

# Eating Like a Bird?

## MYTH:

To "eat like a bird" means to eat very little food.

FALSE!

Considering how small and light they are, birds are very big eaters! Since birds do everything quickly, they fly quickly, they run quickly, even their hearts beat quickly, birds need a lot of food energy to keep going.

Most birds eat half their weight in food every day. That's like a 100-pound person eating 50 pounds of food in a day. And some young birds eat more than their weight in food every day. Scientists watching a mother wren feeding her chicks found that she brought food back to her nest more than 1,200 times in 24 hours.

Hummingbirds include the smallest birds in the world, but they are some pretty hefty eaters! Hummingbirds are called nectivores, because about 90 percent of their diet is the nectar from flowers. They also snack on insects, which they often catch by "hawking." A hummingbird "hawks" insects by flying and diving to snap them up out of the air.

These petite birds consume between 3.14 and 7.6 calories a day. That may not seem like much, but if humans (who may eat 2,000-3,500 calories a day) had the metabolism of a hummingbird, they would have to consume approximately 155,000 calories a day. Yep, a hundred and fifty-five thousand calories a day 77x what humans normally eat! OK, so how many quarter pound hamburgers is that? (With cheese?) Yeah, OK, Cheese. Head to Google and then do some quick arithmetic. Three hundred and 3-point-9. Call it 304. "Line 'em up!"

It turns out that if you did line them up, those 304 quarter pound burgers (with cheese) would stretch out over forty yards. Divided into three "balanced" meals, you'd be having 101 burgers at each of breakfast, lunch, and dinner. Or have 90 at each meal and save 34 for a late night snack. Or you could eat between 12 and 13 of them every hour, including waking up at night for hourly feedings. (By the way, hummingbirds don't do that, they go into semi-hibernation at night.) That's a burger every five minutes, and if you suppose it takes about that long to get one down, life in the hummingbird lane



would be, for a human, non-stop continuous eating of quarter pound burgers. Forget the sleep we mentioned.

The hummingbird's need for lots of calories is due to its high heart rate and small body size. Some hummers have been observed visiting 20 flowers a minute, and with their hover-and-sip style of feeding, they keep beating their wings and working out even while they eat.

Because they eat so much, hummers must digest their food quickly. They can digest a fruit fly, soft insect, or spider in 10 minutes. To get through the night without making dozens of food runs, hummingbirds go into a kind of nocturnal hibernation, lowering their body temperature and heart rate so they can get some rest.

## *Feeding Time!*

All animals need to eat to survive, and all animals have features (e.g., claws or a good sense of smell) that help them collect the food they need. Feeding Time lets kids explore how the shape of a bird's beak influences the bird's food-gathering ability. Kids will use their "beaks" to play a game in which they collect "food." It's feeding time!



### Materials

- Activity sheet for each kid
- Group data sheets (see Prepare Ahead)
- Pencils (one per kid)
- Cups (one per group)
- 10 tongue depressors
- Masking tape
- 3–5 of each of the following "beaks": round toothpicks (flat toothpicks break too easily), spoons, forks, and spring-action wooden clothespins
- "Food" items (at least three of each item per kid): marbles, dried lima beans, dried kidney beans, pennies, paperclips, paper wadded into grape-sized balls, and thin rubber bands.

### Prepare Ahead

- Make tongs: crumple a strip of paper into a wad about the width of a finger. Put the wad between two tongue depressors/craft sticks. Secure with a rubber band. Adjust so the tongs open when not in use.
- Use masking tape to make a circle 6–8 feet in diameter and a starting line 8–10 feet away.
- Make three group charts so you can record the results of each round. The example below is set up for two teams of kids. Adjust your chart according to how many teams you have.

