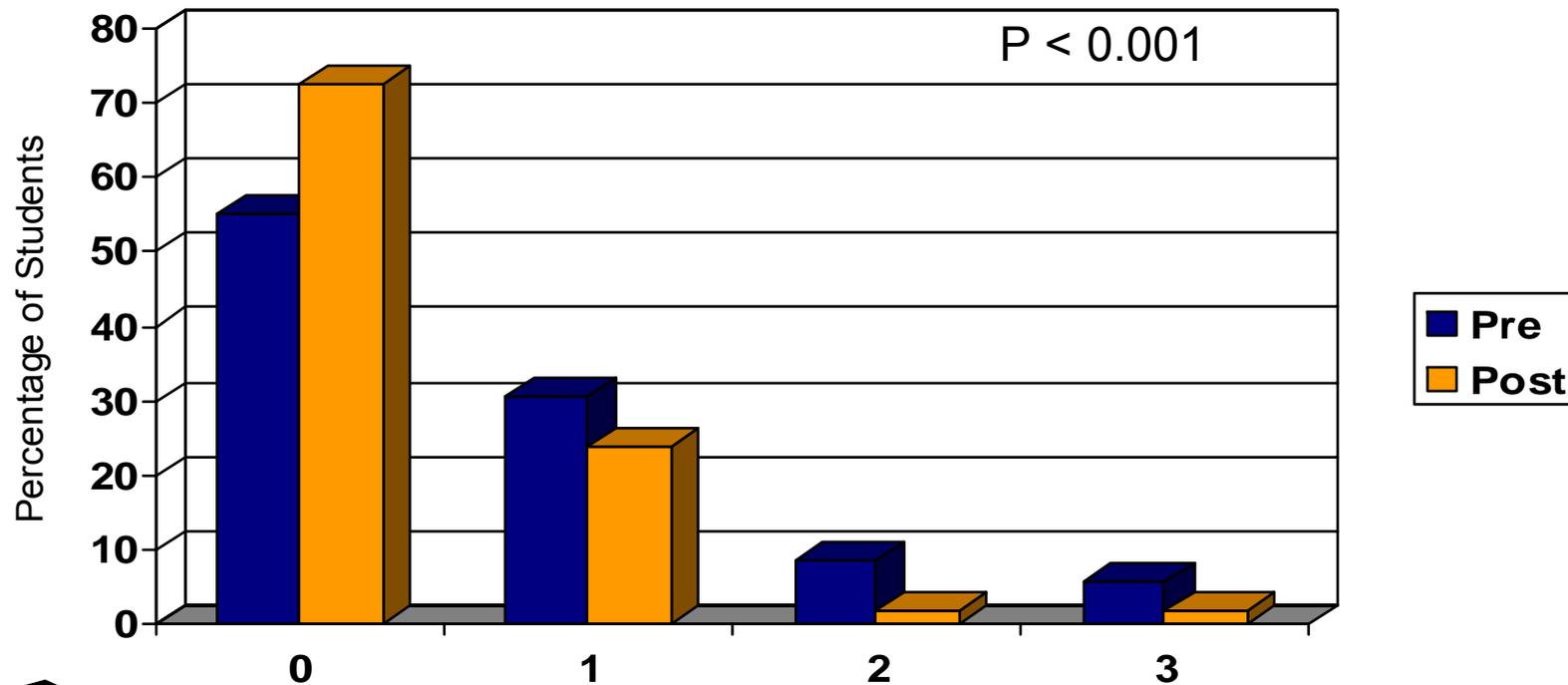


2005-06 Screening Results from 3 Schools

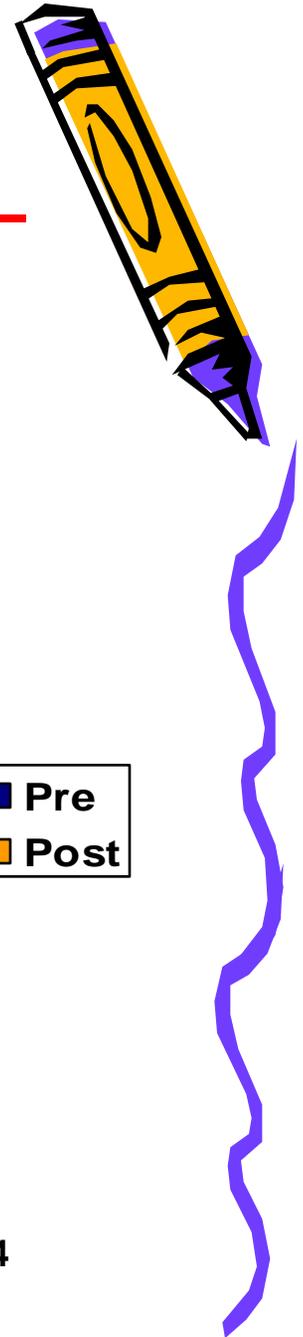
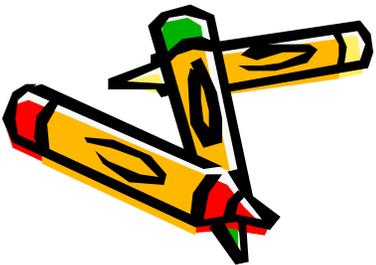
Variables	n	Baseline	Follow up	P value
BMI	274	19.5 ± 3.5	19.9 ± 3.5	<0.001
Mean Systolic BP	273	109.1 ± 12.5	107.9 ± 11.4	0.11
Mean Diastolic BP	273	63.6 ± 8.7	62.3 ± 7.8	0.01
Cholesterol	213	168.8 ± 26.4	154.4 ± 26.6	<0.001
HDL	214	55.6 ± 12.5	50.1 ± 12.4	<0.001
LDL	172	86.3 ± 24.6	82.8 ± 22.6	0.1
Triglycerides	214	142.5 ± 92.3	109.4 ± 66.7	<0.001
Random Glucose	212	96.0 ± 13.0	92.7 ± 15.2	0.08
Resting Heart Rate	274	79.6 ± 10.4	79.3 ± 10.3	0.64
Recovery Heart Rate	263	103.5 ± 15.9	104.7 ± 16.8	0.20

Measuring Behavior Change

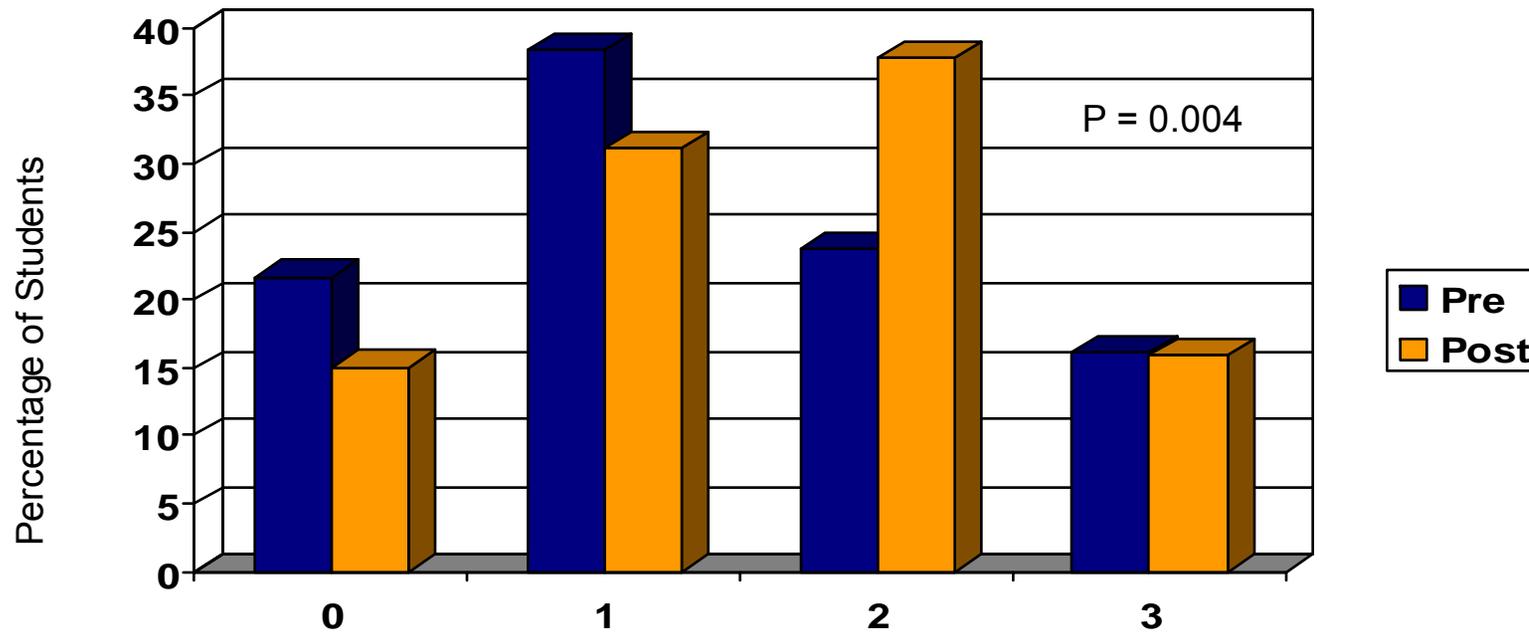
Yesterday how many times did you eat chocolate candy?



