

3: Cooking with pulses

Primary Schoolchildren – Ages 8-11

Aims:

To prepare a nutritionally balanced meal / snack with pulses.

Objectives:

- Students will plan the steps required to create a pulse-based meal or snack.
- Students will prepare, and eat a pulse-based meal or snack.
- Students will promote the benefits (nutritional or otherwise) of their chosen meal.

Resources:

1. Risk assessment (from teacher pack) – cooking with students.
2. A selection of recipe cards (from teacher pack).
3. Cookery planning sheet (from teacher pack).
4. Take home sheets (from teacher pack).

Suggestions for further development:

- The lesson provides a perfect opportunity for students to take home the message of the role pulses can play in a healthy diet. Along with the recipe cards, the 'take home sheet' in the resource pack will allow families to engage in discussion about how they can incorporate pulses into their diet at home. Students could be encouraged to cook for their families at home and share a pulse based meal.
- Alternative recipes can be found at www.pulses.org. Consider selecting a recipe that uses a pulse ingredient grown locally so that the farmer's story can be discussed in class.

*Pulses can play
a big role in a
healthy diet*



- Get the students to 'plate up' and take pictures of their food, with the best being submitted to the School Newsletter (including the recipe) to promote healthy eating.
- Regular cookery lessons could be built into the curriculum using pulses and other foods to promote the idea of healthy eating.
- Class to visit a local supermarket to look for / buy products that have pulses in their ingredients. Followed up by a classroom taste-test.

3: Cooking with pulses



TIME DETAILS

10-15mins Teacher gives out recipe cards (resource 2) to different groups. Teacher can differentiate this task by ensuring that recipe cards match the ability level of the group. Ask the pupils what they think are the main safety considerations that need to be highlighted when cooking. Outline key rules that pupils will have to adhere to during the lesson (use risk assessment (resource 1) as a guide – focus on the use of knives/graters). Pupils using the cookery-planning sheet (resource 3) plan how they will carry out the cooking task – assigning jobs to specific members of the group.

35mins Pupils make their chosen recipe, following the plan they have written and the instructions on their recipe card.

10mins Eat the snack and discuss with the pupils whether they enjoyed their meal and if so what they liked about it. Ask some of the groups to explain whether they feel what they have made is a healthy meal. The pupils can refer back to their work in previous lessons.

Take-home sheets Resource 4a and 4b provide information which pupils can share with their family, and provides basic information about the UN International Year of Pulses, the World Food Programme and the Zero Hunger Challenge (to be approached in more detail in Lesson 6). The take-home sheet also has two additional recipes for pulses that are intended for parents/carers to make with their children.



Resource 1

Risk assessment



Hazard	Who could be harmed	Risk level	Precautions and control measures
Tripping, falling and slipping	Staff and visitors	Medium	<ol style="list-style-type: none"> 1. Floor to be dry and cleaned of food and other matter likely to cause slipping. 2. Cooking area access only to children engaged in the activity and who are under strict supervision. 3. Running, jumping and pushing to be strictly prohibited. 4. Wheelchairs and people who are of restricted movement to be carefully positioned. 5. Table heights to be appropriate to pupil height. 6. Pupils never to stand or kneel on chairs or stools.
Food contamination caused by clothing	Staff and visitors	Low	<ol style="list-style-type: none"> 1. All participants to wear a clean apron reserved solely for food preparation. 2. PVC coated aprons cleaned with hot, soapy water before and after use. 3. Aprons put on only in the cooking area and removed when leaving it for any purpose. 4. Long sleeves to be rolled up, and scarves and other accessories (except for religious head scarf) to be removed.
Food contamination caused by hair, nail polish, rings and bacteria on hands	Staff and visitors	Low	<ol style="list-style-type: none"> 1. Long / medium length hair to fastened back using bands and clips; and wisps to be secured away from face. 2. Prior to food handling, hands to be washed (at hand wash, if available), using hot water and soap and dried with paper towels.
Food contamination caused by cuts, sores, boils and dressings	Staff and visitors	Low to medium	<ol style="list-style-type: none"> 1. Blue plasters used to cover cuts and sores. 2. More extensive existing injuries must be covered with vinyl or latex (plasters or gloves).
Food contamination caused by bacteria spread by illness	Staff and visitors	Low to medium	<ol style="list-style-type: none"> 1. No participant feeling sick or unwell to be permitted to enter the cooking area. 2. No participant suffering or recently recovered from sickness, diarrhoea to be permitted to enter the cooking area.
Food contamination caused by bacteria from equipment and / or surfaces	Staff and visitors	Low and medium	<ol style="list-style-type: none"> 1. Surfaces to be wiped with a disposable cloth retained solely for the purpose. 2. No outdoor / indoor clothing, bags, brief cases, files, books or boxes to be placed on cooking surface. 3. Cooked raw ingredients to be kept separated, both in storage and in preparation. 4. Equipment to be hot washed to remove all food particles and thoroughly dried before storage. 5. Chopping boards and especially plastic bowls to be scrubbed with hot water, detergent and air dried. 6. Food, cleaning agents and cloths including tea towels never to be stored with equipment.
Food contamination caused by bacterial growth during incorrect storage of food	Staff and visitors	Low to medium	<ol style="list-style-type: none"> 1. All foods to be covered to prevent cross contamination. 2. Dry goods to be stored in sealed containers and in a clean, dry designated area well away from cleaning agents, paints, stationary and other potential contaminants.
Food contamination contracted through soil or other growing medium	Staff and visitors	Low to medium	<ol style="list-style-type: none"> 1. Cooking aprons never to be worn when picking or harvesting produce. 2. Hands to be washed thoroughly after picking, harvesting and washing produce. 3. Soil and other growing media to be removed by washing prior to food preparation. 4. Open wounds to be covered prior to handling soil covered produce.
Food contamination contracted through waste on table, in bins or on the floor	Staff and visitors	Low to medium	<ol style="list-style-type: none"> 1. Waste bins to be lined, full bags to be tied and sealed and disposed of promptly. 2. Food waste bins to be washed and disinfected immediately after emptying. 3. Accidental spillages of food to be wiped, swept or vacuumed, and the floor washed before and after (never during) cooking activities. 4. Bags and outdoor clothing never to be placed on work surfaces.

