

Reflector Oven Cooking



Welcome to the World of Reflector Ovens! Reflector ovens are too often a forgotten method of cooking in the outdoors. Whether used in 18th Century kitchens or by more recently by campers, a reflector oven offers a great option for baking and roasting in the outdoors or in a fireplace. Adding to the convenience is an apparent resurgence of commercially available reflector ovens in part spurred by outfitters looking for a light weight oven for canoe and backpacking expeditions. Reflector ovens are also relatively easy to make. From an oven made from cardboard wrapped in foil to sheet metal connected with small hinges to bakers' sheet trays fastened together with nuts and bolts, you are only limited by your imagination. Below are pictures of two reproductions from Old Sturbridge Village which would have been used in the late 1700's through the early 1800's. The upper two photos are of a "Tin Kitchen" used on the hearth to roast meat. Vegetables could be placed in the pan below the meat for roasting while absorbing the delicious juices of the meat. The lower photo is of an "American Oven" which too would have been used on a hearth. You can imagine how delicious hot biscuits baked in this oven would be especially lathered with some butter or jam!



How do they work? Reflector ovens use the radiant heat and convection heat emitted from a campfire to provide the source of heat. They act as an oven by having multiple surfaces that direct heat from multiple directions. Just like a Dutch oven, a properly constructed reflector oven will provide both heat from above and below the item being baked or roasted. The intensity of the heat being reflected on the food is controlled both by the intensity of the source of heat and the distance between the reflector oven and the heat source. It's best to err on having the oven further away from the fire and then adjust the distance to achieve the desired temperature within the oven. With a larger and hotter fire, start 18 inches away. You may find that you are as close as 6 inches away for a smaller fire. It is truly amazing how quickly items can be baked (or burned) in a reflector oven. It is very important that the food be rotated more often than you may think is necessary. The portion of the food closest to the

fire will cook faster than the portion towards the back of the oven. Without rotating or shifting the food, the likely results will be unevenly cooked food that is raw in one half and burnt to a crisp on the other. The surface where the oven is placed should be relatively flat and level with enough space to be able to adjust the distance between the fire and the oven. Place the back of the oven in the direction of any wind or breezes. The reflector oven will act as a shield from the wind while minimizing ash being blown from the fire onto the food.

What should I consider when selecting a Reflector Oven? There are several considerations when selecting a reflector oven. The key factor will be availability. Although there are more commercially available than in the recent past, they likely are only found online and even then, still with less than 10 types available. Of course, cost is also a factor. The cost is many times impacted by the complexity of the design, the materials used, and shipping. Size is also an important consideration. Baking a few biscuits can be easily be baked in a small oven while baking a cake will require a much bigger oven. Weights can vary. If the oven is to be used while tailgate camping, weight may not be an issue. That may not be the case if the oven is part of the gear being stowed in a canoe for a 3-day trip with portaging or a multi-day backpacking adventure. The amount of weight is a factor of size, design and the material used. Options exist with some commercial available oven with the ovens offered fabricated from either stainless steel, sheet metal or aluminum.

Here are some examples of Reflector Ovens.



Foil Covered Cardboard:
Reflector ovens can be made using cardboard for structure with foil as the reflective surface. Wire from coat hangers and mesh or hardware wire can act as a grate. Binder clips can be used to fasten parts. Even a pizza box can be re-purposed.

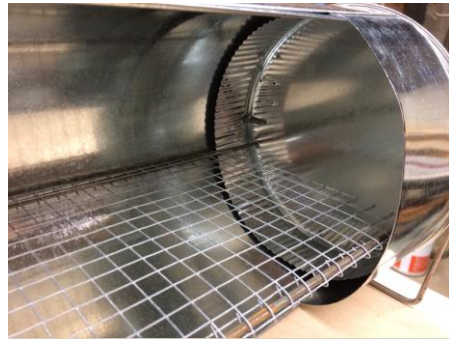


#10 CAN REFLECTOR OVEN: Two #10 cans be joined together with pop rivets to form a reflector oven. The hardware wire gate is supported by pieces of a wire coat hanger that are poked through the ends of the cans. Shorter pieces of coat hanger were used to add wire loop handles on the top of the oven and stands for the bottom.