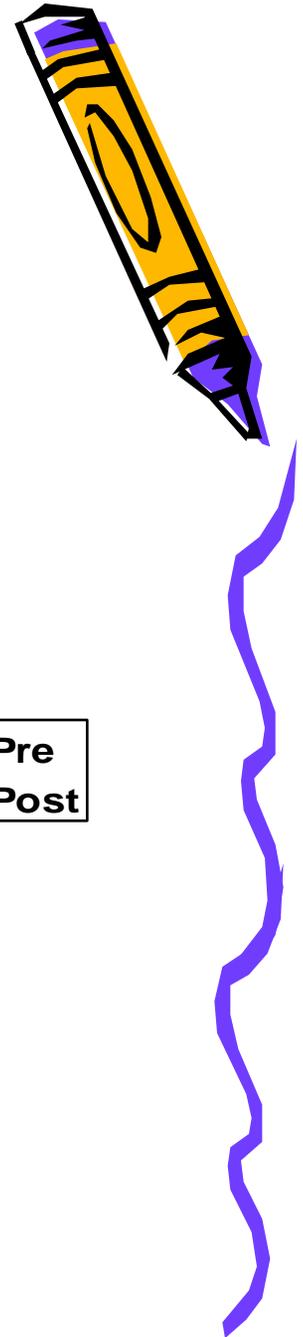
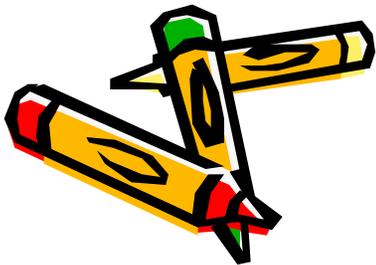
PHS Data 05-06 N=274



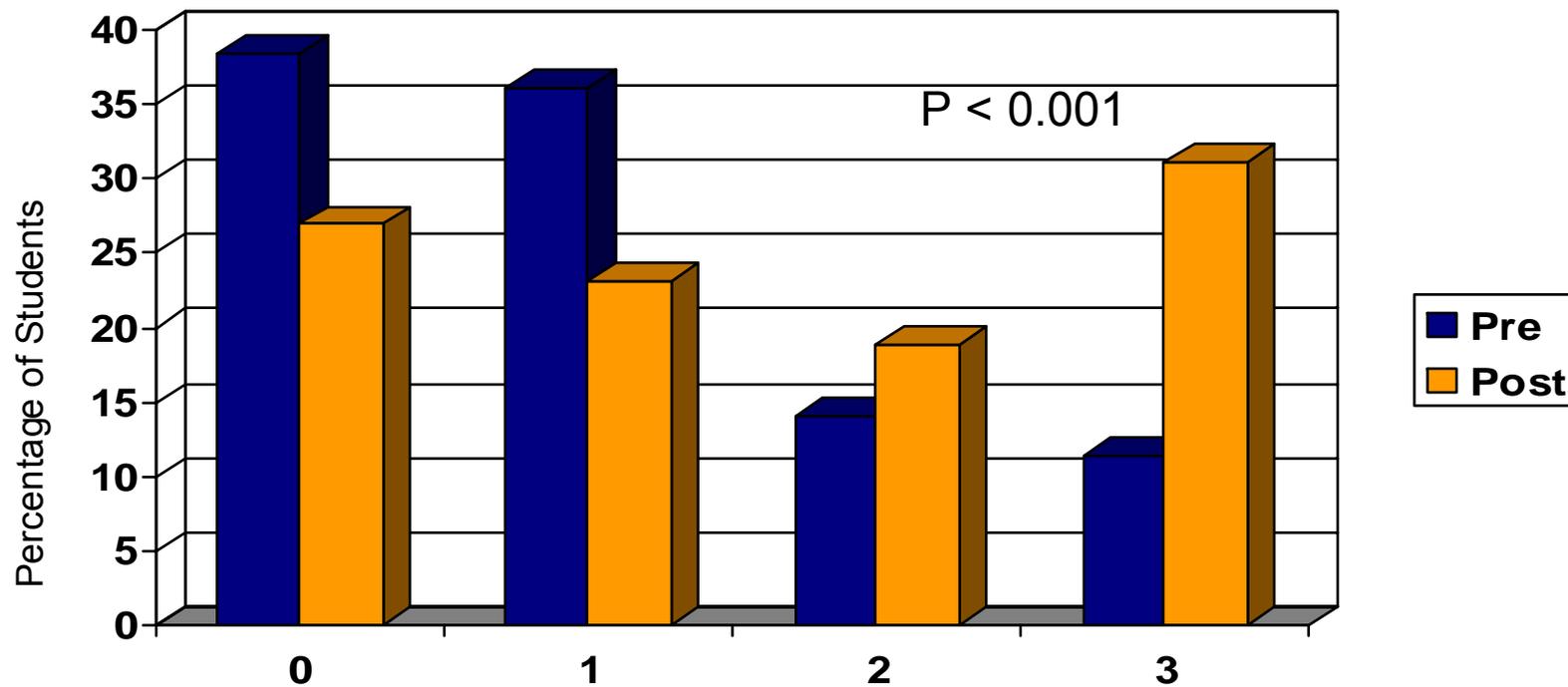
Yesterday how many times did you eat fruit?



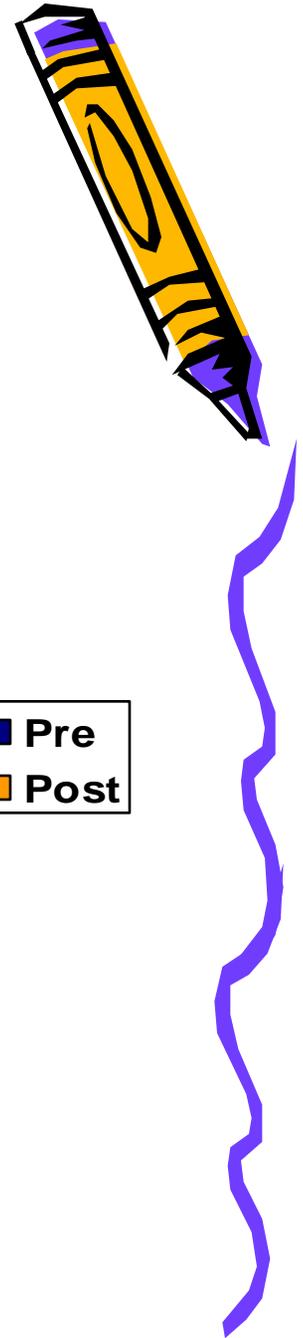
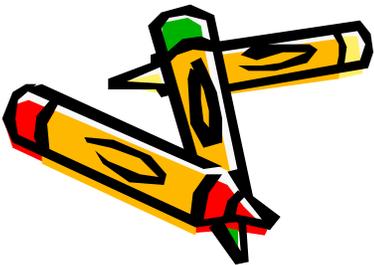
PHS Data 05-06 N=274



During the past 12 months how many sports teams run by your school did you play?