Introduce the Challenge: (5 min) Explain that in today’s challenge, kids will gather “food” using tools that are like birds’ beaks. Show them the five different “beaks,” (including the tongs you made). Ask:

- How might this beak help a bird gather food? (Spoons and forks scoop. Toothpicks and forks poke and stab. Tongs and clothespins grab.)
- Which kinds of foods do you think would be the easiest to pick up with each of these beaks? Which will be the hardest to pick up? (Record the predictions on a board or chart.)

### Test predictions by playing Round 1.

(10 minutes) Tell kids this game is a relay race. The goal is for each team to collect as much food as possible—the number of collected items is what counts, not the size or type. Review the rules (see Game Rules text box). Divide the group into teams of three or four. Give each team a cup, pencils, activity sheets, and one kind of tool. Then sprinkle the food in the circle. Say, “Go,” and give teams five minutes to collect as much food as possible.

Discuss what happened. (10 minutes) After five minutes, have each team fill in the data table on the activity sheet. Record each team’s data on the group data chart (see below). Ask:

- Which birds can survive on a wide variety of foods and which can survive on only a few kinds?  
(Beaks with similar totals for many foods represent birds that can survive on a wide variety of foods. Beaks with high totals for only one or two kinds of food represent birds that can survive on only a few foods.)
- If a certain food became unavailable, how might that affect the different birds? (Birds that depend on a food that becomes unavailable would go hungry. Birds that eat many different kinds of food could still feed.)

### Game Rules

- In rounds 1 and 2, teams must use the beak assigned by the leader.
- Participants start behind the line. One member from each team runs into the circle, picks up one piece of food, carries it back to the team, and puts it into the cup. The next person in line takes the beak and repeats the process.
- No hands can touch the food, and only one piece of food should be picked up per turn.
- Participants who use their beaks inappropriately lose their turn.

#### Round 1

Food	Group 1 Beak Tool= _____	Group 2 Beak Tool= _____
Marbles		
Lima beans		
Kidney beans		
Pennies		
Paperclips		
Paper balls		
Rubber bands		
Total amount of food		

## Play Round 2

(10 minutes) Assign each team a new kind of beak. Inside the circle, redistribute the food collected in round 1 and return the empty cups to the teams. Repeat steps 2 and 3.

Discuss what happened. (10 minutes) Draw kids' attention to the data on the group chart.

- In our game, if you wanted to make life easy for birds with tong-like beaks, which foods would you put in the circle? (Marbles)
- Which birds couldn't live in a habitat with only marbles to eat? (Ones with toothpick-like beaks)
- Habitats usually offer many different kinds of food. When fully stocked, would the "habitat" inside our circle be suitable for a wide variety of beak shapes or for only a few? Why? (A wide variety, since there are many kinds of food)

## Play Round 3

(10 minutes) Let kids apply what they learned. This time, let teams choose their beak. Encourage them to look at the group data to decide which beak is most effective at gathering food. Then repeat steps 2 and 3.

**Award points** (5 minutes) Time to rack up some points. Gather as a group. Review the activity's key ideas by asking the following questions. Each one is worth 50 points. Whenever you hear an acceptable answer, award 50 points to the entire group.

- Name three different beak shapes and how birds use them to collect food. (Pointy beaks spear food; spoon-shaped beaks scoop food; tong-like beaks grab food.)
- Name a beak we used today that belongs to a bird that eats only a few foods and one that belongs to a bird that eats many foods. (Toothpicks and clothespins belong to birds that eat a few foods. Spoons, forks, and tongs represent birds that eat many foods.)
- Name three animals other than birds and a feature that helps each one gather its food.
- Why is it unlikely that a bird that drinks nectar from flowers would suddenly start eating fish? (It doesn't have the right beak shape to eat fish, so it would eventually go hungry.)

Doing science involves making predictions, testing them (which



includes doing something, making observations, and drawing conclusions), and sharing your results. Give an example of how we did these steps today. (Answers will vary.)

