Title: Cooking with Whole Grains

Purpose: To provide school food service personnel with the knowledge and skills to comply with the New Nutrition Standards for Idaho School Meals for serving whole grains in their NSBP and NSLP programs.

Learner Objectives:

1) Explain the New Nutrition Standards for Idaho School Meals for whole grains.
2) Read food labels and ingredient lists to identify whole grain foods.
3) Differentiate between products that are made from whole grain and those that are misleading.
4) Identify a variety of whole grains to be offered at school breakfasts and lunches.
5) Practice cooking skills to prepare whole grain foods.

Presenter Materials:

1) Instructor's guide
2) Computer & projector
3) Food package labels for label reading activity – divide labels into four groups of six labels
4) USDA Recipes for recipe modification activity – divide recipes into four groups of six recipes
5) Samples of raw grains (buckwheat, steel cut oats, quinoa, bulgur, wheat berries, cracked wheat) for class participants to look at
6) Prepared samples for taste testing (barley, quinoa, wheat berries, commodity pancakes)
7) Recipes for "Whole Grain Chef" competition
8) Groceries on shopping list

Participant Materials:

1) Agenda
2) PowerPoint note pages
3) What is a Whole Grain? handout
4) Label reading activity
5) Recipe modification activity
6) Whole grains cooking chart
7) Recipe packet
8) Evaluation

Instructor's Guide
Cooking with Whole Grains
Idaho State Department of Education, Child Nutrition Programs
"This institution is an equal opportunity provider."

Pre-class Prep

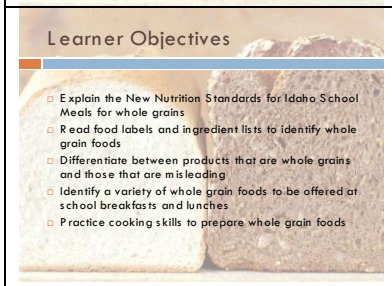
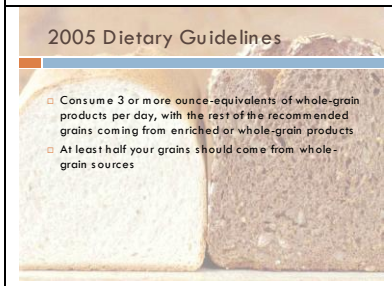
1) Set up computer & projector
2) Prepare quinoa, barley, and wheat berries before class for taste testing
3) Set up labels and recipe packets for Activity 1 & 2
4) Set up groceries and recipes for cooking competition

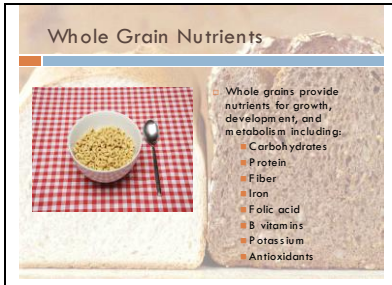
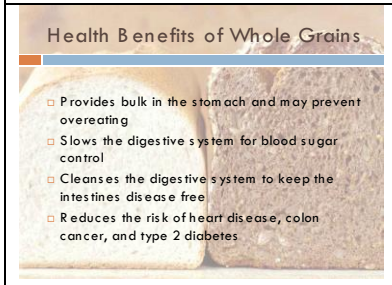
Time:

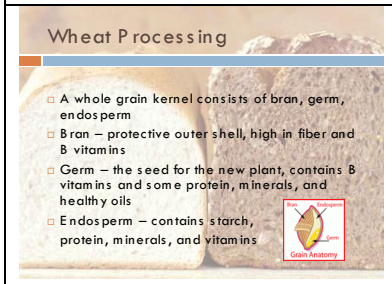
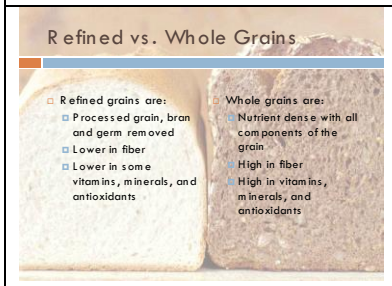
Welcome	15 minutes
PowerPoint slides	60 minutes
Label reading activity	20 minutes
Recipe modification activity	25 minutes
Whole grain recipe review	15 minutes
Break	15 minutes
Cooking competition	45 minutes
Taste testing	15 minutes
Clean up	15 minutes
Questions, certificates, evaluation	15 minutes