PHS Data 05-06 N=274

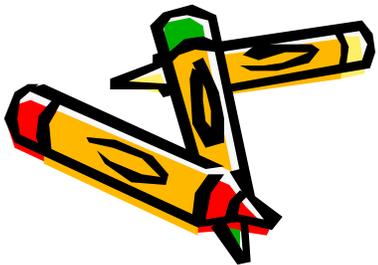
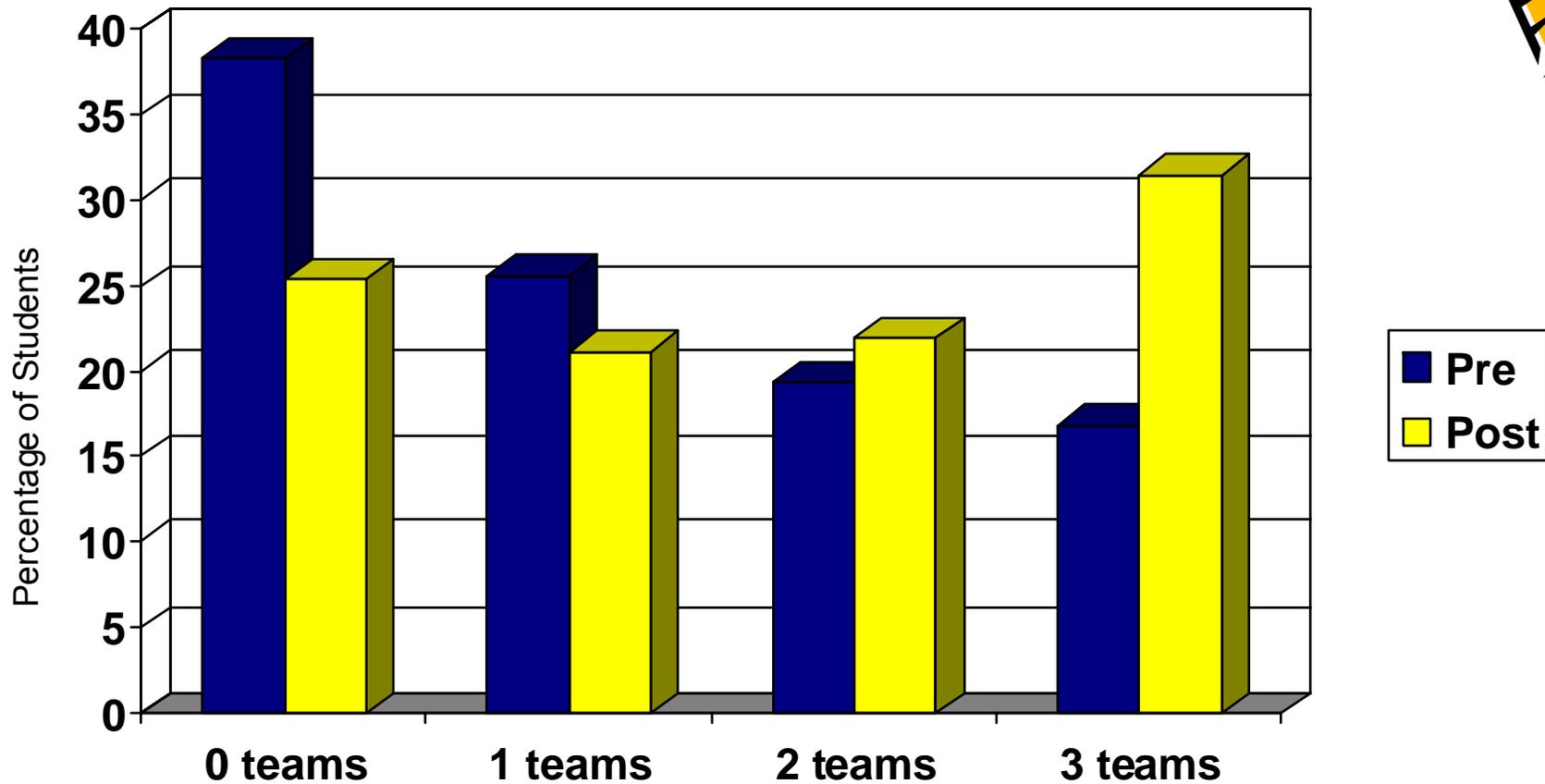


2006-07 Screening Results from 5 Schools

Variables	n	Baseline	Follow up	P value
BMI	578	19.96 ₊ 4.17	20.47 ₊ 4.31	<0.001
Mean Systolic BP	575	107.32 ₊ 10.77	106.05 ₊ 10.222	0.006
Mean Diastolic BP	575	64.68 ₊ 7.76	62.52 ₊ 6.90	<0.001
Cholesterol	441	167.39 ₊ 30.15	160.22 ₊ 28.29	<0.001
HDL	441	52.93 ₊ 12.34	49.86 ₊ 12.54	<0.001
LDL	381	92.07 ₊ 27.13	90.16 ₊ 26.05	0.051
Triglycerides	403	124.00 ₊ 70.81	114 ₊ 67.22	0.008
Random Glucose	439	95.45 ₊ 15.06	94.55 ₊ 14.08	0.291
Resting Heart Rate	576	81.27 ₊ 12.02	79.93 ₊ 10.46	0.010
Recovery Heart Rate	516	101.29 ₊ 17.94	104.15 ₊ 16.60	<0.001