Resource 1

Risk assessment contd.



Reactions to food, allergic or intolerance	Staff and visitors	Medium to high	<ol style="list-style-type: none"> 1. Prior to cooking: all adults, children and visitors are to provide detailed information on any known or suspected allergies or intolerance to food stuffs or cleaning agents. 2. Alternative foodstuffs may be available for any pupils with food allergies or intolerances. In some cases, it may be deemed necessary to exclude certain ingredients from the recipes or, in extreme cases, to exclude the participant from the cooking activity.
Dangers from heat, fire and electrical hazards	Staff and visitors	Low to medium	<ol style="list-style-type: none"> 1. Flammable materials not to be stored or situated close to cookers. 2. Cooker or hob and oven to be operated only by adult in charge. 3. Emergency evacuation procedure to be in place and understood by all participants. 4. Emergency exits to be kept clear or obstruction-free at all times. 5. A fire blanket and suitable fire extinguishers to be available at all times. 6. Electrical equipment must be certified for safe use by an authorised person or body.
Burns from ovens, equipment, liquids or food stuffs	Staff and visitors	Low to medium	<ol style="list-style-type: none"> 1. Oven gloves to be used to carry hot food pans / tins. 2. Pan handles turned inwards but not over hot hobs. 3. Adults only to carry, stir and serve hot liquids. 4. Hot food and liquids never to be unattended and always placed out of reach. 5. Children to be kept well away from cookers and ovens. 6. Ensure the kitchen has all necessary Work Health and Safety equipment including but not limited to fire blankets, fire extinguishers and emergency shower.
Cuts from knives and other equipment including graters	Staff and visitors	Medium	<ol style="list-style-type: none"> 1. All sharp knives and other sharp equipment (e.g. skewers) to be locked in an appropriate place when not in use. 2. Knives to be counted out and in. Sharp knives never to be left out during set up preparation in readiness for lesson or after use. 3. Appropriate type and size of knives to be selected for age of children. 4. Bridge and claw safe cutting techniques to be taught and supervised. 5. Pupils with certain behavioural difficulties to be precluded from using knives. Advice from specialist or head teacher to be sought in doubtful cases. 6. Pupils to be supervised at all times during all cooking activities.
Cuts or injury from electrical processors and blenders including hand blenders	Staff and visitors	Medium	<ol style="list-style-type: none"> 1. Pupils never to be permitted to handle or operate this type of equipment. 2. Equipment to be used only by competent adults and only following perusal of appliance instruction handbook.
Choking on small pieces of food or inhalation of small ingredients	Chiefly children	Medium	<ol style="list-style-type: none"> 1. Tasting sessions to be conducted in a calm, unhurried manner and supervised. 2. Pupils to be encouraged to follow adult guidance on tasting and eating slowly. 3. Pupils never to eat foods from cupped hand with head thrown back. 4. Pupils to taste and eat food only at the invitation of the adult in charge.
Others			

Teacher Name: _____

Teacher Signature: _____

Date: _____

Resource 2

Recipe Cards



Recipe Card 1

BLACK BEAN ANTOJITO



Ingredients:

540ml (19 oz) can black beans, rinsed and drained
 1 lime, squeezed for juice
 2 cloves garlic, minced
 5ml (1 tsp) ground cumin
 5ml (1 tsp) ground coriander
 A pinch each of salt and pepper
 1 avocado, pitted and sliced
 3 red peppers, roasted and skinned
 250ml (1 cup) grated cheddar cheese
 Chickpea Hummus to spread (see Recipe Card 2)
 8 x 10 inch (25cm) whole wheat or regular flour tortillas

