The FUTURES Channel®

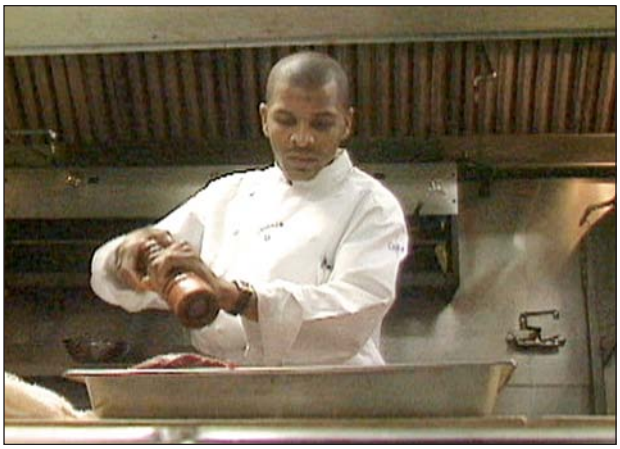
MOVIE GUIDE

MOVIE NUMBER 4014

The Head Chef

The Movie:

The head chef is responsible for everything that happens in the kitchen—and for everything that comes out of it. Featured: Dennis Burrage, Master Chef. *(Movie length: 2:01)*



Background:

There are few careers more demanding of physical, mental, and creative resources that that of a master chef. It all starts with years of schooling, which prepare the individual to begin an apprenticeship program that takes several more years. During this time the aspiring head chef may decide to specialize in one or another type of cooking. This is also a good time to learn and practice some of the many non-cooking responsibilities of the head chef—ordering food, creating menus, managing staff. As head chef, one is both a conductor of the culinary orchestra and its virtuoso soloist. All in all, it's not a job for the faint of heart.

Curriculum Connections:

Fractions — 1

Rump roast should be cooked for 35 minutes for each pound of meat. If you have 2½ pounds of meat, for how long should it be cooked?

Measurement (volume, temperature, weight) — 2

Converting these cooking recipes from a European cookbook to US measures:

3 liters	?	cups
4.5 kilograms	?	pounds
250 milliliters	?	ounces volume
90° C	?	°F
300 grams	?	ounces weight

Percents — 3

A certain broth is supposed to be cooked until it has lost 25% of its liquid volume. If there are 2 cups, 4 ounces of broth before cooking, how much should there be after cooking?

Fractions 4

The ingredients below are used in a recipe for cream sauce. Determine how much of each of these ingredients would be required to make 3½ times the amount of cream sauce:

1 qt. heavy whipping cream
1 cup water
2 tsp. chicken base
1 tsp. white pepper
2 tsp. minced garlic in oil
1/2 tsp. paprika
1/2 cup butter
1/2 cup flour

Percents 5

Most nutritionists recommend that calories from fat do not exceed 30 percent of the total calories in a diet. This table gives nutrition data for several foods. Row 2 gives the total calories per serving. Row 3 gives the number of grams of fat per serving.

Find the percent of calories from fat for each food and record this data in row 4. Note: You will need to research one more piece of information to fill out the table.

1	Food	Buttermilk pancakes (3 4-inch)	Oatmeal (3/4 cup cooked)	Macaroni and cheese (3/4 cup)	Lean hamburger (3-oz patty)	Baked beans (1 cup)	Chocolate ice cream (1/2 cup)
2	Calories per serving	260	110	290	231	270	160
3	Grams of fat per serving	3	2	13.0	15.7	4.0	8.0
4	Percent of Calories from fat						

Algebra (patterns and functions) 6

Look at these instructions for cooking a turkey: *Allow 20 to 25 minutes per pound for birds up to 6 pounds. For larger birds, allow 15 to 20 minutes per pound. For birds weighing over 16 pounds, allow 13 to 15 minutes per pound.*

1) Fill out this table according to the above instructions

Weight of turkey	Minimum cooking time	Maximum cooking time
2		
4		
6		
8		
10		
12		
14		
16		

2) Suppose ***y*** represents the time required to cook the turkey, and ***x*** is its weight in pounds. Can you find values of ***a*** and ***b*** to use in this equation so that ***y*** is always between the minimum and maximum cooking time, per the chart above, for any value of ***x***?

$$y = ax^2 + bx$$

Smoothies

Smoothie #1

1 cup skim or lowfat milk
3/4 cup plain yogurt
1 banana
4 strawberries
1/2 tsp. vanilla extract

____ cup skim or lowfat milk
____ cup plain yogurt
____ banana
____ strawberries
____ tsp. vanilla extract

Smoothie #2

1 cup skim or lowfat milk
3/4 cup plain yogurt
1/2 orange
4 strawberries
1/2 cup oatmeal

____ cup skim or lowfat milk
____ cup plain yogurt
____ orange
____ strawberries
____ cup oatmeal

Smoothie #3

1/2 cup skim or lowfat milk
3/4 cup plain yogurt
1/2 cup apple juice
1 banana
1/2 cup oatmeal

____ cup skim or lowfat milk
____ cup plain yogurt
____ cup apple juice
____ banana
____ cup oatmeal

Smoothie #4

1/2 cup skim or lowfat milk
3/4 cup plain yogurt
1/2 cup apple juice
4 strawberries
1/2 tsp. vanilla extract

____ cup skim or lowfat milk
____ cup plain yogurt
____ cup apple juice
____ strawberries
____ tsp. vanilla extract

Teaching Guidelines: Smoothies
Math Topic: Fractions

Materials:

- Ripe bananas (one for every two students)
- Fresh strawberries (three per student)
- Oranges (one for every four students)
- Plain yogurt (one cup for every two students)
- Skim milk (one cup for every two students)
- Apple juice (one cup for every four students)
- One bottle vanilla extract
- One box of instant oatmeal

For each team:

- One set of measuring spoons and cups
- One quart container
- Four paper cups

You will also need at least one blender, two if possible.

Students should work in teams of four for this activity.

In this activity, you will give each team a copy of the "Smoothies" handout and a certain amount of one of the smoothie ingredients. The team will then choose an appropriate smoothie recipe, and determine how much of each of the other ingredients they will need in order to have the same relative amounts of all ingredients as in their recipe. They will then fill in the chart below their recipe with these amounts. Once you have checked and approved these figures, students may collect the rest of their ingredients from your "pantry" and put them all in their quart containers. Teams can then take turns using the blender to mix their ingredients, pouring their finished smoothies back into their quart containers. Once all teams have completed the activity, you may allow students to drink their smoothies. (Be sure to have alternative special snacks available for students who have allergies to dairy products or any of the other ingredients.)

Here are suggestions for the amounts of initial ingredients to give the teams.

Starting ingredient	Factor by which recipe would have to be increased
2 1/2 bananas	5/2
9 strawberries	9/4
1 3/4 cup yogurt	7/3
1 1/2 cups skim milk	3/2

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Creating a Campground, #4009	Creating campsites in the New Mexico wilderness calls for a knowledge of ratios and proportions.
The Art Director, #4004	A set is a place where actors can be placed for filming. Creating a set where everything fits just right calls for an understanding of area.
Float Designer, #4016	To create a beautiful float for the Rose Parade, you have to think about what goes underneath all of those flowers