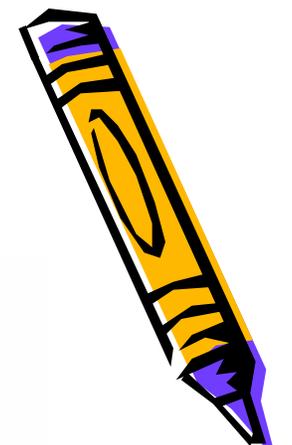
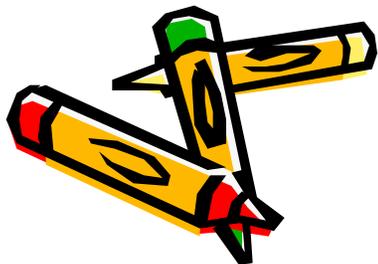
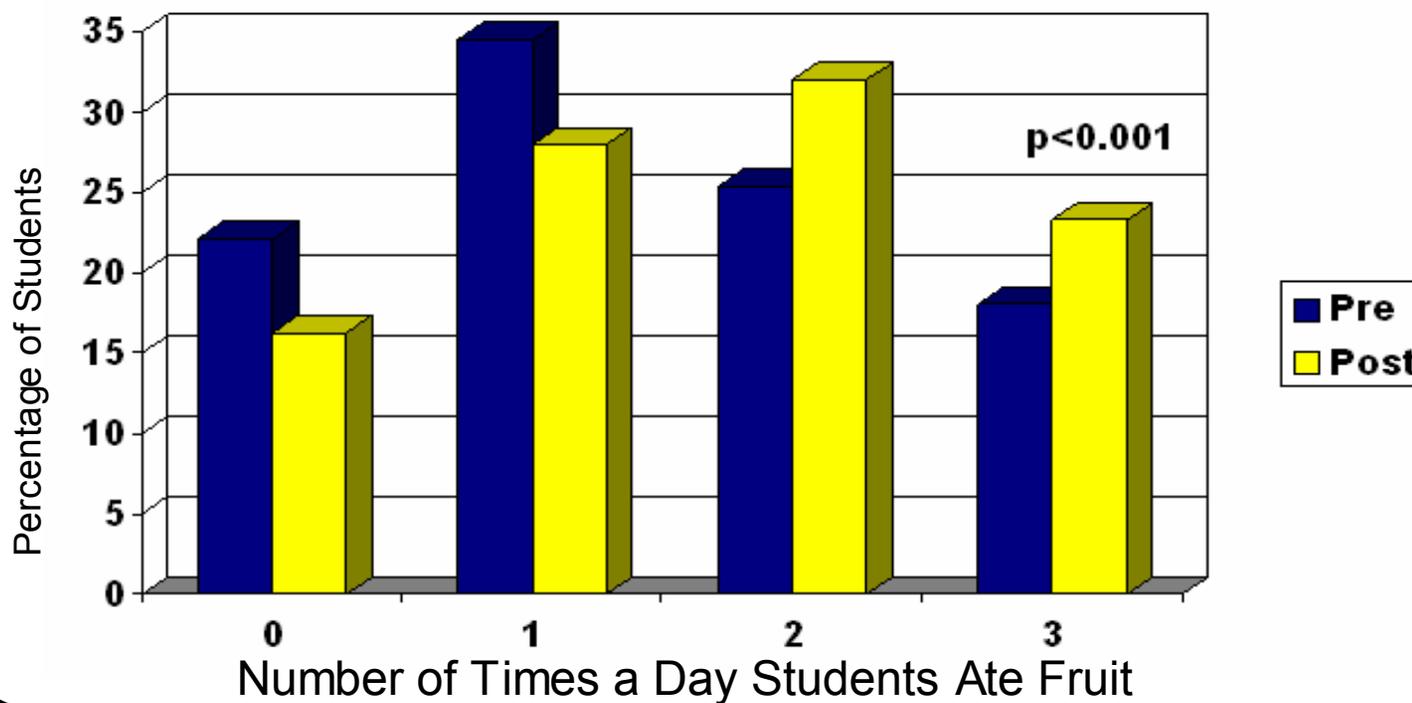
PHS Data from five school sites, 2006-07

During the past 12 months, on how many Rec & Ed or Intramural teams did you play?



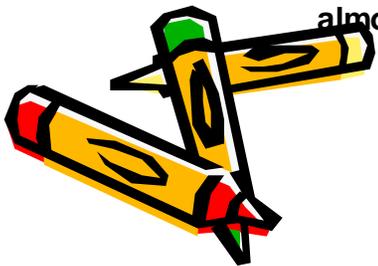
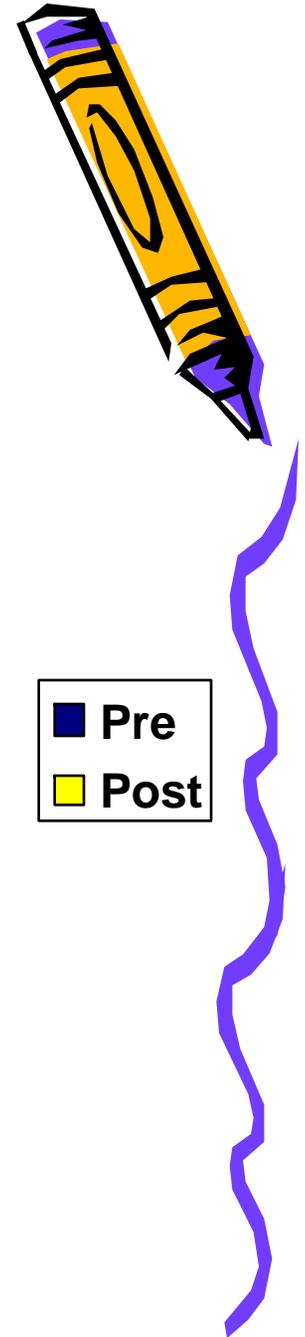
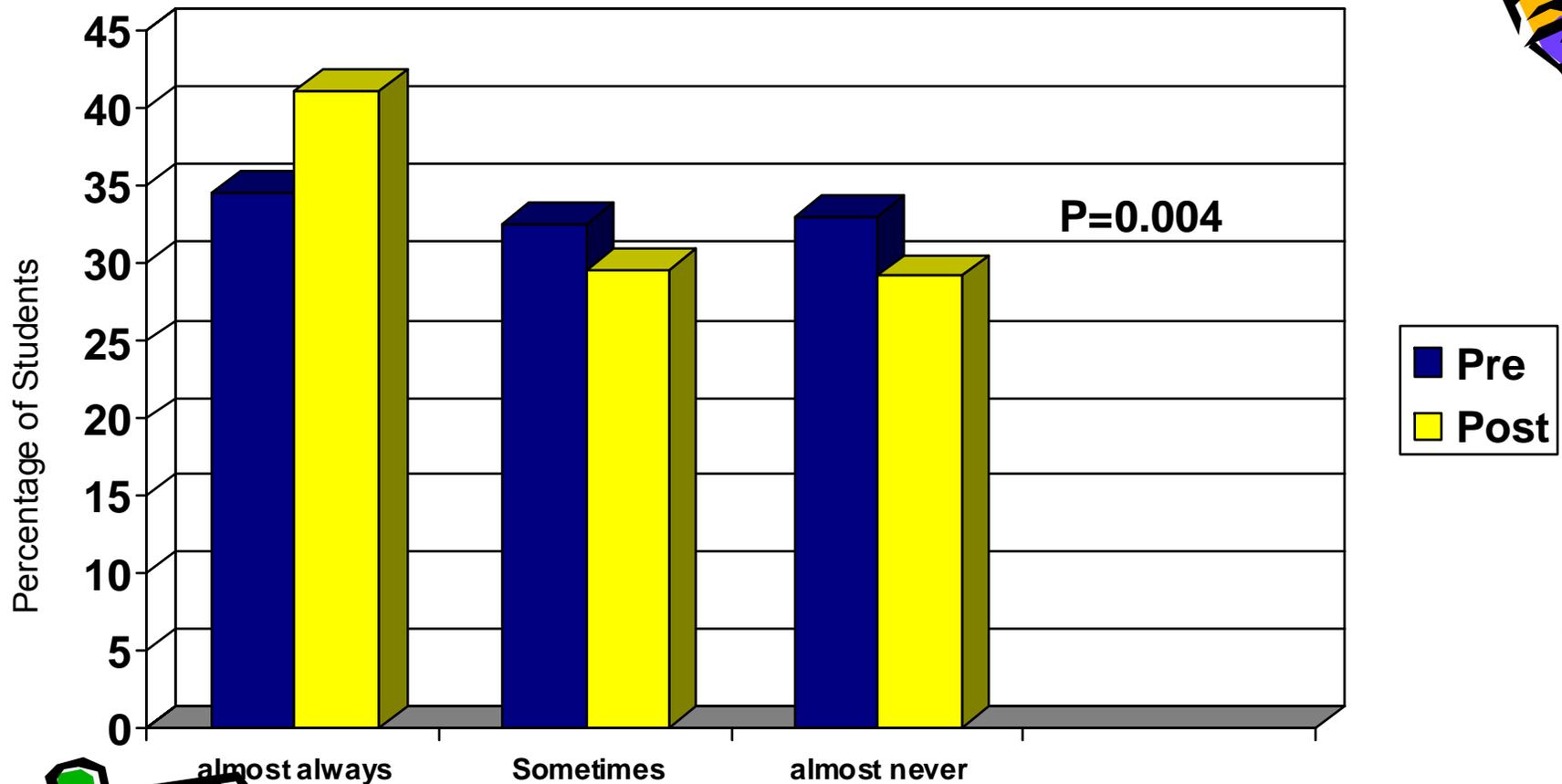
PHS Data 06-07 N=578

Yesterday, how many times did you eat fruit?