DUCT WORK REFLECTOR OVEN: Inspired by the #10 Can Reflector Oven, this oven is fabricated from a 24 inch length of 8 inch round duct. An 8 inch duct end cap is inserted into each end. The end caps are fastened in place with several pop rivets.



OLD SCOUT REFLECTOR OVEN: This commercially available reflector oven is easily assembled and dissassembled. Available at www.oldscoutoutdoorproducts.com.



REFLECTOR OVEN BY SVANTE FREDÉN: This reflector oven is available commercially online or can be made at home. Either way you will have an awesome reflector oven that sets up and breaks down easily and works extremely well. A search “Svante Freden” of YouTube will take you to a video of Mr. Freden fabricating reflector ovens in his barn in Sweden. The top set of photos are of the commercially available version. The pictures that follow are of the homemade model. The set of instructions that follow can be found on the internet at Mr. Freden’s own web site:

www.sf-canoes.se/en/reflector-oven/



Do It Yourself. Svante Freden foldable Reflector Oven

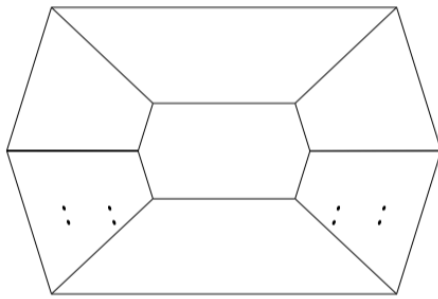
Material: 1 mm aluminium, 2pcs 500x250 mm, 1pcs 250x150 mm.

Long hinges ca: 1700 mm. Rivets 2-4 mm ca: 90 pcs

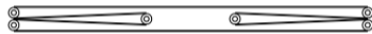
6 screws and nuts, same diameter as the rivets.

3 mm wire 900 mm.

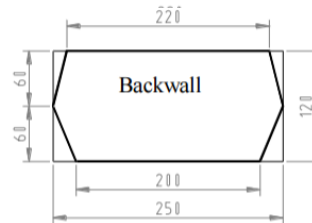
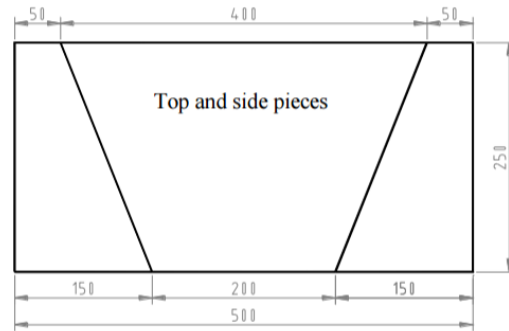
Start by making a mock-up of the oven with paper and tape so you can see how it looks and works and that you are satisfied with the size



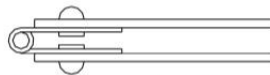
Opened up



Folded down



Put the sheets inside the hinge when drilling



Put the sheets outside the hinge when riveting.

When you are satisfied with the dimensions, cut out the pieces from the sheet, let the backwall wait.

Start by mounting the sides, clamp the hinge and sheets so they do not move when you drill. Rivet the sides together. Be sure the rivets are clear from each other when you close the sides (flatten the rivet heads if necessary).

Put all six pieces together as shown in the figure "folded down", and drill through the whole package for the outer hinges.

Rivet three hinges fully, but only one side on the fourth, and use bolts and nuts on the other side, so you can open it again.

Now cut out the backwall, but let it be a little bit too big so it tightens the sides. Put the hinge on the inside of the bottom. Don't rivet yet, use screws and nuts. Test to fold and unfold.

Make a little locking tab 12x25 mm to rivet on the backwall. Cut a slot for the locking tab in the top.

Make two pieces 12x25 mm to hold a handle on top. Shape a handle from a piece of wire and rivet the holder pieces.

Now to the grating. Make a teststick 2cm shorter than the front, test with the stick to see where it reaches both sides. There you can drill a hole 4 mm, in each side. Drill another hole ca, 90 mm from the first hole and parallel with the middle of the sides. Make the grating in a U-form so you can put it in from the outside and it comes out on the other side, but short enough so that you can lay it on the inside of the oven when the oven is folded.