	Round 1	Round 2	Round 3
	Beak used:	Beak used:	Beak used:
Item	# Collected	# Collected	# Collected
Marbles			
Lima beans			
Kidney beans			
Pennies			
Paperclips			
Paper balls			
Rubber bands			
TOTAL			

	Round 1	Round 2	Round 3
	Beak used:	Beak used:	Beak used:
Item	# Collected	# Collected	# Collected
Marbles			
Lima beans			
Kidney beans			
Pennies			
Paperclips			
Paper balls			
Rubber bands			
TOTAL			

	Round 1	Round 2	Round 3
	Beak used:	Beak used:	Beak used:
Item	# Collected	# Collected	# Collected
Marbles			
Lima beans			
Kidney beans			
Pennies			
Paperclips			
Paper balls			
Rubber bands			
TOTAL			

	Round 1	Round 2	Round 3
	Beak used:	Beak used:	Beak used:
Item	# Collected	# Collected	# Collected
Marbles			
Lima beans			
Kidney beans			
Pennies			
Paperclips			
Paper balls			
Rubber bands			
TOTAL			



# We're Eating Bird Food?

Source: <http://www.thekitchn.com/how-to-cook-perfect-millet-every-time-cooking-lessons-from-the-kitchn-185974>

Grains have been a staple of the human diet for the last, oh, 10,000 years. Ancient grains that were once viewed as gifts from the gods are now shunned as bland health foods or stuffed in bags of bird seed. Did you know they were good for you and me? Let's try one.

**MILLET:** Now, millet is definitely something you will find in a bag of birdseed. But, this is what the Chinese survived on before they discovered sticky rice and it remains a staple in the diets of about a third of the world's population. Millet is a seed of a fruit. This grain is right up there with oats in the heart healthy department; very high in magnesium and niacin. The list of health benefits for millet is a long one, so experiment with it in a variety of recipes.

Rich in iron, B vitamins and calcium, millet has a mild corn flavor and is naturally gluten-free. Sure, on first glance you might be tempted to think that raw millet looks like birdseed (it often is). But these little yellow beads have a really lovely and light texture when cooked, are relatively quick-cooking because of their small size, and are incredibly versatile in dishes ranging all the way from breakfast to dinner.

It can also be popped like corn kernels and added to salads, baked goods or eaten for a snack. This grain expands more than any other so 1 cup will be about 3 when it's cooked.

When preparing millet, cooks often toast it in a skillet before adding any liquid to enhance the nutty flavor of the grain. Then, there are two general ways that you can cook it. The first will result in a fluffy, whole-grain side dish much like quinoa (you'll find these directions below).

The second way is to use more water (3 cups instead of 2 cups) to result in a creamy, porridge with a polenta-like consistency — great for breakfasts. If you're going this route, stir it much more frequently. This creamy version is also fantastic because you can pour it into a pan to cool, slice it as you would polenta, and fry it into croquettes or savory squares.

## Questions About Millet

### How much cooked millet does 1 cup millet yield?

1 cup dry, raw millet yields about 3 ½ cups cooked millet.



### **How much liquid do I need to cook millet?**

To cook 1 cup of millet in a pilaf-style (as described below), you'll need 2 cups of water. If you want to make a creamier porridge, increase the water to 3 cups.

### **How long does it take to cook millet?**

Millet takes a few minutes to toast, about 15 minutes to cook, and 10 minutes to fluff. All told, about 30 minutes total cook time.

### **Shouldn't I always rinse my grains before cooking them?**

Not necessarily. The only grain you might habitually rinse is quinoa because of its bitter coating, saponin. It isn't necessary or beneficial to rinse millet. Sometimes you'll see little black pebble-like bits in your millet, and these are simply the un-hulled grain. Just pick them out and continue on.