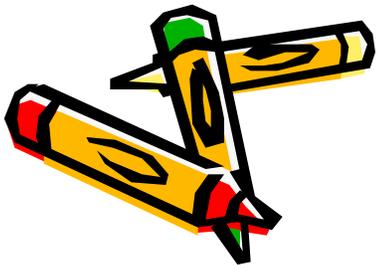
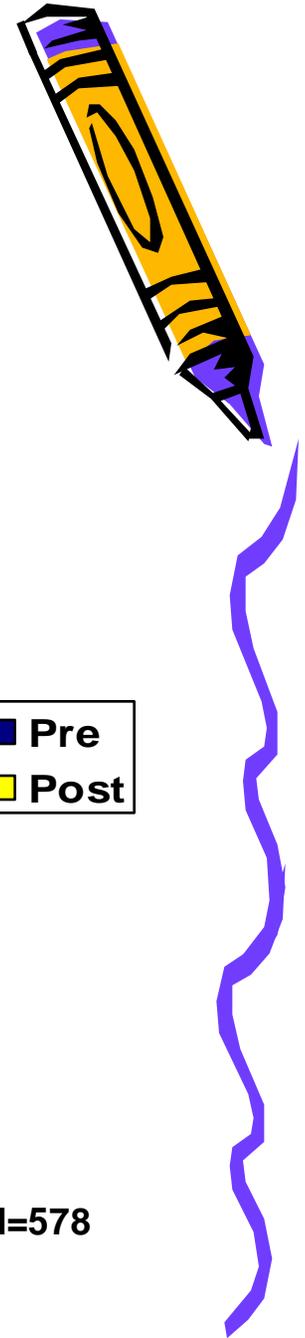
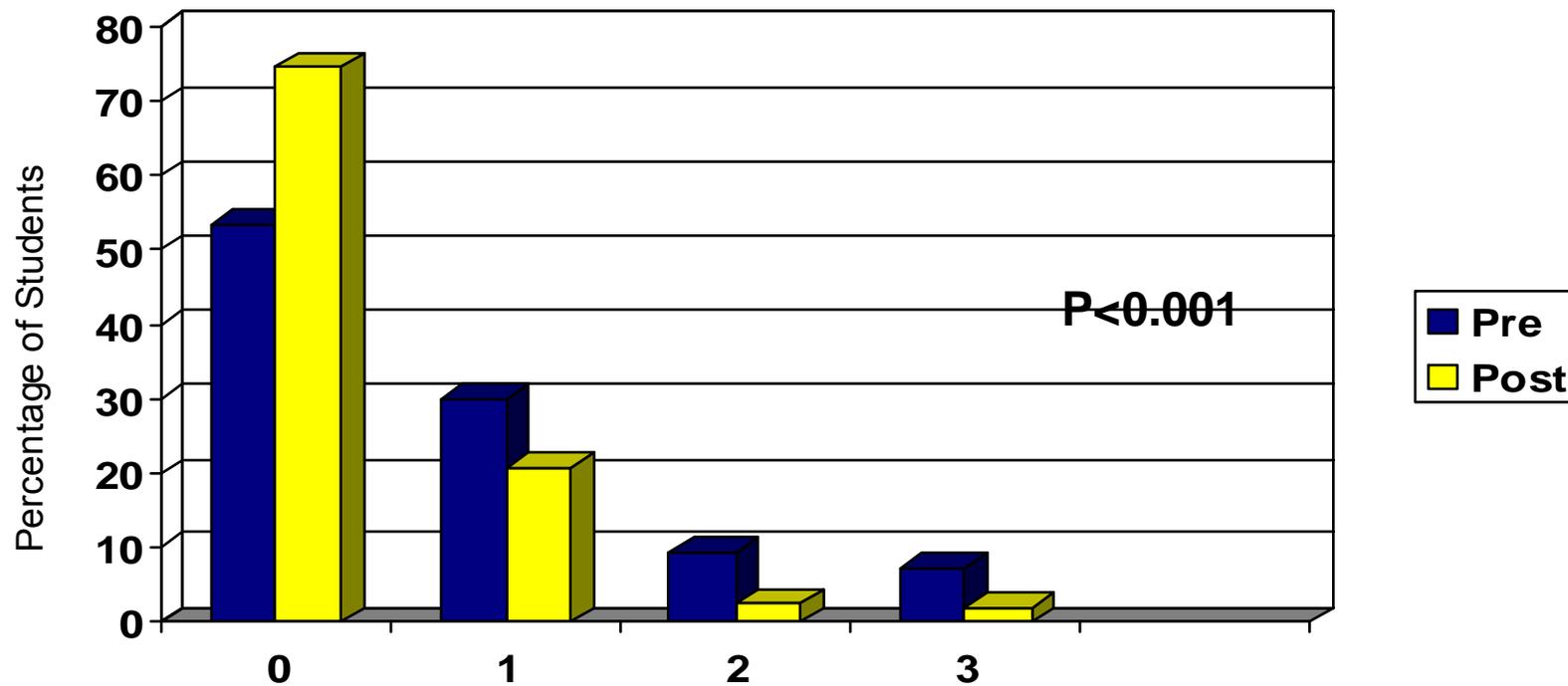
PHS Data 06-07 N=578

How often do you eat in the school cafeteria?



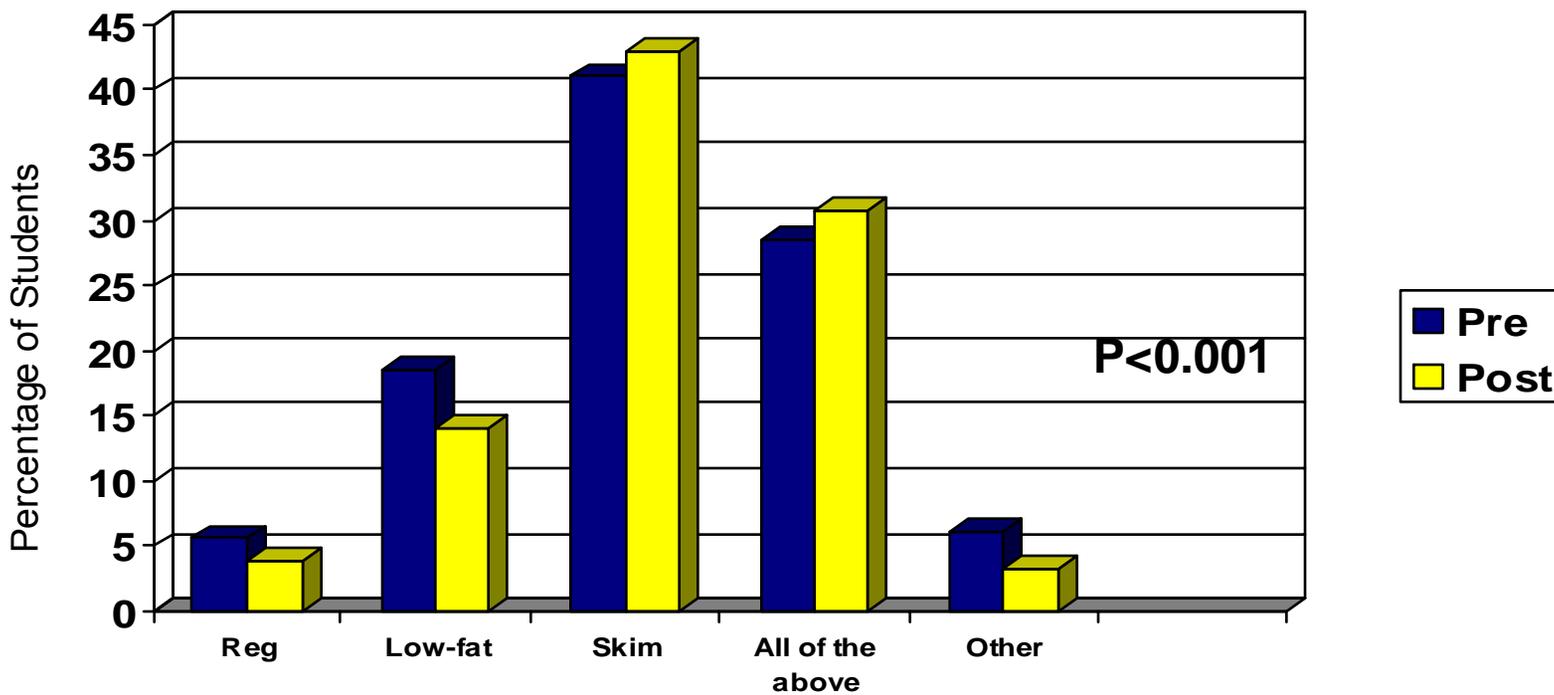
PHS Data 06-07N=578

Yesterday, how many times did you eat chocolate candy?