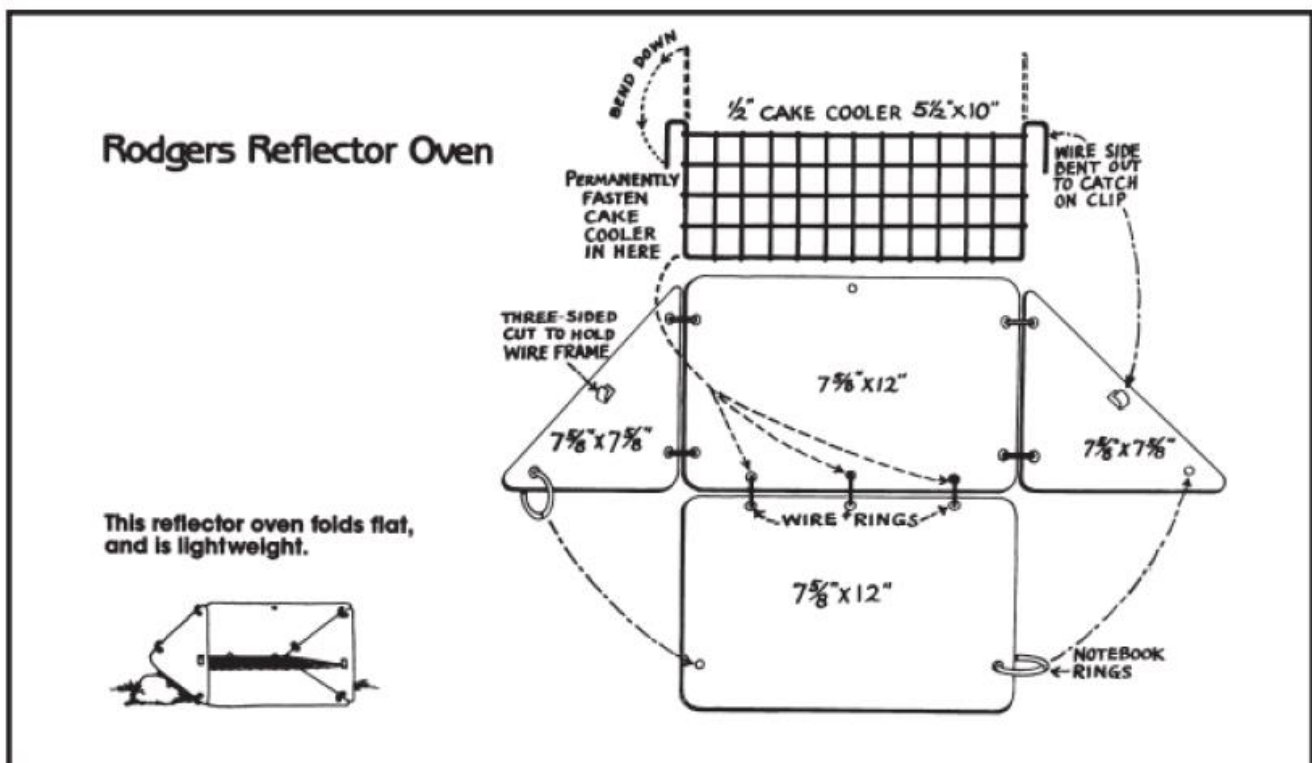
This reflector oven design is a do-it-yourself version of the oven that I build. My oven has integrated hinges which cuts down on weight and gives a nice clean look without sharp edges.

Design and construction:

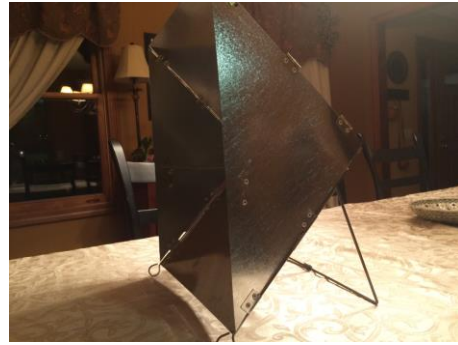
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THE RODGERS REFLECTOR OVEN: This set of plans dates back over 40 years ago. It is easy to make, light weight and large enough to thrill everyone with some nice hot biscuits and treats. Unfortunately, the link to the website for the plans has been misplaced.

