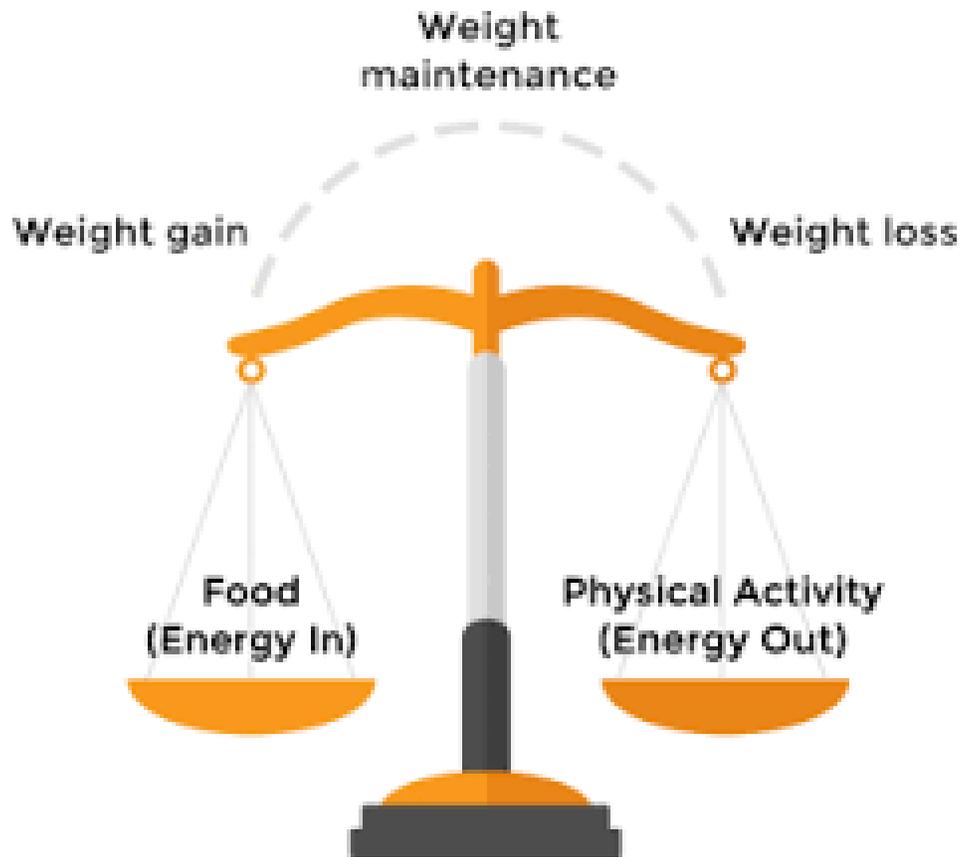


Energy In Energy Out



Concept

“Energy in” is the calories consumed when we eat any food or drink. “Energy out” is the calories burned through physical activity.

$$\text{Energy In} - \text{Energy Out} = \text{Energy Balance}$$

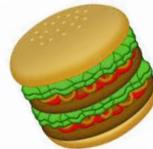
If we consume more than our necessary daily calorie intake, we must burn the excess calories through physical activity. If we don't, we gain weight.

If we consume less than our necessary daily calorie intake on a consistent basis, then we lose weight.

The daily amount of calories each person needs to survive depends on individual weight and height. Keeping track of our “Energy in Energy out” balance allows us to live healthier lifestyles.

Example

Sally eats one cup of Cheerios cereal for breakfast and then walked 2 miles to work. She ate a Big Mac for lunch with a bottle of water. After work she walked 2 miles home then ate a Caesar salad. She drank 2 Coca Cola’s throughout the day as well.



Energy In

1 cup cheerios + 1 cup of 1% milk = 206 calories

1 Big Mac sandwich = 563 calories

1 Caesar salad (~3 cups) = 481 calories

2 Coca Cola soft drinks (12 oz can) = 280 calories



Total = 1530 calories consumed



Energy Out

4 miles walked = ~227 calories

Equation

1530 – 227 calories = 1303 calories

Sally burned about 227 calories which makes the energy equation unbalanced. She needs to engage in more physical activity to stay healthy.

Activity

Start a journal of your daily calorie intake and calories burned for Thursday and Friday. Keep track of the calorie count of everything you eat for the day and any physical activity. Nutrition information can be found on nutrition labels like the ones below. Be sure to pay attention to serving sizes to get an accurate calorie count. You may choose from the list of activities or you can come up with your own similar activity.

This will help you visualize where you may be lacking in calories or physical activity. Writing it down can also motivate you to make better health-conscious decisions.