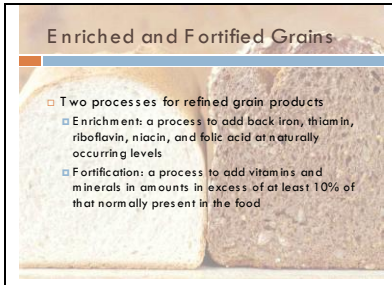
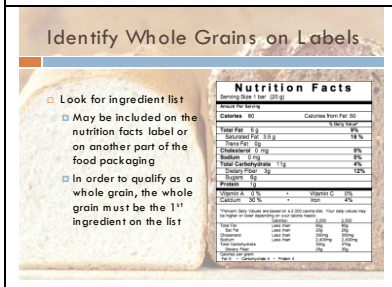
Trainer Script:

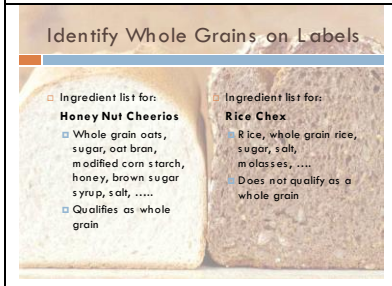
PowerPoint Slide	Script	Activity Notes
	Slide 1: Welcome to Cooking with Whole Grains	

	Slide 2: Introduce yourself. Ask participants to introduce themselves by giving their name and the school or district were they work. Also, ask participants to mention the most unique whole grain food they serve on their menus.	(Welcome and introductions will take approximately 20 minutes)
	Slide 3: I hope you are able to leave here today and be able to: 1) Explain the New Nutrition Standards for Idaho School Meals for whole grains 2) Read food labels and ingredient lists to identify whole grain foods 3) Differentiate between products that are made from whole grain and those that are misleading 4) Identify a variety of whole grain foods to be offered at school breakfasts and lunches 5) Practice cooking skills to prepare whole grain foods	
	Slide 4: In 2005, new Dietary Guidelines were released for Americans two years of age and older. The Dietary Guidelines are developed based on the most current and reliable nutrition research. The Dietary Guidelines say Americans are encouraged to consume 3 or more ounces of whole grain foods per day. In other words, at least half your grains should be from whole grain sources.	

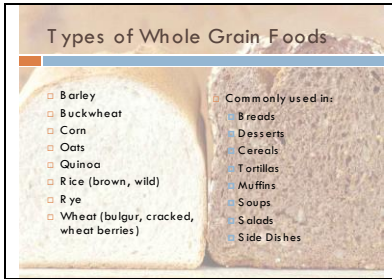
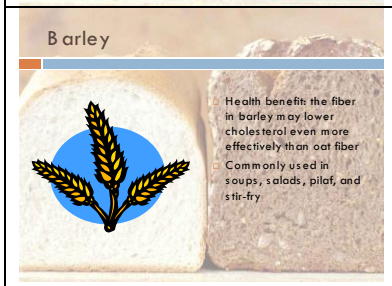
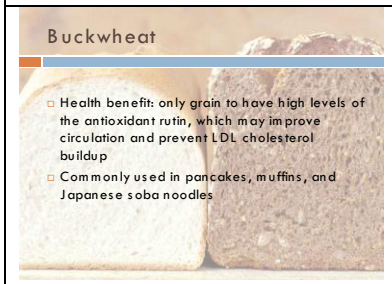
	Slide 5: Whole grains are important in the diet because they provide many of the nutrients our bodies need. Whole grains provide a mix of nutrients including carbohydrates, protein, fiber, iron, folic acid, B-vitamins, potassium, and antioxidants for growth, development, and metabolism. Whole grain foods provide a balanced source of many of the nutrients our bodies need.	
	Slide 6: In addition to growth, development, and metabolism, whole grains provide many other health benefits. They are an excellent source of fiber. Fiber is a non-digestible carbohydrate that provides bulk to the foods we eat. This bulk helps us feel full faster and slows the digestion and absorption process to help with blood sugar control. The fiber bulk helps move food and byproducts through the intestines, which help the muscles of the intestines work properly and keeps the gastrointestinal tract free of waste products, toxins, and disease-causing microorganisms. This helps to reduce the risk of heart disease, cancer (especially colon cancer), and diabetes.	
	Slide 7: Beginning school year 2009-2010, New Nutrition Standards for Idaho School Meals will be in place. Food Service Directors have already received a booklet explaining the new standards. Here is an example of what the booklet looks like. I will pass it around for you to take a look. The New Nutrition Standards state, "SFA's shall offer one whole grain food in all serving lines 3 x week at breakfast and lunch." This means that each choice line or bar you offer students should provide a whole grain food at least 3 times a week.	Show copy of the New Nutrition Standards for Idaho School Meals booklet.

