Kitchen Lesson K8-3

Independence Series

Chow Mein

**Communication**
Students work from a recipe without direct instruction from the teacher and utilize other students as a resource to answer questions and solve problems.

**Life Skills**
Students learn about high heat cooking, prepare and stage all of their ingredients and practice their stir-frying technique.

**Academics**
This lesson fulfills Common Core State Standards for collaborative discussion; speaking and listening; language; following multistep procedures; integrating quantitative or technical information; Health Standards for making healthy food choices; safe food handling and preparing nutritious food.

**Nourishment**
Students hear an example of a personal food narrative and begin to think of stories and connections of their own.

**Sustainability**
The same seasonal vegetables in the previous lesson are used to prepare a new recipe from a different cuisine, which emphasizes the versatility of those vegetables.
Independence Series Lesson #3: 
Chow Mein Abstract

Summary
In this 8th Grade humanities lesson, students learn about high heat cooking in Chinese cuisine and practice their stir-fry technique.

Objectives
After this lesson, students will be able to:
• Prepare stir-fry noodles and vegetable dishes using appropriate knife and cooking techniques
• Read and implement a recipe and adapt seasoning to their taste

Assessments
During this lesson, students will:
• Cut vegetables into consistent small pieces and stir-fry vegetables and chow mein noodles
• Read the Chow Mein recipe and adjust the seasonings to match their taste preference

Communication is strengthened by working from a recipe without direct instruction from the teacher and utilizing other students as a resource to answer questions and solve problems. Sustainability is highlighted by using the same seasonal vegetables as in the previous lesson to prepare a new recipe from a different cuisine, which emphasizes the versatility of those vegetables. Nourishment is valued by hearing an example of a personal food narrative and beginning to think of stories and connections of our own. Life Skills are sharpened as students learn about high heat cooking, prepare and stage all of their ingredients and practice their stir-frying technique.

Academics fulfill Common Core State Standards for collaborative discussion; speaking and listening, language; following a multistep procedure; integrating quantitative or technical information; Health Standards for making healthy food choices; safe food handling and preparing nutritious food. See Connections to Academic Standards below for details.

Edible Schoolyard curriculum emphasizes developing community and personal stewardship, along with skills that will help students navigate different situations throughout their lives; choosing the right tool for each job; mastering knife skills;
knowing **ingredients** and understanding **seasonality**; mastering **techniques**; and customizing and improving **recipes**. See **Connections to Edible Schoolyard Standards** below for details.

This lesson follows the BEETLES Project’s **Learning Cycle** (Invitation -> Exploration -> Concept Invention -> Application -> Reflection) and uses their **Discussion Routines** (Think-Pair-Share, Whip-Around). All are highlighted in **Green** with an asterisk for easy identification. See the documents BEETLES_Discussion_Routines.pdf and BEETLES_Learning_Cycle.pdf included in **Resources** below for more information. Games and activities from other sources are also identified in **Green**, without an asterisk.

**Connections to Academic Standards**
Common Core State Standards, English Language Arts and Literacy, Grade 8
- **SL.8.1** Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on **grade 8 topics, texts, and issues**, building on others’ ideas and expressing their own clearly.
  - **SL.8.1.a** Come to discussions prepared, having read or researched material under study; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion.
  - **SL.8.1.b** Follow rules for collegial discussions and decision-making, track progress toward specific goals and deadlines, and define individual roles as needed.
  - **SL.8.1.b** Pose questions that connect the ideas of several speakers and respond to others’ questions and comments with relevant evidence, observations, and ideas.
  - **SL.8.1.c** Acknowledge new information expressed by others, and, when warranted, qualify or justify their own views in light of the evidence presented.
- **SL.8.4** Present claims and findings, emphasizing salient points in a focused, coherent manner with relevant evidence, sound valid reasoning, and well-chosen details; use appropriate eye contact, adequate volume, and clear pronunciation.
- **SL.8.6** Adapt speech to a variety of contexts and tasks, demonstrating command of formal English when indicated or appropriate. (See grade 8 Language standards 1 and 3 on page 53 for specific expectations.)
- **L.8.1** Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.
  - **L.8.1.d** Recognize and correct inappropriate shifts in verb voice and mood.
- **L.8.3** Use knowledge of language and its conventions when writing, speaking, reading, or listening.
- **L.8.6** Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases; gather vocabulary knowledge when considering a word or phrase important to comprehension or expression.
• RH.6-8.4 Determine the meaning of words and phrases as they are used in a text, including vocabulary specific to domains related to history/social studies. RL.6.7 Integrate information presented in different media or formats (e.g., visually, quantitatively) as well as in words to develop a coherent understanding of a topic or issue.
• RST.6-8.3 Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.
• RST.6-8.7 Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table).
• RST.6-8.10 By the end of grade 8, read and comprehend science/technical texts in the grades 6–8 text complexity band independently and proficiently.