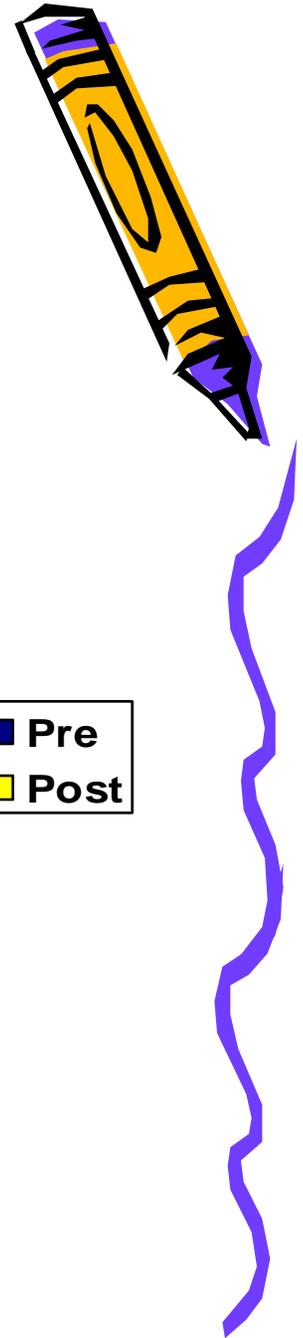
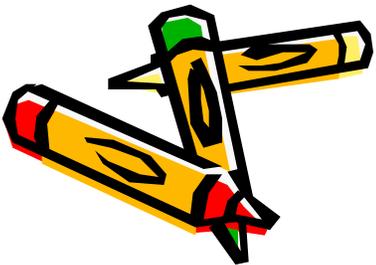


PHS Data 06-07 N=578

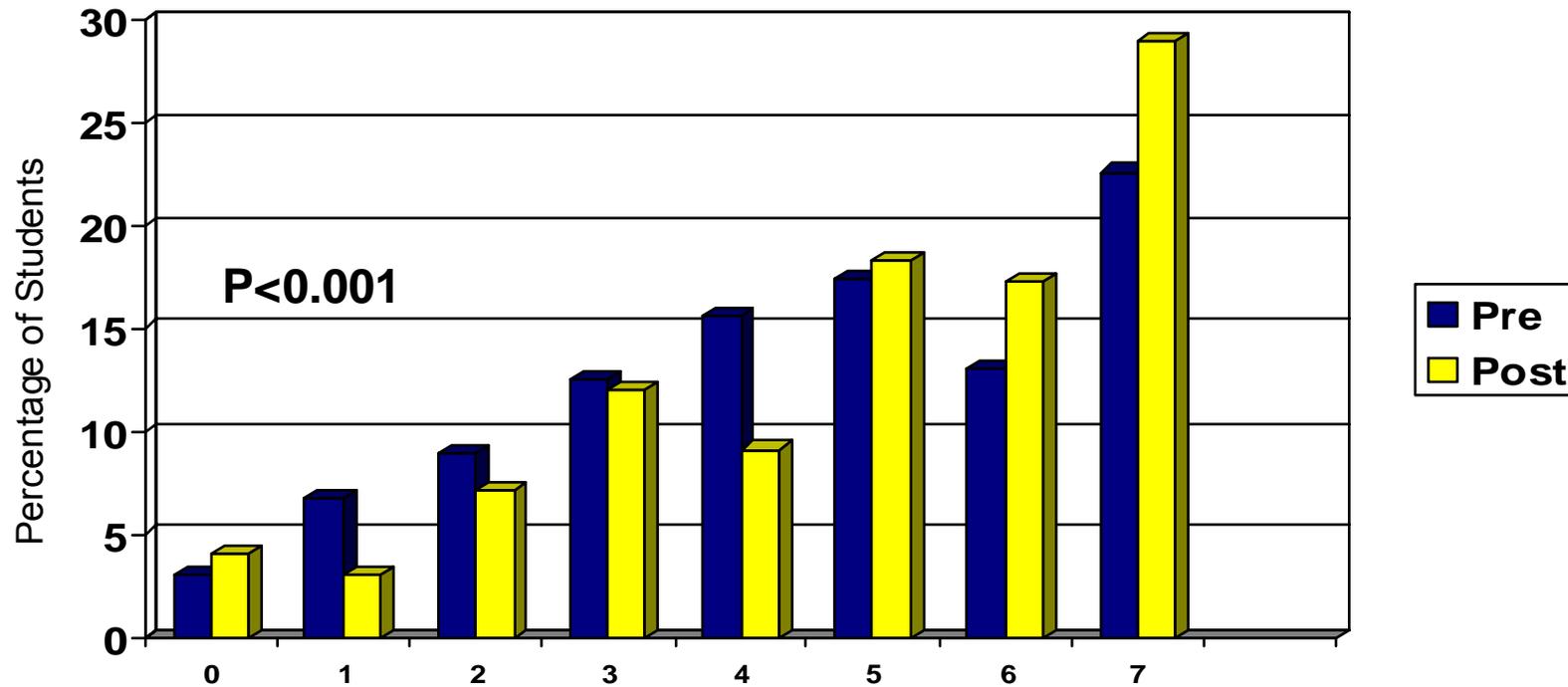
What type of milk do you usually drink?



