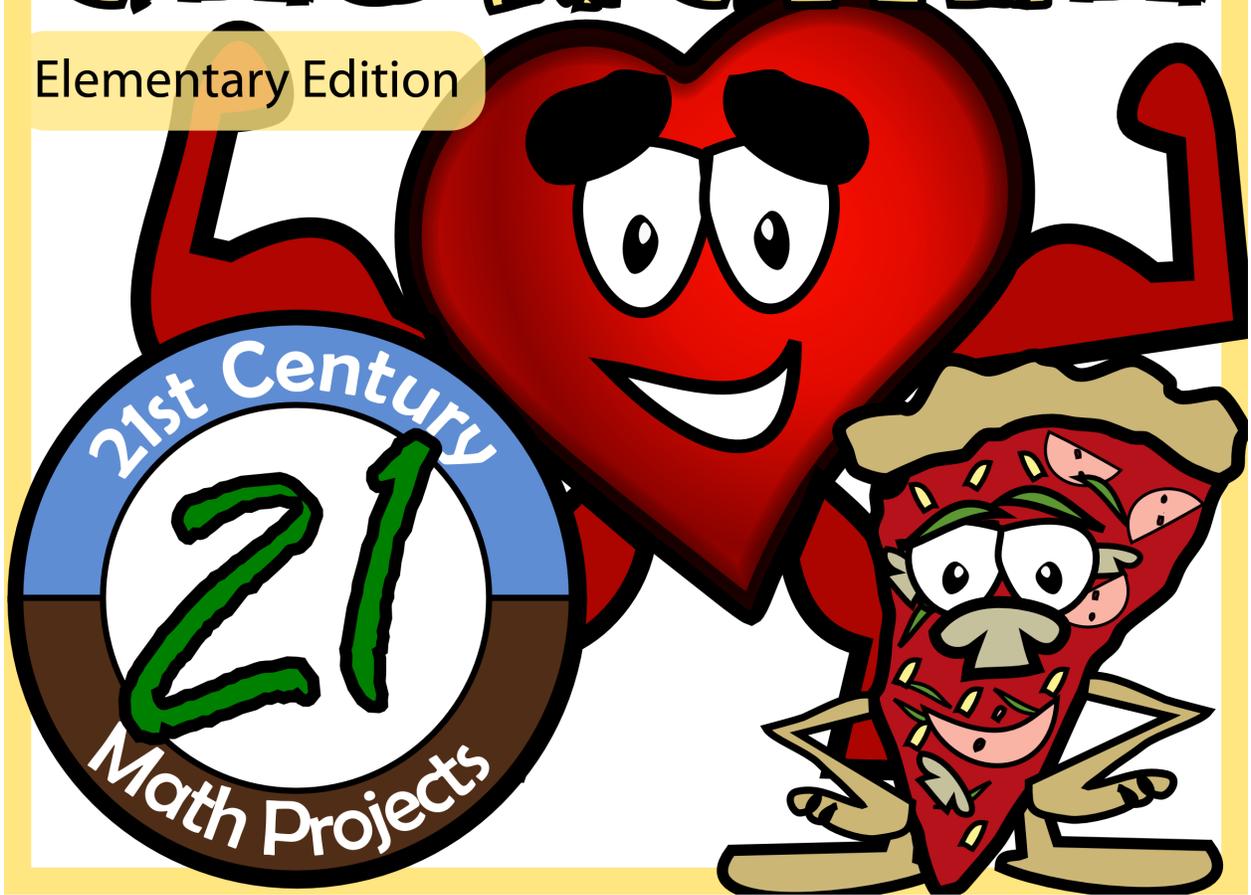
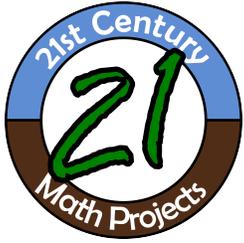