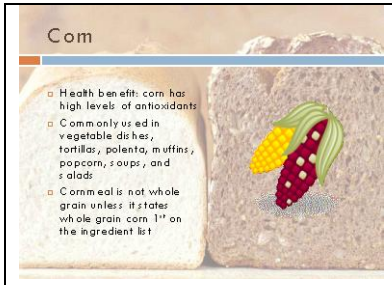
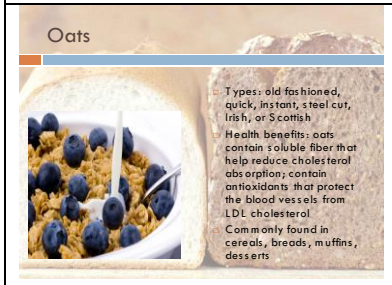
	Slide 7 Cont: Related to this standard, whole grains are defined as a homemade food with more than 50% of the grains in the recipe as whole or purchased foods with the whole grain ingredient listed first on the ingredient list.	
	Slide 8: So what exactly is a whole grain? All grains, when they grow in the field, have three parts: the bran, germ, and endosperm. Bran is the protective outer shell that is high in fiber and B-vitamins. The germ is the seed part of the grain. The germ is rich in B-vitamins, minerals, some protein, and healthy oils. The endosperm contains starch, protein, and some vitamins and minerals. Whole grains, or foods made from it, contain all parts of the grain kernel and all of the naturally occurring nutrients. Enriched "white" flour contains only the endosperm, while whole grain flour contains extra protein, fiber, vitamins, and minerals that are only found in the bran and germ. All three parts of the grain are important.	
	Slide 9: In wheat, when the bran and the germ are removed, the endosperm remains. This is the process of refining wheat into flour. The endosperm is ground into un-enriched white flour. In terms of comparing the nutritional value of refined grains vs. whole grains, refined grains are lower in fiber, vitamins, minerals, and antioxidants. Whole grains are higher in all of these nutrients.	

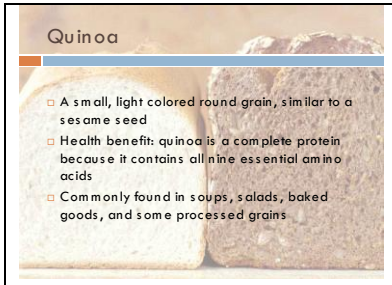
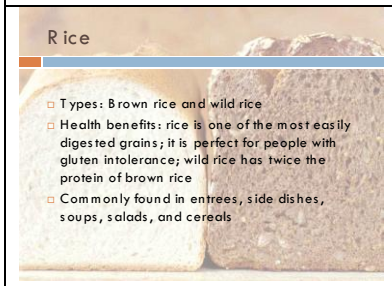
	Slide 10: There are two processes used by food manufacturers to enhance the nutritional value of refined grains. When whole grains are refined, the nutrient content of the product is diminished. Because of this loss of nutrients, the Enrichment Act of 1942 was instated. Nutrients that are added back in the enrichment process include: iron, thiamin, riboflavin, and niacin. Folate was amended in 1996, and as of January 1, 1998 was added back into refined bread and cereal products. Nutrients are added back to enriched products at naturally occurring levels. On the other hand, fortification is a process to add vitamins and minerals to refined food products in amounts in excess of at least 10% of those normally present in the original product. Whole grain bread is still more nutritious than enriched white bread. This is because not all the nutrients lost by refinement are added back into the food. Specifically, vitamin B6, magnesium, and zinc are not included in the enrichment process. Further, the fiber content is greatly diminished by refining whole grains. Thus, the benefits of fiber are not obtained from consuming the refined grain product as compared to the whole, unrefined grain.	
	Slide 11: Let's go over how to identify whether a processed or prepared food product is whole grain. First, locate the ingredient list on the food packaging. It may be at the bottom of the nutrition facts label or it may be in another location on the label.	Pass around two examples of ingredient lists: one located with the nutrition facts label and one located somewhere else on the food package.