Health Education Content Standards for California Public Schools, Grades 7&8,
• 1.4.N Describe how to keep food safe through proper food purchasing, preparation, and storage practices.
• 1.8.N Identify ways to prepare food that are consistent with current research-based guidelines for a nutritionally balanced diet.
• 4.1.N Demonstrate the ability to use effective skills to model healthy decision making and prevent overconsumption of foods and beverages.
• 7.1.N Make healthy food choices in a variety of settings.
• 7.2.N Explain proper food handling safety when preparing meals and snacks.

Connections to Edible Schoolyard Standards
Edible Schoolyard 3.0
In the Edible Schoolyard Program
• 1.0 Students work with each other and teachers to develop community and personal stewardship, along with skills that will help them navigate different situations throughout their lives.
• 1.1.1 – 1.3.12 This lesson fulfills all Edible Schoolyard Program standards, numbers 1.1.1 through 1.3.12. See The Edible Schoolyard Berkeley Standards for details.

In the Kitchen Classroom, 8th grade
• Tools 2.1.1 Choose the right tool for each job at the ESY Cooking Station, anticipate steps of the recipe, and take initiative to cook independently.
• Tools 2.1.3 Demonstrate mastery of knife skills, safety and care using knives from the ESY Toolbox.
• Techniques 2.2.4 Demonstrate a working knowledge of **ingredients**, understand and explain seasonality, and identify which ingredients are grown in particular seasons.
• Techniques 2.2.5 Demonstrate mastery of a wide variety of cooking **techniques**, reliably choose the right technique for each job, and compare and contrast technique differences in conversation.
• Techniques 2.2.6 Read and follow **recipes**, customize recipes when alterations and adjustments are possible, and improvise recipes after choosing seasonal ingredients.
Independence Series Lesson #3:  
Chow Mein Lesson

Materials
For the Chef Meeting
- K8-3 Visual Aid
- Chow Mein Recipe
- Ingredients and tools for demonstration

Ingredients
- Canola oil
- Garlic
- Ginger
- Seasonal vegetables
- Fresh noodles
- Soy sauce
- Sesame oil
- Corn starch
- Oyster sauce (optional)
- Scallions (optional, to garnish)
- Cilantro (optional, to garnish)

Tools
- Wok
- Stock pot
- Mixing bowls
- Colander or spider spoon (for draining noodles)
- Wooden spoons
- Vegetable peeler
- Crinkle cutter
• Garlic peeler
• Chefs’ knives
• Paring knives
• Cutting boards
• Measuring cups
• Measuring spoons
• Chopsticks

Equipment
  • Stove

Timeline Overview
Total Duration: 90 minutes
  1. Invitation* (5 minutes)
  2. Concept Invention* (15 minutes)
  3. Application* (60 minutes)
  4. Reflection* (10 minutes)

Before you Begin
• Create the Visual Aid
• Copy the Chow Mein recipe
• Gather tools and ingredients and distribute to tables
• Put water on to boil in stock pot for cooking noodles

Procedures
Welcome
  1. Invitation*: (5 minutes)
     a. Welcome students and introduce Vegetable Chow Mein as a chance to use many of the vegetables from the roasting lesson in a new recipe.
     b. Emphasize how the seasonings you choose and the sauces you make can create a new dish out of the same basic ingredients.
At the Chef Meeting

2. Concept Invention*: (15 minutes)
   Students hear a personal food narrative from one of the Chef Teachers.
   
   a. Introduce chow mein with a personal narrative.

   b. Nick’s personal narrative:

Something you may not know about me is that I am Chinese. My father’s family is from a village outside of the southern Chinese city of Zhongshan, near Hong Kong. My father and mother both love to cook and have taught me much of what I know about food and cooking. I’ve always enjoyed learning from them in the kitchen.

I particularly enjoy when my dad puts on his tattered grey apron and prepares some of the foods that his mother used to cook for him. One of the most exciting types of cooking he has taught me is stir-frying. To stir-fry he heats up a wok, a large broad pan with a round bottom, over very high heat. Once it is smoking hot he adds oil followed by aromatic vegetables like garlic, ginger, and scallion in rapid succession.