# GARLORITE CRUNCHER

Elementary Edition





# GALORIE CRUNCHER

## Elementary Inequalities Edition

<b>Ideal Unit:</b> Base-10 Number Systems	<b>Time Range:</b> 3-5 Days	<b>Supplies:</b> Pencil & Paper								
<b>Topics of Focus:</b> <ul style="list-style-type: none"> <li>- Writing Inequalities</li> <li>- Solving Linear Inequalities</li> </ul>										
<b>Driving Question</b> <i>"What is the relationship between calories, diet and exercise?"</i>										
<b>Culminating Experience</b> A simulated role as a personal trainer for the stars.										
<b>Common Core Alignment:</b> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%; text-align: center;">4.NBT.A.2</td> <td>Read and write multi-digit whole numbers using base-ten numerals, number names, and expanded form. Compare two multi-digit numbers based on meanings of the digits in each place, using <math>&gt;</math>, <math>=</math>, and <math>&lt;</math> symbols to record the results of comparisons.</td> </tr> <tr> <td style="text-align: center;">4.NBT.B.4</td> <td>Fluently add and subtract multi-digit whole numbers using the standard algorithm.</td> </tr> <tr> <td style="text-align: center;">4.NBT.B.5</td> <td>Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.</td> </tr> <tr> <td style="text-align: center;">4.NBT.B.6</td> <td>Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.</td> </tr> </table>			4.NBT.A.2	Read and write multi-digit whole numbers using base-ten numerals, number names, and expanded form. Compare two multi-digit numbers based on meanings of the digits in each place, using $>$ , $=$ , and $<$ symbols to record the results of comparisons.	4.NBT.B.4	Fluently add and subtract multi-digit whole numbers using the standard algorithm.	4.NBT.B.5	Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.	4.NBT.B.6	Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.
4.NBT.A.2	Read and write multi-digit whole numbers using base-ten numerals, number names, and expanded form. Compare two multi-digit numbers based on meanings of the digits in each place, using $>$ , $=$ , and $<$ symbols to record the results of comparisons.									
4.NBT.B.4	Fluently add and subtract multi-digit whole numbers using the standard algorithm.									
4.NBT.B.5	Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.									
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<b>Procedures:</b> <p>A.) In "Fast Food Calorie Count", students will determine inequality signs of fast food lunches. Are they within the person's lunch calorie goal? Students will use the handout "Fast Food Nation" to complete the activity.</p> <p>B.) In "Fitness Guru", students will use operations and determine inequality signs. Are they reaching their exercise calorie goals? Students will use the handout "The Burn Chart" to complete the activity.</p> <p>C.) In "Weight Watchers", students will help five people make meals and write inequalities to determine if they will eat enough food to meet their goals. Students will use the "The Burn Chart" and "The Food Chart" handouts to complete the activity.</p> <p>D.) In "Personal Trainer", students will tailor diet plans and fitness regimens for five celebrities – all with very different demands. Students will use the "The Burn Chart", "The Food Chart" and "Fast Food Nation" handouts to complete the activity.</p> <p>* Aspects of the project can be completed independently. The entire project does not need to be completed to have a great learning experience, though it is suggested because it will best scaffold the skills and context.</p>										

# FAST FOOD NATION

Here are some popular items in fast food. Calorie and other nutrition facts can be found at the company's website.

## Moshe's Chicken

Item	Calorie Count
Famous Bowl - Mashed Potato with Gravy	720
Popcorn Chicken - Large	560
Hot Wings (6)	450
Original Recipe Chicken - Breast & Thigh	720
Snacker, Ultimate Cheese	280
Potato Wedges	240
Cole Slaw	190
Apple Pie Slice	290

## Pita Town

Item	Calorie Count
Chicken McNugget (5)	210
Chicken Selects Strips	630
Big Mac	560
Double Cheeseburger	460
Double Quarter Pounder with Cheese	730
Crispy Chicken Club	680
French Fry - Large	570
Chocolate Triple Thick Shake (32 fl oz)	1160