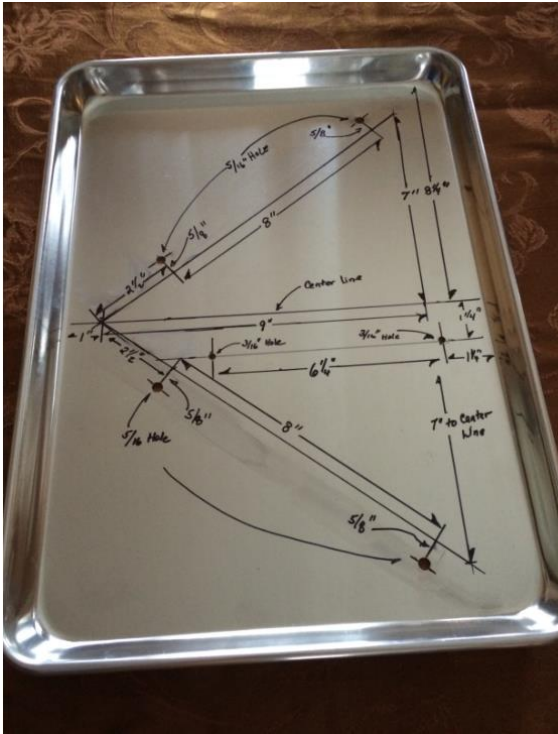


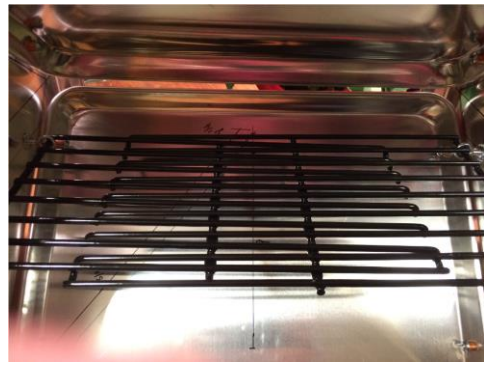
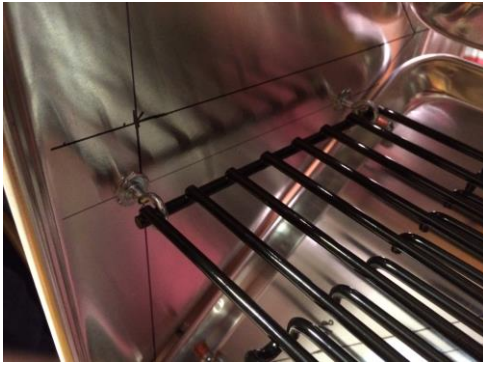
FOLDING REFLECTOR OVEN WITH STAND: This design takes inspiration from designs seen online with the addition of a stand to properly support the oven. The stand is made from the metal wire used for a political yard sign where the sign is a bag that slides over a hoop. Two shish kabob skewers help to connect the moveable parts while also acting as feet for the front of the oven.



THE GRUBMASTER SHEET PAN REFLECTOR OVEN: This oven uses 4 half sheet pans and an adjustable replacement grate. The weight of this oven is heavier than most yet it is very stable and boasts a lot of space for items being baked. The reflector oven is fastened together using $\frac{1}{4}$ x 20 machine bolts with wing nuts. Copper tubing spacers are cut at the angle of the sides to ensure that the bolts sit at the correct angle. 4 Eyebolts are used to support the grate. T-Nuts on the eyebolts provide a firm surface to tighten the wing nuts on the eyebolts against.







THE LILLIS REFLECTOR OVEN BY L&L MECHANICAL, LLC: This oven is fabricated by L&L Mechanical, LLC located in Goshen, Connecticut. Credit goes out to fellow scouter Tom Stansfield for the lead on this extremely sturdy and well performing oven. Thank you also to Tom for sharing his photos of the oven in use. We really appreciate and thank Charlie at L&L Mechanical for his help in making this oven available for purchase. Charlie, his family and his staff are not only skilled in fabricating these awesome ovens, but he and his wife also use reflector ovens. For years his family's turkey at Thanksgiving has been roasted on his fireplace hearth in an authentic "Tin Kitchen", the granddaddy of reflector ovens. Orders can be placed by contacting Charlie at 860-491-4007 by phone or by email at l_lmechanical@sbcglobal.net. The sheetmetal constructed oven comes with two nested pans fabricated from stainless steel to aid in cleaning. The ovens boast a roomy cooking area with an opening width of 19", an opening front height of 11.5" and depth of 10".