Nutrition Facts	
16 servings per container	
Serving size	1 Tbsp. (21g)
Amount per serving	
Calories	60
<small>% Daily Value*</small>	
Total Fat 0g	0%
Saturated Fat 0g	0%
Trans Fat 0g	
Cholesterol 0mg	0%
Sodium 0mg	0%
Total Carbohydrate 17g	6%
Dietary Fiber 0g	0%
Total Sugars 17g	34% [†]
Protein 0g	
Vitamin D 0mcg	0%
Calcium 0mg	0%
Iron 0mg	0%
Potassium 0mg	0%

* The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.
[†] One serving adds 17g of sugar to your diet and represents 34% of the Daily Value for Added Sugars.

Nutrition Facts	
8 servings per container	
Serving size	2/3 cup (55g)
Amount per 2/3 cup	
Calories	230
<small>% DV*</small>	
12% Total Fat 8g	
5% Saturated Fat 1g	
Trans Fat 0g	
0% Cholesterol 0mg	
7% Sodium 160mg	
12% Total Carbs 37g	
14% Dietary Fiber 4g	
Sugars 1g	
Added Sugars 0g	
Protein 3g	
10% Vitamin D 2mcg	
20% Calcium 260mg	
45% Iron 8mg	
5% Potassium 235mg	

* Footnote on Daily Values (DV) and calories reference to be inserted here.

Nutrition Facts			
2 servings per container			
Serving size		1 cup (255g)	
Amount per serving		Amount per container	
Calories	220	440	
<small>% DV*</small>			
Total Fat	5g	6%	10g 13%
Saturated Fat	2g	10%	4g 20%
Trans Fat	0g		0g
Cholesterol	15mg	5%	30mg 10%
Sodium	240mg	10%	480mg 21%
Total Carb.	35g	13%	70g 25%
Dietary Fiber	6g	21%	12g 43%
Total Sugars	7g		14g
Incl. Added Sugars	4g	8%	8g 16%
Protein	9g		18g
Vitamin D	5mcg	25%	10mcg 50%
Calcium	200mg	15%	400mg 30%
Iron	1mg	6%	2mg 10%
Potassium	470mg	10%	940mg 20%

* The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.

Activities to choose from:



1. *Walk 2 miles in 40 minutes (150 calories)*
2. *Play basketball for 30 minutes (150 calories)*
3. *Touch football for 30 minutes (150 calories)*
4. *Jump rope for 15 minutes (150 calories)*
5. *Ride a bike for 20 minutes (150 calories)*
6. *Go for a 20-minute run (150 calories)*
7. *Hike for 25 minutes (150 calories)*
8. *Frisbee for 45 minutes (150 calories)*
9. *Rake leaves for 30 minutes (150 calories)*
10. *Climb stairs 6-8 times (150 calories)*
11. *30 squats (100 calories)*
12. *20 push-ups (140 calories)*
13. *Mountain climbers for 10 minutes (75 calories)*
14. *Jumping jacks for 10 minutes (50 calories)*
15. *High knees for 10 minutes (40 calories)*
16. *Lunges for 10 minutes (40 calories)*

You want to burn the amount of calories you take in.

The following are examples of food or drinks you might normally eat and the exercises you would do to burn those calories:

- If you drink a soda (Coke **140 calories IN**) → Play basketball for 30 minutes (**150 calories OUT**)

- If you eat a bag of chips (Lays Classic Potato Chips 240 calories IN) → Jump rope for 15 minutes (150 calories OUT) + 30 squats (100 calories OUT)
- If you drink Gatorade (16 fl oz 127 calories IN) → Mountain climbers for 10 minutes (75 calories OUT) + Jumping jacks for 10 minutes (50 calories OUT)
- If you eat a slice of pepperoni pizza (298 calories IN) → Play basketball for 30 minutes (150 calories OUT) + Lunges for 10 minutes (40 calories OUT) + 30 squats (100 calories OUT)
- If you eat French fries (300 calories IN) → Frisbee for 45 minutes (150 calories OUT) + Hike for 25 minutes (15 calories OUT)

Exercise Guide

Mountain Climbers:

1. Start with your body in a straight line and your hands slightly wider than shoulder-width apart. Keep your toes and balls of the feet touching the floor.
2. Bring one knee up toward the center of your stomach and then quickly alternate between legs.
3. Continue alternating until set is complete.