## Cafe Mexico

Item	Calorie Count
Fiesta Taco Salad	860
Nachos Bell Grande	790
Grilled Stuft Burrito - Beef	720
Chicken Quesadilla	540
7-Layer Burrito	530
Double Decker Taco Supreme	380
Cheesy Fiesta Potatoes	290
Nachos	320

## PIZZA HUT

Item	Calorie Count
Meat Lover's Personal Pan Pizza	830
Pepperoni Lover's Personal Pan Pizza	720
Supreme Personal Pan Pizza	720
P'Zone - Classic	1000
P'Zone - Meaty	1100
Pasta Bakes Marinara	840
Cheese Garlic Bread (2)	480
Cinnamon Sticks (4)	400

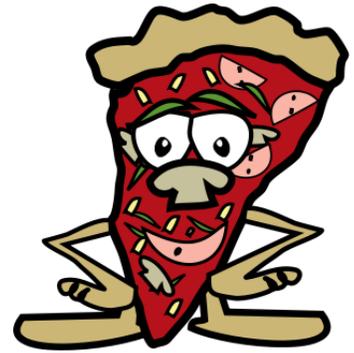
## SUBWAY

Item	Calorie Count
6" Italian B.L.T.	410
6" Pizza Sub	490
6" Chicken Parmesan	510
6" Oven Roasted Chicken with Spinach	320
6" Veggie Delite	230
Chicken Tortilla Soup	110
Creamy Potato and Bacon Soup	250
Chocolate Chip Cookie	220

## DRINK MENU

<b>Medium Drink (20 oz)</b>	Pepsi	Mountain Dew	Tropicana Fruit Punch	Raspberry Iced Tea	Water & All Diet Soda
<b>Calories</b>	250	280	280	200	0

# FAST FOOD CALORIE COUNT

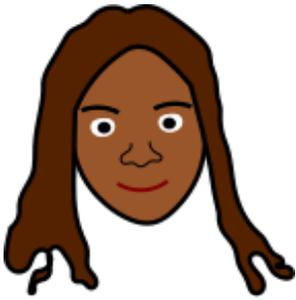


Name \_\_\_\_\_ Date \_\_\_\_\_

On the back of any food label is a list of Nutrition Facts. On this label it shares the details of what is actually in the food being eaten. At the top of the list is *calories*. Calories are in everything we eat. Calories are energy that fuels our bodies. If you eat more calories than you use - you have extra (gain weight). If you eat less calories than you use - you burn calories stored in fat cells (lose weight). Of course, not eating enough calories is a big issue, which will lead to other health problems. What is the point? Eat smart.

A lot of people eat fast food. Many people eat it because it is convenient. But it lacks the nutritional value of a good home cooked meal. **Use the menus on "Fast Food Nation"** to help six people solve inequalities to determine if their lunch is in their goal. If they eat too many calories, what can they do differently?