	Slide 11 Cont: Second, read the ingredient list. The ingredients are listed in descending order by weight. Therefore, the first ingredient listed is the primary ingredient. If the first ingredient is a whole grain ingredient, then the product is whole grain. If the first is an enriched or refined grain, the product is not whole grain. It is important to know that whole grain foods cannot be identified by the color of the food; label-reading skills are needed when looking at grains. For many grain products the word "whole" or "whole grain" will appear before the grain name.	
	Slide 12: Now, lets look at an example, I am going to pass around two cereal boxes. Both boxes make a claim about whole grains on the front of the box. Can I have a volunteer read us the first three ingredients on the Honey Nut Cheerios label? *Allow volunteer to read the label.* So what is the first ingredient? Is the product whole grain? Yes. Can I have a volunteer read us the first three ingredients on the Rice Chex? *Allow volunteer to read the label.* So what is the first ingredient? Is the product whole grain? No. *FYI, the Idaho Department of Education, Child Nutrition Programs do not endorse the use of any particular brand*	Pass around the cereal boxes for Honey Nut Cheerios and Rice Chex.

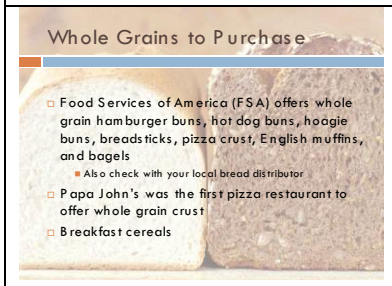
	or product. This is simply an exercise in label reading.	
	Slide 13: Complete Activity 1 4 groups – 6 labels each Sort into whole / non-whole Note claims on packaging • While groups work, pass out plates/spoons	Activity 1 (15 minutes) We are going to divide into four groups to practice reading labels and ingredient lists. Count off 1 through 4, and then, we will divide into groups. Each group will be given 6 labels. As a group, I want you to locate the ingredient list and write down the first three ingredients of each food. Then, identify the products that are whole grain and those that are not. Note any whole grain claims on the packaging. Are these claims on the whole grain foods reliable or are they misleading? Finally, select a group reporter to share your findings with the class. You will have about 8 minutes to read the labels, and then we will share what you found.

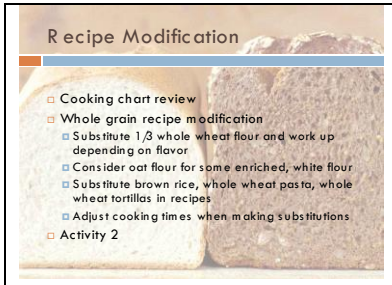
	Slide 14: We will now review specific types of whole grains. We will look at the grain before it is cooked, talk about specific health benefits, list types of the whole grain, and talk about common uses for the food. For some of the less familiar grains, we will also taste test them.	Pass out paper plates and plastic spoons for tasting.
	Slide 15: The first grain is barley. I am going to pass around a container of whole grain barley for you to look at. The fiber in barley is helpful in reducing cholesterol. Whole grain barley is a whole grain food. Pearled barley is not considered a whole grain. Barley is commonly used in soups, salads, pilaf, and stir-fry. I have some prepared whole grain barley for you to taste.	Pass around a container of whole grain barley for the class to look at. Pass out the prepared barley to taste.
	Slide 16: The next food we will look at is buckwheat. Ironically, buckwheat is not a grain, but is a close cousin to rhubarb. However, because buckwheat has a nutty flavor and provides nutrients similar to other whole grains, it is included. I am going to pass around a container of buckwheat for you to look at. Buckwheat contains the antioxidant rutin, which is helpful in improving circulation and preventing LDL cholesterol build-up. Buckwheat is commonly used in pancakes, Japanese soba noodles, and muffins. You will get to try buckwheat during our Whole Grain Chef competition.	Pass around a container of buckwheat for the class to look at.