### **What are the different ways I can use millet in the kitchen?**

Millet is commonly cooked as a porridge to enjoy in the morning (great when you tire of oatmeal!), but there are many other ways to use millet. You can toss raw millet into cookies, muffins or quick breads for extra crunch. Try using it in granola for that reason. Use it to thicken soups, or as a base for warm grain salads of your choosing. You can also buy millet grits which are extremely quick-cooking, and are wonderful in any preparation you'd think to use polenta or grits.

### **Where can I find millet?**

You can purchase millet and/or millet grits at co-ops and stores like Whole Foods or online from retailers like [Bob's Red Mill](#)

### **How to Cook Millet**

*Makes about 3 1/2 cups*

*While butter is listed as an optional here, it really helps keep the millet from sticking together, and a little bit of salt goes a long way.*

### **What You Need**

#### **Ingredients**

1 cup raw millet  
2 cups water (or broth, if you'd prefer)  
¼ teaspoon salt, optional  
1 tablespoon unsalted butter, optional

#### **Equipment**

2-quart saucepan with lid  
Stirring spoon  
Measuring cup and spoons

### **Instructions**



**1. Measure millet and cooking liquid:** You'll need 1 cup of raw millet and 2 cups of cooking liquid (water or broth).

**2. Toast millet:** In a large, dry saucepan, toast the raw millet over medium heat for 4-5 minutes or until it turns a rich golden brown and the grains become fragrant. Be careful not to let them burn.

**3. Add the water and salt to the pan:** Since the pan is hot, the water will sputter a bit when you pour it in. After adding water and salt, give the millet a good stir.

**4. Bring the liquid to a boil:** Increase the heat to high and bring the mixture to a boil.

**5. Lower the heat and simmer:** Decrease the heat to low, drop in the butter and cover the pot. Simmer until the grains absorb most of the water (they'll continue soaking it up as they sit), about 15 minutes.

Avoid the temptation to peek a great deal or stir too much (unless it's sticking to the bottom). Stirring too vigorously will break up the grains and change the texture.

**6. Remove From Heat and Let Stand:** Like most grains, millet needs a little time off the heat to fully absorb the liquid. Allow it to sit, covered and removed from heat, for 10 minutes.

**7. Fluff and Serve!** After millet sits, fluff it with a fork. Taste and add additional salt if you'd like. Millet does not keep well and is best served warm (see Additional Notes below). ]



**Additional Notes:**

- To make millet porridge, increase the liquid to 3 cups and stir every few minutes as the millet simmers.
- In terms of texture, some of millet's little beads will cook more quickly than others. You'll likely have some softer grains and some chewy or even crunchy grains. This can be a good thing!
- In addition, millet is one thirsty grain and doesn't keep incredibly well overnight. So while you can often double or triple many grain recipes to have leftovers for the week, don't do this with millet as you may find leftovers to be quite dry.

- Millet is best served warm.

## *Beneficial Birds*

For many backyard birders, the best benefit of attracting birds is simply being able to enjoy them, but attracting them with proper landscaping and attentive care can lead to a range of other benefits that make enjoying the birds even more exciting and productive. Birds will eat insect pests year-round in your garden, if you provide a few of the basic necessities to attract and keep them nearby, ex. fresh water, nesting spots, and food supplements as necessary.

**Pest Control:** Many birds eat a variety of insects, including aphids, mosquitoes, moths, beetles, bugs, plant lice, scale, leafhoppers, tree hoppers, spiders, crickets, and caterpillars—sprinkled with the occasional ant, fly, centipede, Colorado potato beetles, cucumber beetles, squash bugs, sowbug, and snail that may not be welcome in a yard or garden. Attracting birds encourages them to take advantage of this natural food source, eliminating the need for harsh chemical insecticides.

**Flower Pollination:** Hummingbirds, orioles and other birds that sip nectar are efficient pollinators of garden flowers. This can give flowerbeds an added color boost from extra blooms, which will in turn attract even more birds.