 <p>Bao</p>	<p style="text-align: center;"><b>Cafe Mexico</b></p> <table border="0"> <tr> <td>Double Decker Taco Supreme</td> <td style="text-align: right;">QTY. 1</td> </tr> <tr> <td>Cheesy Fiesta Potatoes</td> <td style="text-align: right;">QTY. 1</td> </tr> <tr> <td>Diet Coke</td> <td style="text-align: right;">QTY. 1</td> </tr> </table>	Double Decker Taco Supreme	QTY. 1	Cheesy Fiesta Potatoes	QTY. 1	Diet Coke	QTY. 1	<p>Bao places this order at Cafe Mexico. Will he stay under his 700 calorie goal for lunch?</p> <p style="text-align: right;"> <input style="width: 50px; height: 50px;" type="text"/> 700              _____ total      &gt;, &lt; or =         </p>
Double Decker Taco Supreme	QTY. 1							
Cheesy Fiesta Potatoes	QTY. 1							
Diet Coke	QTY. 1							
 <p>Jessica</p>	<p style="text-align: center;"><b>Moshe's Chicken (MC)</b></p> <table border="0"> <tr> <td>Popcorn Chicken - Large -</td> <td style="text-align: right;">QTY. 1</td> </tr> <tr> <td>Cole Slaw</td> <td style="text-align: right;">QTY. 1</td> </tr> <tr> <td>Water</td> <td style="text-align: right;">QTY. 1</td> </tr> </table>	Popcorn Chicken - Large -	QTY. 1	Cole Slaw	QTY. 1	Water	QTY. 1	<p>Jessica places this order at MC. Will she stay under her 650 calorie goal for lunch?</p> <p style="text-align: right;"> <input style="width: 50px; height: 50px;" type="text"/> 650              _____ total      &gt;, &lt; or =         </p>
Popcorn Chicken - Large -	QTY. 1							
Cole Slaw	QTY. 1							
Water	QTY. 1							



Chloe

**SUBWAY**

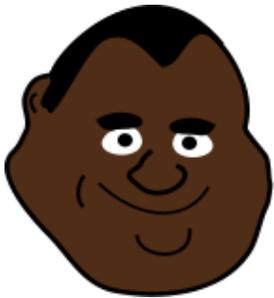
6" Oven Roasted QTY. 1  
Chicken with Spinach

Chocolate Chip QTY. 1  
Cookie

Water QTY. 1

Chloe places this order at Subway. Will she stay under her 550 calorie goal for lunch?

\_\_\_\_\_  550  
total >, < or =



H.D.

**Pita Town**

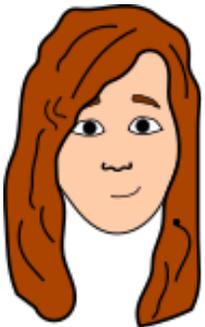
Chicken McNuggets QTY. 2  
(5 piece)

French Fry - Large QTY. 1

Raspberry Iced QTY. 1  
Tea

H.D. places this order at Pita Town. Will he stay under his 1100 calorie goal for lunch?

\_\_\_\_\_  1100  
total >, < or =



Eden

**PIZZA HUT**

P'Zone Classic QTY. 1/2  
Taco Supreme

Pepsi QTY. 1

Eden places this order at Pizza Hut. Will she stay under her 750 calorie goal for lunch?

\_\_\_\_\_  750  
total >, < or =



Pete

Pete wants to eat a delicious lunch. He wants to stay under 800 calories. Can you choose a restaurant and make an order for him?

\_\_\_\_\_  800  
total >, < or =

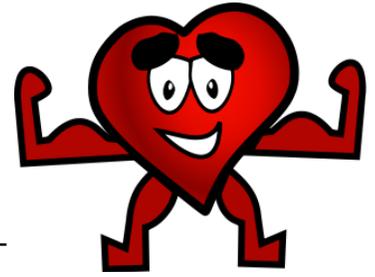
# ***The Burn Chart***

<b>Exercise</b>	<b>Calories Burned per Hour (average)</b>
<b>Backpacking</b>	493
<b>Basketball</b>	563
<b>Canoeing</b>	493
<b>Cycling</b>	281
<b>Fishing</b>	211
<b>Football</b>	633
<b>Golf</b>	317
<b>Gymnastics</b>	281
<b>Hockey</b>	563
<b>Horseback riding</b>	281
<b>Ice skating</b>	493
<b>Karate, jujitsu, martial arts</b>	704

<b>Exercise</b>	<b>Calories Burned per Hour (average)</b>
<b>Kickball</b>	493
<b>Rock climbing</b>	563
<b>Roller blading</b>	844
<b>Running</b>	880
<b>Skateboarding</b>	352
<b>Soccer</b>	493
<b>Standing</b>	162
<b>Swimming</b>	422
<b>Tennis</b>	493
<b>Volleyball</b>	211
<b>Walking</b>	176
<b>Weight lifting</b>	422