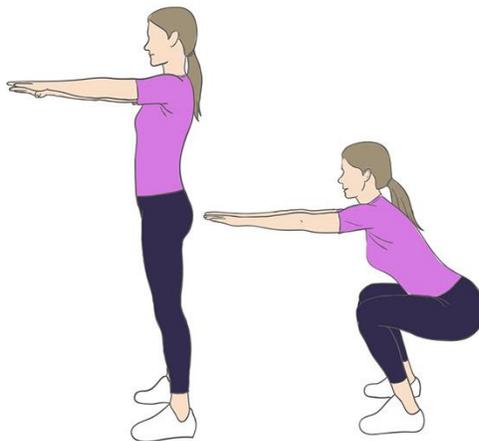
Lunges:

1. Keep your upper body straight, with your shoulders back and relaxed and chin up (pick a point to stare at in front of you so you don't keep looking down). Always engage your core.
2. Step forward with one leg, lowering your hips until both knees are bent at about a 90-degree angle. Make sure your front knee is directly above your ankle, not pushed out too far, and make sure your other knee doesn't touch the floor. Keep the weight in your heels as you push back up to the starting position.



Basic Squat:

1. Stand with feet a little wider than hip width, toes facing front.
2. Drive your hips back—bending at the knees and ankles and pressing your knees slightly open—as you...
3. Sit into a squat position while still keeping your heels and toes on the ground, chest up and shoulders back.
4. Strive to eventually reach parallel, meaning knees are bent to a 90-degree angle.
5. Press into your heels and straighten legs to return to a standing upright position.



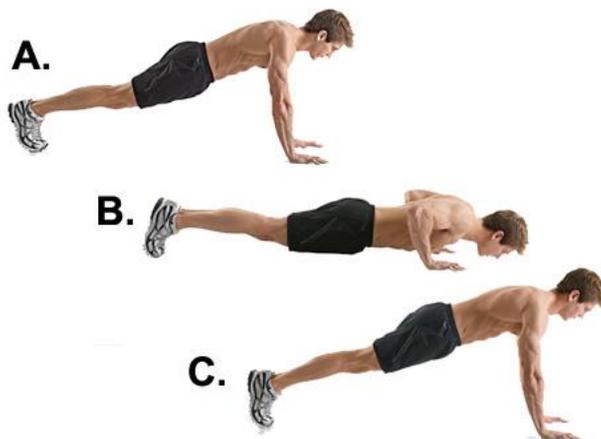
High Knees:

1. Stand with your feet hip-width apart. Lift up your left knee to your chest.
2. Switch to lift your right knee to your chest. Continue the movement, alternating legs and moving at a sprinting or running pace.



Push-Ups:

1. Get down on all fours, placing your hands slightly wider than your shoulders.
2. Straighten your arms and legs.
3. Lower your body until your chest nearly touches the floor.
4. Pause, then push yourself back up.





KIDS NEED ENERGY TO GROW

It's important for kids to eat a wide variety of foods for a healthy balanced diet and to be physically active, especially because they have growing bodies. Healthy habits in childhood helps them learn how to make healthy lifestyle decisions throughout their life.

- Kids maintain a healthy weight by balancing the amount of energy going into their body through diet and the energy burned through exercise.
- This can be managed through the Energy In-Energy Out activity learned during camp!
- The amount of energy each growing body needs depends on each person.
- It's important to listen to what your body is telling you.

Activity: Learning how to better listen to the bodies needs for nutrition and physical activity through your 5 senses. Senses can help children build self-esteem, self-awareness, and communication skills as they describe being hungry or full.

Five Senses



1. Touch - Soft, brittle, hard, wet, cold, hot

2. Sight - Color, shape, size

3. Smell - Sweet, savory, appetizing

4. Sound - Sizzling, popping, crisp, carbonated, crunchy

5. Taste - Fizzy, spicy, slimy, salty, warm



Adapted from

<https://www.nhlbi.nih.gov/health/educational/wecan/downloads//eatplaygrow.pdf>



Now, think of 3 different foods & write them down.

Answer these questions for all 3 foods, one at a time.

- What does the first food TASTE like?

- What does the first food LOOK like?

- What does the first food SOUND like?

- What does the first food SMELL like?

- What does the first food FEEL like?

- What does the second food TASTE like?

- What does the second food LOOK like?

- What does the second food SOUND like?

- What does the second food SMELL like?

Adapted from

<https://www.nhlbi.nih.gov/health/educational/wecan/downloads//eatplaygrow.pdf>

- What does the second food FEEL like?
-

- What does the third food TASTE like?
-

- What does the third food LOOK like?
-

- What does the third food SOUND like?
-

- What does the third food SMELL like?
-

- What does the third food FEEL like?
-

Take Away Lessons:

- Becoming more in tune with our bodies senses allows us to make better choices about what goes into it and when we need to exercise.
- You can control food choices by using your sense to determine whether it is good or bad.
- Everyone is unique – Normal eating patterns for you might not be the same as others!
- Listen to your body.



Adapted from

<https://www.nhlbi.nih.gov/health/educational/wecan/downloads//eatplaygrow.pdf>.