**Weed Control:** Finches, towhees and sparrows consume great quantities of weed seeds, making them effective landscapers to help control unwanted plants. Planting seed-bearing flowers for birds can also give them a natural food source to enjoy without needing frequent feeder refills.

## *For the Birds!*

The life of a bird in the winter may not be as stress-free as many people think. No matter what the season, they must search for food every day in order to survive.

In much of North America, winter can be a difficult time for birds. The days are short, and nights are often cold and long. The natural food supply has been consumed or is hidden by snow. Most insects are dead or dormant. Water



can be hard to find, and food needed to provide the energy to keep birds warm might be scarce. Finding shelter may not be easy. If there are limited natural evergreens or shelter, birds may seek manmade houses or habitats that can provide refuge from the winds, rains, ice or snow of winter.

Birds are warm-blooded. In general, this means that they maintain their body temperature within a certain range even when the temperature around them changes. The maintenance of body temperature within a normal range depends on the amount of heat the bird produces.

On cold, wintry days, most birds fluff up their feathers, creating air pockets, which help keep the birds warm. The more air spaces, the better the insulation. Some birds perch on one leg, drawing the other leg to the breast for warmth.

To keep up their high metabolic rate, most backyard birds eat rich, energy foods such as seeds, insects and suet. There are some times, however, when birds are not prepared to deal with sudden drops in temperature or sudden winter storms. At times like these, it is especially helpful to have feeders full so that birds can find food easily.

Everything they consume matters nutritionally for them, because, face it, they're not consuming a lot in relation to most other animals. Also, birds don't know the difference between a snack and a meal. When we offer a dog a snack, it's usually a tidbit or a bone—he won't mistake it for a full bowl of food. Ever try to give a tidbit to a bird? Depending on the bird's mood, the tidbit might be eaten, thrown across the yard, or dropped unceremoniously to the ground. No, offering birds a snack isn't about tidbits—it's about quantity and quality.

Snacks for dogs and cats are easy—just pick up a box of something that looks like bacon or crunchy little fish, and you're set. Someone else has formulated the nutritional value of these between-meal snacks, and even if they aren't nutritionally sound, the dog or cat still has its base diet to consume.

Oil sunflower is a great overall seed to offer in the winter. It has a high calorie/ounce ratio due to its high fat and protein content and its relatively thin shell. Oil sunflower has twice the calories per pound than striped sunflower and its smaller shells make less mess when discarded by the birds.

Suet is a great food to offer many of the birds that will visit backyards in the winter. Suet is a high energy, pure fat substance which is invaluable in winter when insects are harder to find and birds need many more calories to keep their bodies warm.

Suet can be fed in a variety of feeders ranging from a suet cage to a wood and cage feeder offering protection from the weather elements and designed to require the birds to hang upside down.

Peanuts are another great food to offer birds in the wintertime. Peanuts have high protein and fat levels and are often an ingredient in suet products. Offering peanuts in a peanut feeder can provide a good source of protein for birds.

Bird snacks are easy to prepare, and help birds survive during periods when food is scarce. Bird snacks also have an added bonus of attracting a wide variety of birds to your neighborhood. So put on your chef hat and get ready to make some bird snacks!

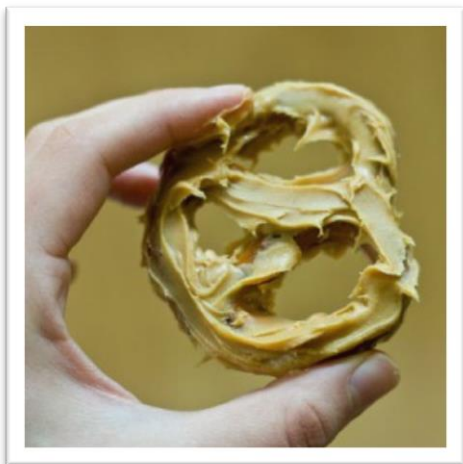
## Easy Pretzel Birdfeeder

*This Easy Pretzel Birdfeeder is an easy birdfeeder to create for any age. Have some extra 'ingredients', kids may be tempted to taste test their feeder while making it and that's okay, it's just as good for them as it is for the birds! Source: <http://www.evermine.com/blog/diy-bird-feeder/> All rights Reserved.*