From that moment on, there is never a break in his movement. All of the rest of the ingredients are already prepared, neatly chopped and placed in small bowls by the side of the stove. They get added with a flourish into the sizzling mixture in the wok. To mix a new ingredient in he tosses the mixture into the air and then stirs using a long, shovel-shaped spatula called a wok chuan. The constant movement and stirring is key to keep anything from burning as the wok is over very high heat.

The searing heat gives a distinctive smoky flavor called wok hei, or the breath of the wok. Today we are going to be making Chow Mein, a stir-fried egg noodle dish originally from the Taishan area just southwest of Zhongshan.

   c. Molly’s personal narrative:

Something you may not know about me is that I actually grew up training in Chinese acrobatics. My acrobatics coaches were originally from China and hoped that one day I would choose to be a professional circus artist. When I chose to go to college, I felt that I had let them down. I wanted some way to honor my relationship with them and their impact in my life, so I decided to learn Chinese. Over the next few years, I studied the language, and eventually spent time in China studying abroad. While I was in
China, one of my favorite things to eat was "chao mian," which in the U.S. we call chow mein.

One of the things I love most about the Chinese language is how much information and culture is contained in how the characters are written. For example, the characters for chow mein (write “炒麺” on the blackboard) actually contain all of the most important information about how the dish is made.

The first character, 炒 (“chao”), literally means “stir-fry” which is the technique that we’ll be using today. It shows a fire on the left side, while the right side tells you that the character is pronounced “chao.” Fittingly, it also looks like a person with a long spoon – in the technique of stir-frying, one cooks vegetables or meat over high heat, so hot that you have to keep stirring almost constantly in order to make sure that your food doesn’t burn. 麵 (“mian”) is the character for wheat noodles, with “wheat” on the left and the “mian” sound on the right. When you put the two together, you get a dish of stir-fried wheat noodles, or chow mein.

d. Ask the students to wash their hands and join their table group.

At the Table
3. Application*: (60 minutes)
   Students make Chow Mein.
   a. Meet with the table groups to introduce the ingredients, review the recipe, and assign jobs.
   b. Prepare the recipe.
   c. Set the table; eat; clean up.

At the Closing Circle
4. Reflection*: (10 minutes)
   Students reflect on today’s class time.
   a. Ask students to share some ideas for their own personal food narratives.

Contributors
All lessons at the Edible Schoolyard Berkeley are developed in collaboration with the teachers and staff of the Edible Schoolyard and Martin Luther King Jr. Middle School.
Learning Cycle and Think-Pair-Share discussion routine © The Regents of the University of California. All materials created by BEETLESTM at The Lawrence Hall of Science.

**Resources**

- K8-3_Visual_Aid.pdf
- Chow_Mein_Recipe.pdf
- BEETLES_Learning_Cycle.pdf (See lesson G6-0)
Vegetable Chow Mein

**Tools**
- **Wok**: A Chinese pan used to stir-fry
- **Spider**: A wire basket with a long handle

**Techniques**
- **Stir-fry**: To cook over high heat in a small amount of oil
- ** Blanch**: To cook quickly in boiling water
- **Shock**: To soak or rinse in cold or ice water after blanching to stop cooking
VEGETABLE CHOW MEIN

1 pound fresh chow mein noodles
3 tablespoons vegetable oil
6 cloves garlic
1 inch piece ginger
4-5 cups seasonal vegetables
1/4 cup soy sauce
1 teaspoon sugar
1 tablespoon sesame oil
2 tablespoons oyster sauce (optional)
1/3 cup water
2 tablespoons cornstarch
freshly ground white pepper

Cook noodles in boiling water for 1 minute. Rinse in cold water, drain, and set aside. Peel and mince the garlic and ginger and combine in a small bowl. Wash the vegetables and cut into bite sized pieces. (optional: blanch cut vegetables in boiling water for 45 seconds). In a small bowl combine the soy sauce, sugar, sesame oil and oyster sauce if using. In another small bowl combine the water and the cornstarch.

Heat oil in wok over high heat. Add garlic + ginger and cook 30 seconds (till fragrant). Add vegetables and cook till tender but still a bit crunchy. Add soy sauce mixture and stir well. Add cornstarch mixture and cook 30 seconds. Add noodles, stir well and cook till noodles are warm. Season with white pepper and serve.