RECEIPIES:

SIMPLY CHOCOLATE CAKE

Ingredients:

- Box Cake Mix
- 3 Eggs
- Oil in the Amount Listed on the Box
- Water in the Amount listed on the Box
- 1 Cup of Chocolate Chips
- Powdered Sugar

Directions: Follow the directions provided with the cake mix. Stir in chocolate chips. Using a smaller round baking pan or foil pan, coat inside surface of the pan with cooking spray. Add cake batter to an even thickness of about 1 inch. Bake in the reflector oven rotating slightly every 5 minutes. Bake until a knife or debarked twig can be poked into cake and come out without any wet batter. Sprinkle powdered sugar and serve.

ENGLISH MUFFIN PIZZA:

Ingredients: (Per 2 Mini Pizzas)

- 1 English Muffin Sliced in Half
- 2 Tbsps. Shredded Mozzarella Cheese
- 2 Tbsps. Tomato Sauce
- 6 Slices of Precut Pepperoni

Directions: Place both halves of the muffin face up. Spread tomato sauce on both halves keeping it about ¼ inch away from the edge of the muffin to minimize dripping on the oven. Sprinkle cheese and place pepperoni slices on top of sauced muffin half. Place in the reflector oven. Rotate as needed to ensure even baking. Serve once ingredients are fully heated, the muffin is crispy and the cheese melted.

PEPPERONI PIZZA:

Ingredients:

- Store Bought Pizza Dough
- Shredded Mozzarella Cheese
- Tomato Sauce
- Slices of Precut Pepperoni

Directions: Roll out or form pizza dough into desired shape and thickness keeping in mind the need to be able to rotate while baking. Spread tomato sauce on about 1 inch away from the edge of the dough to both minimize dripping sauce on the oven and to have a nice pizza crust. A little sauce goes a long way. Sprinkle cheese and place pepperoni slices on top. Place in the reflector oven. Rotate as needed to ensure even baking. Serve once ingredients are fully heated, the dough is baked and the cheese melted. **Alternative:** *Substitute actual pizza dough with pre-made 8-inch pizza crusts.*

MINI STROMBOLLI:

Ingredients:

- Store Bought Pizza Dough
- Shredded Mozzarella Cheese
- Tomato Sauce
- Deli Ham

Directions: Roll out or form pizza dough into circle about 8 inches in diameter and about ¼ inch in thickness. Dividing the circle in half, spread tomato sauce on the dough staying 1 inch away from the edge of the dough. A little sauce goes a long way. Spoon cheese on top of sauce. Dice deli ham into 1 inch squares. Place diced ham on top of cheese. Add a little more sauce on top of ham. Wet the 1 inch boarder of the exposed dough on the half with water. Fold the dough over and press edges together to form a pocket. Place in the reflector oven. Rotate as needed to ensure even baking. Serve once ingredients are fully heated, the dough is baked and the cheese melted.

BAKED CAJUN TILAPIA FILLETS

Ingredients:

- Tilapia Boneless Fillets
- Salt & Pepper
- Cajun Seasoning

Directions: Spray the bottom of a small foil pan with cooking spray. Lay fillets in the tray in one layer. Season with salt and pepper. Coat with Cajun seasoning. Bake in a reflector oven rotating periodically to ensure the fish is baked evenly. Bake until the meat is white throughout and flakes apart when using a fork. Don't like Cajon seasoning – no worries – select seasoning of your own choosing.

BAKED FROG LEGS

Ingredients:

- Frog Legs
- Salt & Pepper
- Butter
- Lemon Slices

Directions: Using a small foil pan, lay frog legs in the tray in one layer. Season with salt and pepper. Place dabs of butter spaced out on frog legs. Lay over the top slices of lemon. Bake in a reflector oven rotating periodically to ensure the frog legs are baked evenly. Bake until the meat is white throughout and flakes apart when using a fork.

