



ACTIVITY

Feeding 480 Mouths

USS *Constitution*'s cook had to do a lot of math to feed 480 hungry men. Students use multiplication, conversions and fractions to scale the serving sizes found in recipes for Ship's Biscuit, Sailors Duff, and Hot Chocolate—all foods served on board. One serving size equals enough for one sailor. How much of each ingredient will you need?

Plum Duff

Plum Duff, was a treat for sailors who served on board ships like *Constitution*. This recipe comes from Sandra Oliver's *Saltwater Foodways* (Mystic, Connecticut, Mystic Seaport Museum: 1995) and is delicious. Like most batter puddings boiled in a cloth, its exterior is gummy, but inside the texture is moist and cake-like.

Ingredients

2 cups flour	¼ cup sugar
½ teaspoon baking soda	2/3 cup raisins
1 teaspoon cream of tartar	2/3 cup water
pinch of salt	1 pudding bag or cloth
¼ cup melted shortening	

Directions

1. Set a large pot of water on and heat to boiling.
2. Sift together dry ingredients.
3. Stir in melted shortening, sugar, and raisins. Wet the pudding bag or cloth in the boiling water, and dust it liberally with flour.
4. Add the water to the dough and mix well; the dough should be fairly thick, but not stiff. Turn into the pudding bag, tie the bag leaving room for the duff to expand. Or put in a greased pudding mold.
5. Put the duff in the boiling water, suspending it by tying it to a spoon if necessary to keep it from touching the bottom of the pot.
6. If in a bag boil for four hours; steam for five hours if in a mold.
7. When done, turn it out of the cloth onto a serving dish. Let it stand a moment to set up.
8. Slice it and serve with molasses.

Serves 12

History Note

If overcooked, Sailors Duff will come out very hard. According to Dr. Edward Cutbush in his *Observations on the Means of Preserving the Health of Soldiers and Sailors*, (Philadelphia: Fry and Krammer, 1808), “the puddings, generally made by the men, are almost as hard as a thirty two pound shot; if they receive no nourishment from them, it is certain they cannot complain that they have not something in their *stomachs that they can feel*; and sometimes, among those whose digestive powers are weak, violent pains of colic are the consequence.” Regardless of the dangers to one’s digestive tract, cut into slices and served with molasses, duff provided a welcome respite from salt meat and biscuit.

1812 Hot Chocolate

Hot chocolate was a treat for sailors. They had to buy the chocolate with their own money from the purser, or storekeeper, on board. This recipe is from the book, *The Artist's Companion, and Manufacturer's Guide, Consisting of the Most Valuable Secrets in Arts and Trades* (1814). It is similar to what is called Mexican hot chocolate today. While officers may have had access to the somewhat exotic ingredients needed for this recipe, sailors probably made do with sugar and water. Mrs. Child, in *The American Frugal Housewife* (1833), suggests that nutmeg improves the taste of chocolate. Since this was a common spice, seamen could have grated it into their cups.

Ingredients

Cocoa	<i>Optional:</i>
Cubed (Lump) Sugar	Vanilla
Water or Milk	Cinnamon
Stove	Nutmeg
Pot	Mexican Pepper
Spoon	Cloves
Wax Paper	

Directions

'A receipt for making chocolate.

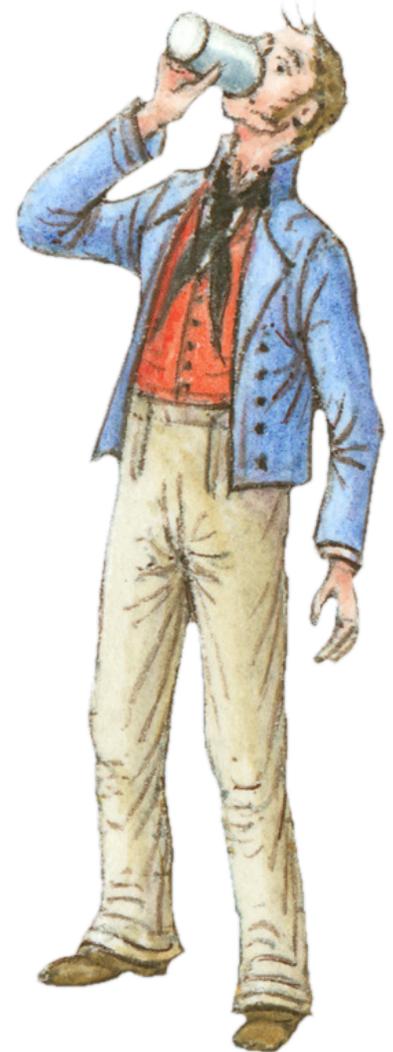
1. Dissolve in a copper pan some pulverised royal lump sugar, with a little orange water. When the sugar is turned into a syrup throw in the cocoa, the vanelloe [vanilla], the cinnamon, Mexican-pepper, and cloves, all, and every one of which, ought to have been first reduced to an impalpable powder. Stir all well while it boils; and when you judge it to be sufficiently done, pour the paste on a very smooth and polished table [use wax paper to allow paste to cool], that you may roll it, and give it whatever form and shape you like.
2. To prepare it with either milk or water, in which, when boiling hot, you first dissolve it, then, with a box-mill, with a long handle, you mill it to froth in the pot in which it is making, and pour it afterwards in cups to drink."