\*Note the data is an average and depends on the size of the person doing the exercises. Data from [Nutrstrategy.com](http://Nutrstrategy.com)

# Fitness Guru



Name \_\_\_\_\_ Date \_\_\_\_\_

Exercise is one of the best things you can do for your body. It keeps your heart pumping and healthy. People choose to do different things to get their exercise. You burn calories by doing practically anything. Some people set goals for themselves. Will they reach them?

Use the data on "The Burn Chart" to help the five people determine if they will burn enough calories to reach their goal. If not, what can they do differently?



Isabella

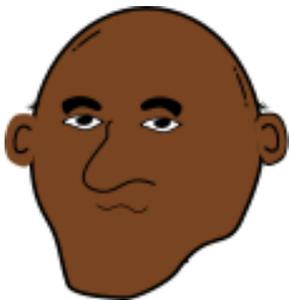
## Activity

Gymnastics	2 hrs
Soccer	1 hr

Isabella did these activities today. Will she go over her 1050 calorie exercise goal?

\_\_\_\_\_ total  1050

>, < or =



Tony

## Activity

Cycling	3 hrs
Tennis	2 hrs

Tony did these activities today. Will he go over his 2000 calorie exercise goal?

\_\_\_\_\_ total  2000

>, < or =



Trish

<b>Activity</b>	
Volleyball	4 hrs
Karate	2 hrs

Trish did these activities today. Will she go over her 2000 calorie exercise goal?

\_\_\_\_\_ total  2000  
>, < or =



Tommy

<b>Activity 1</b>	
Backpacking	2 hrs
Fishing	1 hr

<b>Activity 2</b>	
Walking	2 hrs
Rollerblading	1 hr

Tommy has a choice between two different sets of activities. Which will burn more calories? Write the activity totals on the lines and put the correct inequality symbol between them.

\_\_\_\_\_ Activity 1 total  \_\_\_\_\_ Activity 2 total  
>, < or =



Cheryl

<b>Activity 1</b>	
Running	2 hrs
Swimming	2 hrs

<b>Activity 2</b>	

Cheryl wants to burn more calories than she would in activity set 1. She only has four hours to exercise. Help her make an activity set that will do this. Write the activity totals on the lines and put the correct inequality symbol between them.

\_\_\_\_\_ Activity 1 total  \_\_\_\_\_ Activity 2 total  
>, < or =

# THE FOOD CHART

MILK & DAIRY	Calories in Portion
Cheese average	110 cal
Cottage cheese	49 cal
Cream cheese	200 cal
Eggs (1 average size)	90 cal
Ice cream	200 cal
Milk whole	175 cal
Milk semi-skimmed	125 cal
Milk skimmed	95 cal
Yogurt natural	90 cal
Yogurt reduced fat	70 cal

BREADS & CEREALS	Calories in Portion
Bagel	140 cal
Bread, white	96 cal
Bread, whole	88 cal
Noodles (boiled)	175 cal
Pasta (normal boiled)	330 cal
Pita	124 cal
Potatoes (boiled)	210 cal
Rice (white boiled)	320 cal
Wheat Wrap	94 cal

CONDIMENTS	Calories in Portion
Chipotle Mayo	100 cal
Ketchup	15 cal
Light Mayonnaise	45 cal
Mayonnaise	110 cal
Mustard	5 cal
Ranch	25 cal

DRINKS	Calories in Portion
Apple Juice	120 cal
Gatorade	50 cal
Hawaiian Punch	90 cal
Monster	100 cal
Orange Juice	140 cal
Water	0 cal