### ***Here's what they'll need...***

- Large pretzel
- Peanut butter (or sunbutter if you have peanut allergies in the group) and something to spread it with (fingers can work quite well)
- Sunflower seed nuts (the centers)
- Yarn
- Paper plate

**Step One:** Cover your pretzel with peanut butter. You can either spread it on with a knife or use your fingers.



**Step Two:** Pour the seeds onto a paper plate and press your pretzel into the seeds. Flip and repeat until evenly coated.



**Step Three:** Place on wax paper to dry.



**Step Four:** Tie a string to your pretzel for easy hanging.



What about the idea of giving a bird feeder as a gift? Students can put together a cute packaging idea and give them out to friends and neighbors.

Packaging Supplies:

- Cellophane Bags or other container
- Personalized labels (samples are included)
- Ribbon or yarn

Step Five: Once your pretzel is dried out a little, package it in a cellophane bag. Add your own custom labels and tie it closed with a ribbon. Give out to your friends and neighbors!



Image Credit: <http://www.evermine.com/blog/diy-bird-feeder/>

Now, we've gotten lures for the birds, but what kinds of seeds might attract the elusive kid-bird?

Have students make tasty kid-bird energizing snacks using pretzels, nut butter, and

chocolate covered sunflower seeds (or mini m&ms if you can't find chocolate covered sunflower seeds.)





# Flowering Feeders

Source: <http://thinkcrafts.com/blog/2013/05/01/tin-can-flowers/> All Rights Reserved.

## Supplies

- 14oz Tin Can
- Tin Cutters
- Washable Marker
- Hammer
- Nail
- Green Plant Stake
- Outdoor Craft Paint
- Heavy Duty Glue
- Clear Sealer/Protectant



## Directions

Hole in Can: Use your hammer and nail to put a LARGE hole in the bottom of your can. NOTE: You need the hole to be big enough to fit your plant stake, so you may need to do more than one hole and connect them.

Make sure you don't make the hole too big, this is what it should look like when done.



Mark Can: Use your washable marker to mark off where you are going to cut.

Cut Can: Have an adult use the Tin cutters to cut the can where it is marked.

Bend Petals: Bend your petals down

Shape Flowers: Using your tin cutters snip the ends off of each corner of petal to round them

Paint Flowers: Now paint your flowers. You can do any pattern you like, make sure to paint the inside and outside since you will see both.

Glue Flowers: Once the paint is dry. Insert your Planting rod into the bottom of your can. Then apply your heavy glue on the inside of your flower

Stake Flowers: And then apply the glue on the outside of your flower.

Spray Flowers: Once the glue is dry bring your flowers outside and spray your flowers with clear protectant to help protect from the elements.

Pour Seeds: Fill your flowers with bird seed and watch the birds come to enjoy your pretty flowers.





Especially Handmade



Just For You!  
in the Garden of Eatin'!

*CreativeMamma.com*

Especially Handmade



Just For You!  
in the Garden of Eatin'!

*CreativeMamma.com*

Especially Handmade



Just For You!  
in the Garden of Eatin'!

*CreativeMamma.com*

Especially Handmade



Just For You!  
in the Garden of Eatin'!

*CreativeMamma.com*

Especially Handmade



Just For You!  
in the Garden of Eatin'!

*CreativeMamma.com*

Especially Handmade



Just For You!  
in the Garden of Eatin'!

*CreativeMamma.com*

Especially Handmade



Just For You!  
in the Garden of Eatin'!

*CreativeMamma.com*

Especially Handmade



Just For You!  
in the Garden of Eatin'!

*CreativeMamma.com*