Serves 1 cup of liquid (water or milk) to 1 person.

Sugar, cocoa and spices to taste.

History Note

In 1785, Thomas Jefferson wrote, "the superiority of chocolate, both for health and nourishment, will soon give it the same preference over tea and coffee in America which it has in Spain," and indeed, its popularity soared after 1800. Sailors in the Navy could buy it from the purser for 37 ½ cents per pound.



Ship's Biscuit

Ship's biscuit was a hard piece of bread that USS *Constitution* sailors ate nearly every meal. The biscuit was baked on land, stored on board the ship, and then eaten by the sailors at sea. Sailors soaked the rock-hard biscuit in their stew to soften it before taking a bite--make sure you do too! Use this recipe to cook ship's biscuits with your students, or bring some in for your students to sample.

Ingredients

2 cups whole wheat flour	greased baking sheet
A little water	lightly floured work surface
fork	wooden mallet or rolling pin (optional)

Directions

1. Preheat oven to 175 degrees Fahrenheit
2. Mix flour and enough water to form a stiff dough. If dough is sticking to your fingers, add more flour. Cover with a damp cloth and let sit for 10 minutes.
3. Fold and beat the dough until it is a ½ inch thick. Repeat until dough is smooth.
4. Cut into circles about 5 inches across. Pierce four times with a fork. Dust lightly with flour.
5. Place on an ungreased baking sheet and bake for 3 hours, or until dry inside.



History Note

William Burney, in *A New Universal Dictionary of the Marine* (London, T. Cadell & W. Davies: 1815), gives the best description of the process of making ship's biscuit:

The process of biscuit-making for the navy is simple and ingenious, and is nearly as follows. A large lump of dough, consisting merely of flower and water, is mixed up together, and placed exactly in the centre of a raised platform, where a man sits upon a machine, called a horse, and literally rides up and down throughout its whole circular direction, till the dough is equally indented, and this is repeated till the dough is sufficiently kneaded. In this state it is handed over to a second workman, who, with a large knife, puts it in a proper state for the use of those bakers who more immediately attend the oven. They are five in number; and their different departments are well calculated for expedition and exactness. The first man on the farthest side of a large table moulds the dough, till it has the appearance of muffins, and which he does two together, with each hand; and then delivers them over to the man on the other side of the table, who stamps them on both sides with a mark, and throws them on a smaller table, where stands the third workman, whose business is merely to separate the different pieces into two, and place them under the hand of him who supplies the oven, whose work of throwing or chucking the biscuits on the peel must be performed with the greatest exactness and regularity.

The fifth arranges them in the oven, and is so expert, that though the different biscuits are thrown to him at the rate of seventy in a minute, the peel is always disengaged in time to receive them separately. So much critical exactness and neat activity occur in the exercise of this labour, that it is difficult to decide whether the palm of excellence is due to the moulder, the maker, the splitter, the chucker, or the depositor; all of them, like the wheels of a machine, seeming to be actuated by the same principle. The business is to deposit in the oven seventy biscuits in a minute; and this is accomplished with the regularity of a clock; the clack of the peel, during its motion in the oven, operating like the pendulum. The biscuits thus baked are kept in repositories, which receive warmth from being placed in drying lofts over the ovens, till they are sufficiently dry to be packed into bags, without danger of getting mouldy; and when in such a state, they are then packed into bags, of an hundred weight each, and removed into store-house for immediate use. At Deptford the bake-house belonging to the victualling-office has twelve ovens; each of which bakes twenty shoots daily; the quantity of flour used for each shoot is two bushels, or 112 pounds; which baked, produce 102 pounds of biscuit. Ten pounds are regularly allowed on each shoot for shrinkage, &c. The allowance of biscuit in the navy is, one pound for each man per day; so that, at Deptford alone, they can furnish bread, daily, for 24,480 men, independent of Portsmouth and Plymouth.