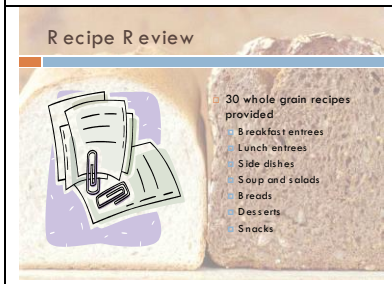
	Slide 17: The next grain is corn. Corn is familiar to all of us, but commonly thought of as a vegetable. Corn has high levels of antioxidants. Whole grain corn and corn meal, popcorn, whole grain corn tortillas, and polenta are common sources of corn. Corn is also frequently used in soups and salads. Slide 17 Cont: Be careful to examine the label of your cornmeal before assuming it is a whole grain product. De-germed cornmeal is not a whole grain food.	Ask Heidi to heat up samples of the commodity pancake. Pass around sample of whole grain cornmeal.
	Slide 18: The next grain is whole oats. Oats come in many varieties including: old fashioned, quick cooking, instant, steel cut, Irish, and Scottish. I will pass around some steel cut oats for you to look at. Oats are almost never processed (removing the bran and the germ); therefore, if you see oats or oat flour on the label, you can be certain it is a whole grain product. Oats are an excellent source of soluble fiber, which helps lower cholesterol by binding it in the intestinal tract for elimination from the body rather than absorption into the blood stream. Oats have a sweet flavor that makes it a breakfast cereal favorite. Oats are commonly used for cereals, breads, muffins, and desserts.	Pass around a container of steel cut oats for the class to look at.

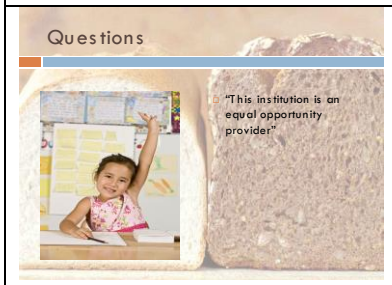
	Slide 19: Quinoa, is pronounced keen-wa. Go ahead and say it with me. Quinoa. This is a small round grain that looks like a sesame seed. I will pass around some for you to look at. Quinoa is a complete protein source because it contains all nine essential amino acids like meats and dairy products. Most plant sources of protein do not contain all nine essential amino acids. This makes quinoa an excellent grain choice for vegetarians. Slide 19 Cont: Quinoa is found in soups, salads, baked goods, pilaf, and some processed grains. I have some prepared quinoa for you to taste.	Spell the pronunciation to the class. Pass around a container of quinoa for the class to look at. Pass around prepared quinoa samples for taste testing.
	Slide 20: Brown rice and wild rice are considered whole grains. Wild rice is not rice, but rather the seed of an aquatic grass. Both brown rice and wild rice are good sources of fiber and easily digestible. Brown rice and wild rice are good choices for people with gluten intolerance. Brown rice and wild rice take longer to cook than white rice, and are commonly found in entrees, side dishes, soups, salads, and cereals.	

	Slide 21: The next grain is rye. Rye was once thought of more as a weed than a grain. However, because it is especially hardy in cold climates, its use became more widespread. Rye has an unusual amount of fiber in its endosperm. Rye is commonly used in breads and baked goods.	
	Slide 22: The final grain is wheat. Wheat should be the most familiar to all of us. However, some forms of wheat such as bulgur, wheat berries, and cracked wheat may be less familiar. I have samples of all three of these for you to look at. Whole wheat is a good source of fiber, vitamins, minerals, and essential oils. Wheat is commonly found in breads, cereals, pasta, soups, salads, and entrees. I have some cooked wheat berries for you to taste. Slide 22 Cont: What did you think about the grains you have tasted? How would you describe the flavors of the grains? How can you introduce some of these grains into your school breakfast and lunch programs?	Pass around containers of bulgur, wheat berries, and cracked wheat for the class to look at. Pass around prepared samples of wheat berries for taste testing.
	Slide 23: Idaho School Food Authorities have access to whole grain or whole-wheat commodities. In addition to whole wheat flour, spaghetti, and rotini, whole grain pancakes and tortillas have been introduced this year. I have brought samples of the whole grain pancake for you to try. We will be using the whole grain tortilla in our	Pass around samples of the whole grain pancake for taste testing.