REFLECTOR OVEN BISCUITS

Ingredients:

- Pillsbury Grands Flaky Layers Biscuits Original

Directions: Place biscuits on a greased or cooking spray oiled foil tray. Place in reflector oven. Bake, moving and rotating biscuits to ensure even baking. Bake until cooked throughout and nicely browned on the top and bottom. Don't forget the butter!

REFLECTOR OVEN CINNAMON ROLLS

Ingredients:

- Pillsbury Cinnamon Rolls with Original Icing

Directions: Place rolls on a greased or cooking spray oiled foil tray. Place in reflector oven. Bake, moving and rotating rolls to ensure even baking. Bake until cooked throughout and nicely browned on the top and bottom. Coat the tops with the icing provided.

BISQUICK SPOON BISCUITS

Ingredients:

- 2 ¼ Cups of Bisquick mix
- 2/3 Cup of Milk

Directions: Mix ingredients. Spray a foil tray with cooking spray. Place tablespoon size dollops of batter on the pan. Place in reflector oven. Bake, rotating pan to ensure even baking. Bake until cooked throughout and nicely browned on the top and bottom.

BISQUICK CHOCOLATE SCONES

Ingredients:

- 2 Cups of Bisquick mix
- 3 Tablespoons of Granulated Sugar
- 1 Tablespoon of Milk
- 1 Egg
- 1/3 Cup of Mini Chocolate Chips

Directions: Mix together all ingredients. Form into triangles about ¾ of an inch thick. Bake on a greased pan rotating within the oven to ensure even baking. Bake until cooked through and the top and bottom are lightly browned. Sprinkle with granulated sugar and serve.

CORN BREAD

Ingredients:

- 1 Box of Jiffy Corn Bread Mix
- 1 Egg
- 1/3 Cup of Milk

Directions: Mix ingredients. Spray the inside surfaces of a 7-inch foil pan with cooking oil. Place corn bread batter in foil pan spreading evenly. Place in the reflector oven and bake. Rotate pan periodically to ensure it bakes evenly. When stuck into a completely baked corn bread, a knife or toothpick will come out clean. **Alternative:** Consider using other available Jiffy boxed quick breads.

CAMP HOT BEEF STEW POCKETS

Ingredients:

- Store Bought Pie Crust
- Canned Stew Filling

Directions: Unroll defrosted pie crusts. The easiest way to prepare the pies is to cut a piece of pie crust twice the size of the finished pie allowing for the crust to be folded over in half. Be created with shapes to minimize waste. Add canned stew minimizing the amount of gravy to one half of the cut pie crust keeping the filling $\frac{3}{4}$ of an inch from the cut edge of the half. Coat the remaining surface of cut edge of the pie crust with water. Fold over the remaining half. Press together the cut edges using your fingers or a fork. Place on tray of reflector oven and bake. Rotate periodically to prevent burning and to allow for even baking. Consider using a piece of foil or parchment paper under the pie pockets in the event the filling leaks out while baking. Bake until filling is hot and the pie crust cooked.

Alternative: Instead of canned stew filling, consider using canned chili.

PIGS IN A BLANKET

Ingredients:

- Hotdogs
- Pop & Fresh Biscuits
- American Cheese

Directions: Using a flat clean surface, roll out each biscuit to make a thin dough that can be wrapped around the hotdog. (**Tip:** Don't have a rolling pin? Use a clean Nalgene bottle or an unopened can as your rolling pin. A little flour helps prevent the dough from sticking to your rolling tool.) Wrap a slice of American cheese around the hotdog and then wrap with biscuit dough. Bake until the dough is fully cooked, the cheese melted and the hotdog hot. **Alternative:** Wrap the outside of each dough wrapped hotdog with a slice of bacon using toothpicks to hold in place. Be sure to fully cook the bacon.