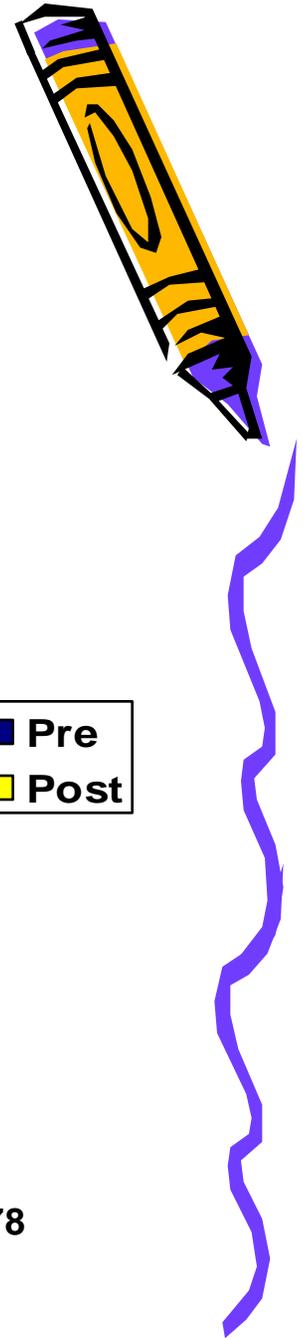
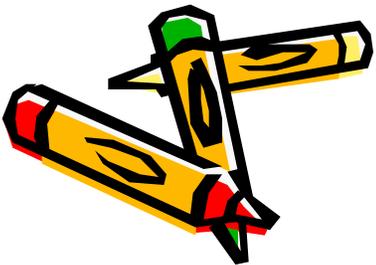
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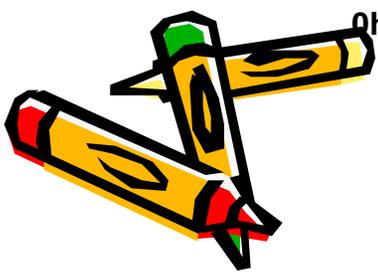
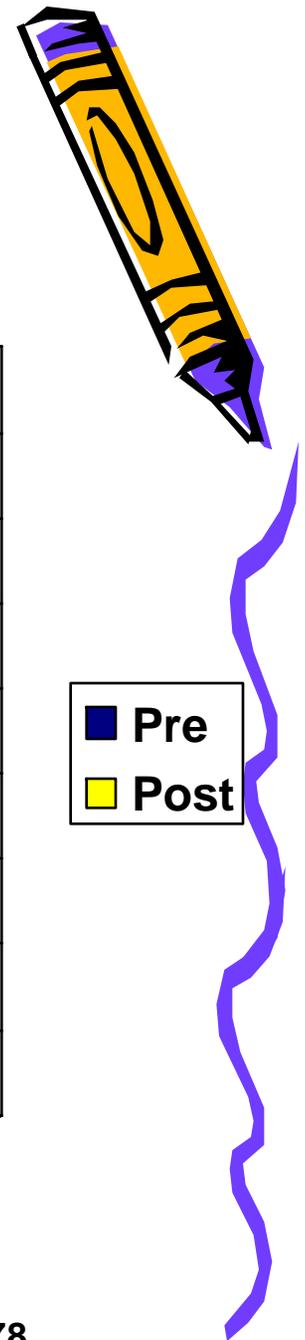
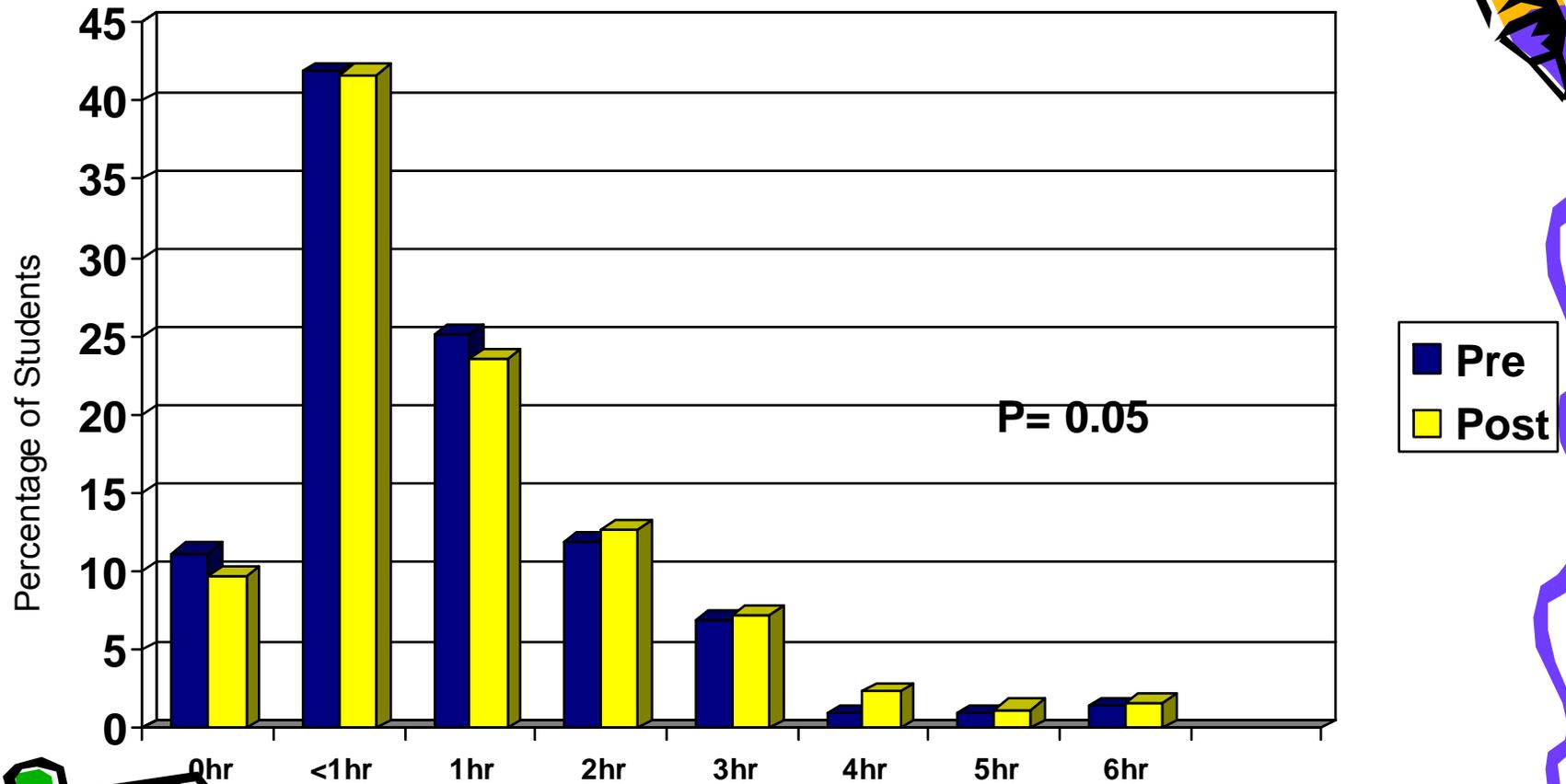
On how many of the past 7 days did you exercise that made your heart beat fast?



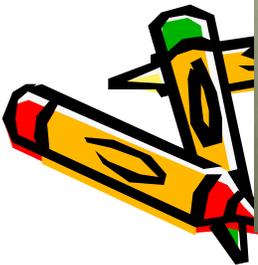
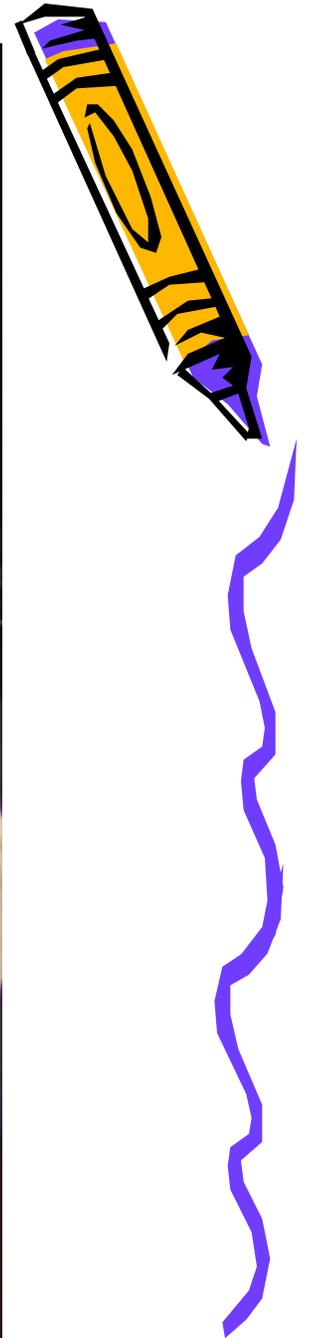
PHS Data 06-07 N=578



How many hours per day do you usually spend on the computer away from school?



PHS Data 06-07 N=578



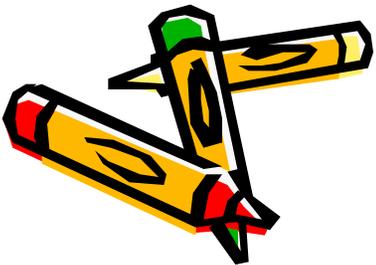


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Healthy Habits!