MEATS & FISH	Calories in Portion
Bacon average fried	303 cal
Beef (roast)	252 cal
Chicken	171 cal
Ham	115 cal
Lamb (roast)	300 cal
Pork	260 cal
Salmon fresh	190 cal
Sausage pork fried	360 cal
Trout fresh	120 cal
Tuna	191 cal
Turkey	180 cal

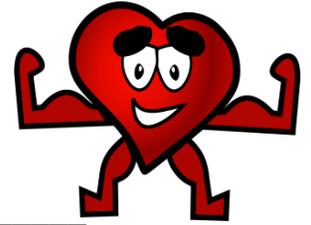
FRUITS & VEGGIES	Calories in Portion
Apple	44 cal
Banana	107 cal
Broccoli	27 cal
Cucumber	3 cal
Grapes	55 cal
Green Pepper	3 cal
Lettuce	4 cal
Orange	62 cal
Peas	210 cal
Spinach	8 cal
Strawberries	10 cal
Tomato	4 cal

OTHERS	Calories in Portion
Fiber One Chewy Bar	140 cal
Fruit Loops	120 cal
Lay's Potato Chips	150 cal
Oreos	160 cal
Peanut Butter	188 cal
Peanuts	160 cal
Pepperoni Hot Pocket	530 cal
Strawberry Pop Tart	410 cal
Stouffer's Mac & Cheese	350 cal
Trail Mix	593 cal

Data from: [caloriecount.about.com](http://caloriecount.about.com)



# Weight Watchers



Name \_\_\_\_\_ Date \_\_\_\_\_

Diet and Exercise are words often heard together. Most experts agree — **a calorie is a calorie**. A calorie from a piece of broccoli is the same as one from a candy bar. The energy burns the same. Of course there are other nutritional benefits to the broccoli, but when it comes down to it, energy-wise they are pretty much the same. Some people want to eat more calories than they exercise. Some people want to eat less calories than they exercise.

Using the data on “The Food Chart”, help the five people plan their last meal of the day to help them reach their goals.



Teddy

Teddy did a lot of exercise today and would like his last meal to be a little more than 1000 calories. He’d like some kind of meat, fruit, and a couple of vegetables. Choose carefully and total up his calories to meet his goal.

\_\_\_\_\_ total

1000

>, < or =



Tripiti

Tripiti did not do a lot of exercise today and would like her last meal to be less than 500 calories. She’d like some kind of dairy, bread, and two vegetables. Choose carefully and total up her calories to meet her goal.

\_\_\_\_\_ total

500

>, < or =

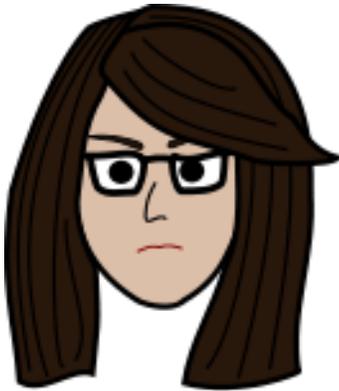


Shabazz

Shabazz burned 2000 calories today. He has already eaten 1000 calories. He would like to eat 200 less calories than he burned. For dinner, he'd like some kind of meat, bread, and fruit. Choose carefully and total up his calories to meet his goal.

\_\_\_\_\_ meal total            \_\_\_\_\_ His goal

>, < or =



Sydney

Sydney burned 1500 calories today. He has already eaten 800 calories. He would like to eat 200 more calories than she has burned. For dinner, she'd like some kind of meat, bread, fruit and vegetables. Choose carefully and total up her calories to meet her goal.

\_\_\_\_\_ meal total            \_\_\_\_\_ Her goal

>, < or =



Roanoke

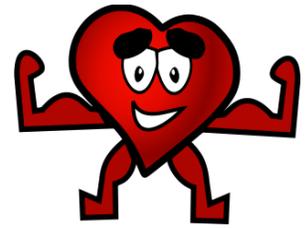
Roanoke burned 2400 calories today. He has already eaten 1600 calories. He would like to eat the same number of calories he has burned. If it can't be exact, he says it can be 20 calories more or 20 calories less. For dinner, he'd like some kind of meat, dairy, fruit and vegetables. Choose carefully and total up his calories to meet his goal.