	Whole Grain Chef competition.	
	Slide 24: Commercial vendors have whole grains foods available for schools to purchase. As a buyer, you will have to be specific as to the definition of a whole grain food because the vendor representatives will likely not understand what qualifies as a whole grain. Food Services of America (FSA) offers a variety of whole grain or whole wheat bread products, such as hamburger buns, hot dog buns, hoagie buns, breadsticks, pizza-crust, English muffins, and bagels. Your local bread vendor will likely have a selection of whole grain or whole-wheat products as well. Also, if you are a school that purchases pizza from a restaurant chain to serve at your school, ask the restaurant if they offer a whole grain crust. Papa John's was the first pizza franchise to offer whole grain pizza crust on all their pizzas. Slide 24 Cont: Finally, most breakfast cereals are now whole grain because the manufacturers have changed many of their recipes in the past several years. Remember to look at the label and make sure that whole wheat or a whole grain is the 1st ingredient on the ingredient list when looking at any prepared food.	

	Slide 25: In your packet, you have been provided with a Whole Grains cooking chart. This chart outlines how to cook and prepare many of the grains we have discussed and some additional grains you may want to try. The ratio of grains to liquid is included as well as the approximate cooking time. Note many of the cooking times for whole grains are longer than the cooking time for the refined grains. Next, I want to talk about how you can include more grains on your school breakfast and lunch menus. Do you need to come up with all new recipes? No. Take your existing recipes and work on modifications. For example, you can take a baked good recipe and substitute 1/3 whole-wheat flour for white flour and see how it turns out. If that works, try ½ whole-wheat flour, and see what happens. You may want to substitute oat flour for some white flour. Also, look to substitute brown rice, whole-wheat pasta, and whole grain tortillas in existing recipes. Remember to adjust cooking times to reflect the additional time needed to cook with whole grains. In your packet, turn to activity 2.	Activity 2 (25 minutes) Let's divide into four groups. Line up according to birth date, and I will break you into groups. Each group will be given six USDA recipes and the Activity 2 worksheet. I want each group to select three recipes to modify. For each recipe, your goal is to make it a whole grain recipe. Therefore, <50% of the grains in the recipe must be whole grain. *Remember, be practical. Don't switch out all the white flour for wheat flour or you may have a hard, undesirable final product.* You need to write down the name of the recipe, the recipe modifications with quantities, and adjust the cooking directions needed to accommodate the modifications. Appoint a group reporter to share your modifications with the class. You will have 15-20 minutes to review your recipes, work on your modifications, and a couple minutes for each group to share

		what you come up with.
	Slide 26: Ask the class to go to the whole grain recipe section of their packet. Give them a few minutes to look over the recipes. Describe what is unique about some of the recipes such as the Baked Oatmeal, Granola, Fruit Pizza, Cinnamon Toast Crunch Treats, and Chili. Explain that the breakfast burrito, breakfast cookie, bean burrito, chocolate chip cookie, cinnamon rolls, fruit crisp, fruit pizza, gingerbread, pasta salad, pizza wrap, pumpkin muffin, rocket bars, rolls, sugar cookies, Swedish apple pie, turkey wrap, vegetable quesadilla, and vegetable wrap all use whole grain commodity products. Ask, does anyone have other ideas for whole grain recipes?	
	Slide 27: Go ahead and take a 15-minute break. When you return, we will begin our “Whole Grain Chef” competition. Complete Activity 3 Slide 27 Cont:	Activity 3 (1 hour, 15 minutes) Line up alphabetically according to your last name. I will divide you into four groups. Each group will appoint someone to go to the recipe table and select a recipe for the group to prepare after I say start. Then, a member of the group will go to the ingredient table to retrieve your ingredients. You will have 50 minutes to prepare your recipe.

		As a group, you will need to come up with two recipe modifications that you would want to try with your recipe and appoint a group reporter to describe what you made and report your recipe modifications. You will need to prepare ~20 samples of your recipe to share with the class. The other group members will pass out the samples while the reporter is talking to the class about what you have prepared. You will be given 10 minutes to clean up your kitchen. Please keep in mind we need to leave the kitchen the way we found it.
	Slide 28: Does anyone have any questions? Thank you for attending Cooking with Whole Grains. Your participation and comments were appreciated. I am going to pass out the evaluations for you to complete before you leave. I will also be passing out certificates for attending the training.	