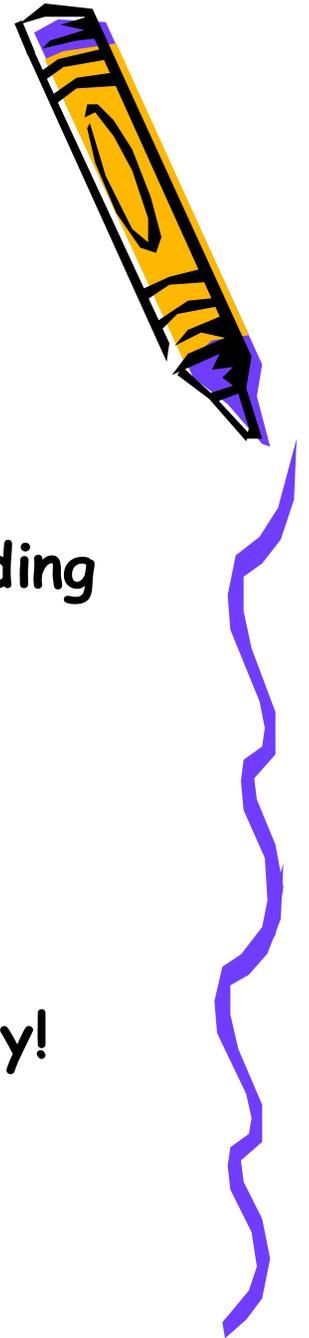
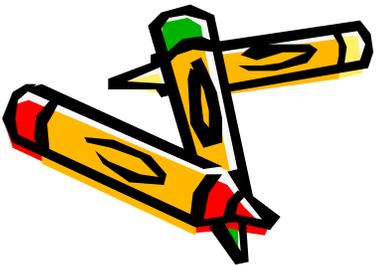






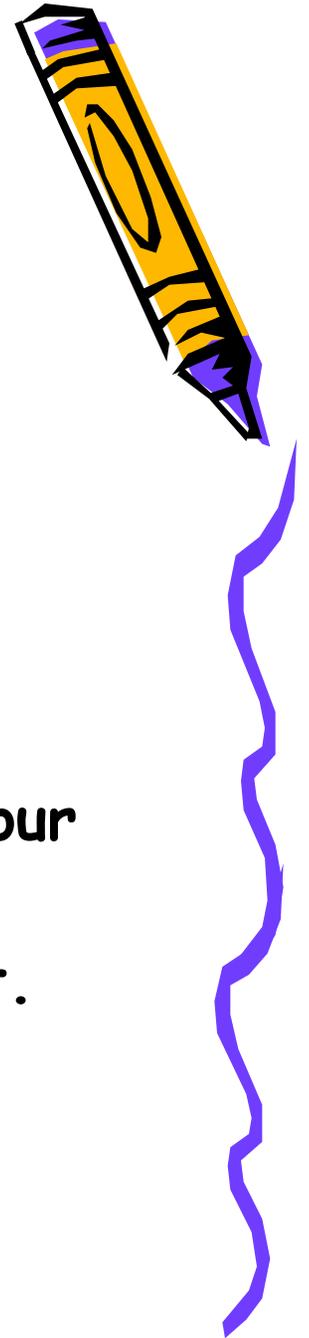
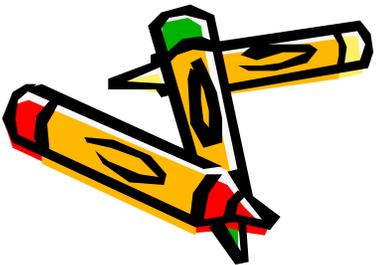
Lessons Learned

- Work with teachers on their terms...Maslow's hierarchy!
- Appreciate each school's unique culture, including preferred modes of communication.
- Education needs to fit where teachers put it!
- Get teachers involved in personal wellness
 - Classes onsite
 - Charity Challenge
- Continuous and consistent communication is key!



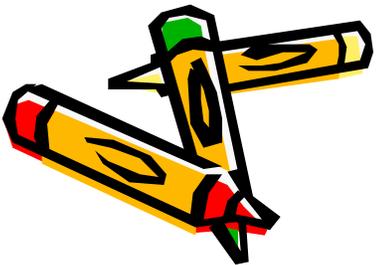
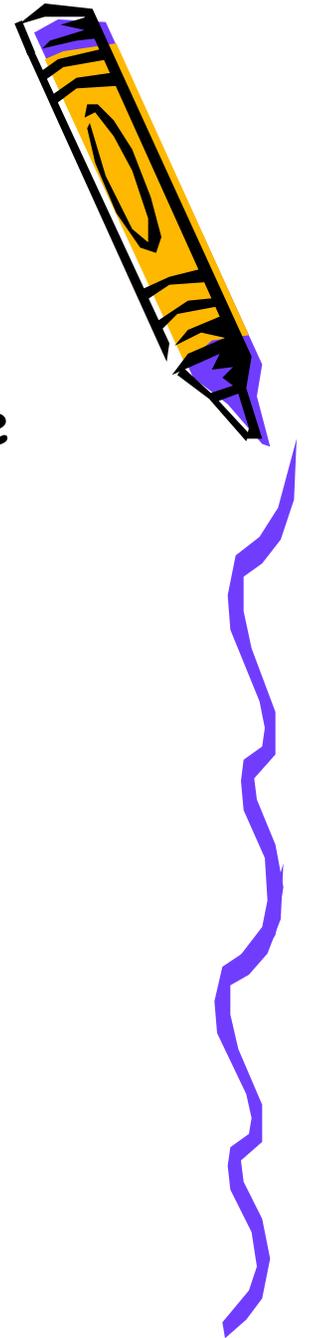
Lessons Learned

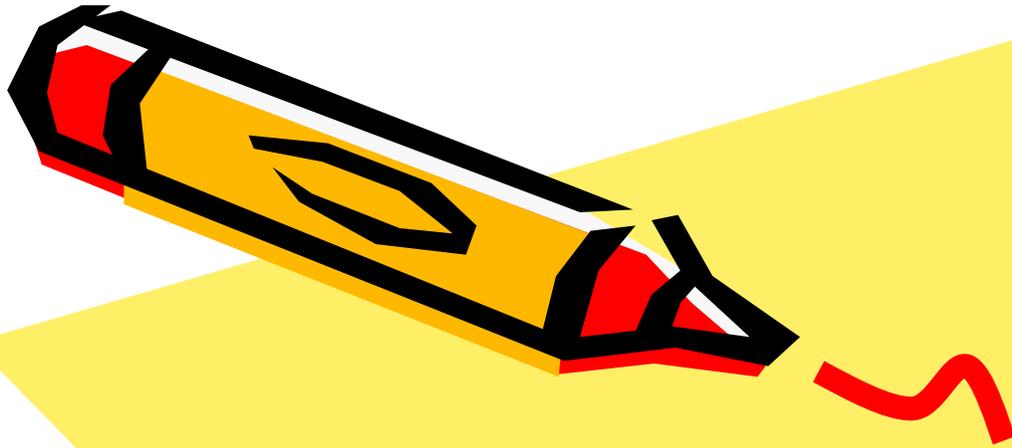
- Be flexible about scheduling and program delivery.
- Always embrace change.
- Parents are hard to reach but essential to program success. Use many modes of communication. Invite parents to work with your program.
- Link activities to outcomes schools care about.
- Always have a back up teaching plan.



Lessons Learned

- Provide Health Ambassadors/volunteers where requested.
- Recruit volunteers from many areas including graduate, undergraduate, and high school.
- Provide ongoing consistent communication and training for volunteers.
- Provide lots of healthy food during trainings!





"Never doubt that a small group of thoughtful, committed people can change the world. Indeed, it is the only thing that ever has."



Mead