\_\_\_\_\_ meal total            \_\_\_\_\_ His goal

>, < or =



# Personal Trainer



Name \_\_\_\_\_ Date \_\_\_\_\_

Now it is time to put your food and exercise knowledge to the test! In this project, you will work as a Personal Trainer for the Stars. They have special needs and you have to make them happy. It is your job to create for them three meals a day and a fitness plan to help them to reach their goals.

Using the data on "The Burn Chart", "The Food Chart", and "Fast Food Nation" design a day's worth of meals and a fitness plan tailored to the celebrities to hit their calories goals.



Angelina J.

Daily Goal:  
Eat 400 more calories than exercise

**GOAL:** Angelina is taking on a role as Wonder Woman in the next summer blockbuster. She wants to gain 3 pound of muscle.

**RESTRICTIONS:** She desires to spend a lot of time with her family. Angelina only has 3 hours during her day that she is able to work out.

### FITNESS

Activity	cal
<b>TOTAL</b>	

### DIET

BREAKFAST		LUNCH		DINNER	
item	cal	item	cal	item	cal
<b>TOTAL</b>					

\_\_\_\_\_  \_\_\_\_\_

**Diet Calories**                      **>, < or =**                      **Exercise Calories**

In your plan, does Angelina meet her goal?



Michael P.

**GOAL:** Coming out of retirement, Michael is preparing for his next World Championship run. He needs to maintain his weight through his training.

**RESTRICTION:** Michael needs to swim at least 5 hours a day and run at least 4 hours. He'd also like to spend at least an hour playing another sport.

**Daily Goal:**  
**Eat the same number of calories as he exercises**  
 (at least within 50 calories)

***FITNESS***

Activity	cal
<b>TOTAL</b>	

***DIET***

BREAKFAST		LUNCH		DINNER	
item	cal	item	cal	item	cal
<b>TOTAL</b>					

**Diet Calories**                      **>, < or =**                      **Exercise Calories**

In your plan, does Michael meet his goal?





Beyonce K.

**Daily Goal:**  
**Eat 500 more calories than exercise**

**GOAL:** Beyonce has another baby on the way. Her doctor told her she needs to gain a pound a week to keep things healthy. Beyonce would like to stay active throughout her pregnancy.

**RESTRICTIONS:** Obviously being pregnant will mean she can't do contact sports. Since she's become pregnant she's also become lactose intolerant – so she cannot eat any dairy.

***FITNESS***

Activity	cal
<b>TOTAL</b>	

***DIET***

BREAKFAST		LUNCH		DINNER	
item	cal	item	cal	item	cal
				<b>TOTAL</b>	

\_\_\_\_\_  \_\_\_\_\_

**Diet Calories**                      **>, < or =**                      **Exercise Calories**

In your plan, does Beyonce meet her goal?



Johnny D.

Daily Goal:  
Eat 1000 less calories than exercise

**GOAL:** Johnny has taken a starring role in a Broadway play about the life of Robinson Crusoe. Johnny tries really hard at his roles. It is important to him to make it as real as possible. Since Crusoe was an island castaway, Johnny's goal is to lose weight safely.

**RESTRICTION:** Johnny is trying a vegan diet (no meat, no dairy, no animal by-products). He has a knee problem. He doesn't plan on playing any sports, but wants to be an outdoorsman like Crusoe.

***FITNESS***

Activity	cal
<b>TOTAL</b>	

***DIET***

BREAKFAST		LUNCH		DINNER	
item	cal	item	cal	item	cal
				<b>TOTAL</b>	

**Diet Calories**

>, < or =

**Exercise Calories**

In your plan, does Johnny meet his goal?