SINGLE SERVING PINEAPPLE UPSIDEDOWN CAKES

Ingredients:

- Box Yellow Cake Mix
- 3 Eggs
- Oil in the Amount Listed on the Box
- Canned Pineapple Rings
- Marachino Cherries
- Brown Sugar
- Butter
- Tuna Fish Cans (Empty & Washed)

Directions: Follow the directions provided with the cake mix except replace the water with the juice from the pineapple. Supplement water if there isn't enough juice to equal the quantity of water listed in the directions. Using the cleaned tuna can, coat inside surface of the pan with cooking spray. Place a ¼ inch pad of butter and a teaspoon of brown sugar in the bottom of each of the tuna cans. Place in the reflector oven. Once the butter and brown sugar are melted, add one pineapple ring to each tuna can. Place one marachino cherry in the center hole of each pineapple slice. Add cake batter to an even thickness of about ¾ of an inch. Bake in the reflector oven rotating slightly moving from the front to the back of the oven every 5 minutes. Bake until a knife or debarked twig can be poked into cake and come out without any wet batter. Eat either out of the can or, if you are one of those fancy folks, dump the can onto a plate and enjoy the beauty of your baked creation.

RASBERRY SHORTCAKE

Ingredients:

- 4 Cups Fresh or Frozen Raspberries
- 2 1/3 Cups of Bisquick Mix
- 2/3 Cup of Milk
- 3 Tablespoons Granulated Sugar
- 3 Tablespoons of Butter (Melted)
- Spray Whipped Cream

Directions: Melt butter. Mix together Bisquick mix, milk, sugar and melted butter. Divide into 4 and spoon onto pan coated with cooking spray. Bake rotating within the oven to ensure even baking. Bake until cooked through and the top and bottom are lightly browned. When ready to serve, spoon raspberries (or thawed frozen raspberries) on top of shortcakes. Top with whipped cream.

CHOCOLATE CHIP COOKIE

Ingredients:

- Nestlé® Toll House® Refrigerated Chocolate Chip Cookie Dough

Directions: Thaw cookie dough. Separate pre-perforated cookie disks. Place on a greased or cooking oil coated pan or tray. Bake rotating within the oven to ensure even baking. Bake until cooked through and the top and bottom are lightly browned.

EASY APPLE TURNOVERS

Ingredients:

- Frozen Puff Pastry
- Canned Apple Pie Filling (Or Any Other Canned Pie Filling)
- Powdered Sugar
- Egg

Directions: Crack one egg into a small bowl, beat. Lay out defrosted puffed pastry. The size of the cut pieces of puffed pastry should be twice as large as the desired size of the turnover. Ideally cut into squares. In the interest of preventing waste, a rectangular cut could also be used. With the piece of cut pastry laying flat, spoon apple pie filling on one half keeping the filling 1 inch away from the edges. Coat exposed 1 inch edge with beaten egg. Fold puff pastry in half pressing egg coated edges together. Place on tray of reflector oven and bake. Rotate periodically to prevent burning and to allow for even baking. Consider using a piece of foil or parchment paper under the pastry in the event the filling leaks out while baking. Bake until the pastry is nicely “puffed” and the filling hot. Sprinkle with powdered sugar and serve. **Alternative:** Instead of canned pie filling, make your own using a peeled apple chopped into ½ inch chunks. Coat with granulated sugar and cinnamon and a little flour if available. The baking time will take longer. Be careful not to burn pastry as a result. Use a lower baking temperature controlled by adjusting the distance between the fire and the reflector oven.

SIMPLE FRUIT PIE POCKETS

Ingredients:

- Store Bought Pie Crust
- Canned Pie Filling

Directions: Unroll defrosted pie crusts. The easiest way to prepare the pies is to cut a piece of pie crust twice the size of the finished pie allowing for the crust to be folded over in half. Be creative with shapes to minimize waste. Add pie filling to one half of the cut pie crust keeping the filling ¾ of an inch from the cut edge of the half. Coat the remaining surface of cut edge of the pie crust with water. Fold over the remaining half. Press together the cut edges using your fingers or a fork. Place on tray of reflector oven and bake. Rotate periodically to prevent burning and to allow for even baking. Consider using a piece of foil or parchment paper under the pie pockets in the event the filling leaks out while baking. Bake until filling is hot and the pie crust cooked. **Alternative:** Instead of canned pie filling, make your own using a peeled apple chopped into ½ inch chunks. Coat with granulated sugar and cinnamon and a little flour if available. The baking time will take longer. Be careful not to burn pie crust as a result. Use a lower baking temperature controlled by adjusting the distance between the fire and the reflector oven.