Method:

- MASH beans and garlic with a potato masher. Add lime juice, cumin and ground coriander. Season with salt and pepper. Divide into 8 parts.
- SPREAD 1 part of the mashed bean mixture over the whole tortilla.
- SPREAD some of the chickpea hummus over the whole tortilla. Add roasted red peppers and avocado evenly around the tortilla and sprinkle some cheese.
- ROLL up the tortilla. Wrap in plastic or cling film tightly and let cool in fridge for 10 minutes to overnight.
- CUT roll into 1 inch pieces. Enjoy as is or with a sour cream dip.

Recipe Card 2

CHICKPEA HUMMUS



Ingredients:

375ml cooked chickpeas
 OR
 1/2 cup (398ml) canned chickpeas, rinsed and drained
 75ml (1/3 cup) tahini paste
 1 clove garlic, minced
 50ml (1/4 cup) fresh lemon juice
 45ml (3tbsp) vegetable oil
 2ml (1/2 tsp) ground cumin
 5ml (1tsp) salt
 75ml (1/3 cup) water
 2ml (1/2 tsp) hot pepper sauce (optional)

Method:

- MASH chickpeas with a fork mixing in with tahini, garlic, lemon juice, oil, cumin and salt.
- PUREE, adding just enough water to make the mixture creamy and smooth (may need more than 1/3 cup).
- ADD hot pepper sauce if using.

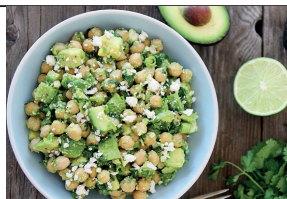
Resource 2

Recipe Cards



Recipe Card 3

BLACK BEAN, CHICKPEA AND AVOCADO SALAD



Ingredients:

- 500ml (2 cups) cooked black beans
- OR
- 540ml (19 fl oz) canned black beans, rinsed and drained
- 500ml (2 cups) cooked chickpeas
- OR
- 540ml (19 fl oz) canned chickpeas, rinsed and drained
- 2 tomatoes, chopped
- 1 red pepper, chopped
- 2 green onions, chopped
- 1 avocado, peeled and chopped
- 5ml (1 tsp) grated lime peel
- 50ml (1/4 cup) lime juice
- 50ml (1/4 cup) olive oil
- 2 cloves garlic, minced
- 1 jalapeno pepper, seeded and finely chopped (optional)
- Salt and pepper to taste

Method:

- PLACE beans, chickpeas, tomatoes, red pepper, onions and avocado in a bowl.
- WHISK dressing ingredients together in a separate bowl, and then mix with salad.
- REFRIGERATE for 1 hour before eating.

Recipe Card 4

LENTIL DHAL



Ingredients:

- 50ml (1/4 cup) butter
- 375ml (1 1/2 cups) diced onions
- 30ml (2 tbsp) crushed garlic
- 2 chilli peppers, cored and diced (optional)
- 15ml (1 tbsp) cumin seeds, toasted and crushed
- 500ml (2 cups) dried lentils
- 30ml (2 tbsp) fresh ginger, minced
- 30ml (2 tbsp) garam masala
- 15ml (1 tbsp) salt
- 5ml (1 tsp) pepper
- 15ml (1 tbsp) granulated sugar
- 1 bay leaf
- 1 tomato, chopped
- 7.5 ml (1/2 tbsp) rice vinegar
- 2 L (8 cups) reduced salt vegetable broth

Method:

- IN large pot, melt butter and stir-fry the onions until wilted, not browned.
- ADD garlic, chilli peppers, cumin, lentils, ginger, garam masala, salt, pepper, sugar, and bay leaf. Saute for 1-2 minutes until aromatic.
- ADD the tomatoes, vinegar and chicken stock.
- BRING to a boil then lower to a simmer stirring occasionally. Cook until lentils are tender, about 1 hour 45 minutes.
- TASTE, adjust seasoning as needed.

Resource 3

Cookery planning sheet



What are you making?

Record each task you will have to do and write the name of the person who will do this job underneath

What ingredients do you need?

What equipment do you need?

1	2
3	4
5	6

Look at the packaging of your ingredients. Are you able to write down the names of three different countries that they came from?

Ingredient:

Country:

Ingredient:

Country:

Ingredient:

Country:

Resource 4a

Take home sheet



International Year of Pulses

What is IYP?

On December 21st 2013, the General Assembly of the United Nations in New York voted to proclaim the International Year of Pulses 2016 (IYP). This is the culmination of almost two years of work by members of the voluntary Executive Committee of the global pulse industry body, CICILS IPTIC. The aim is to raise the profile of pulses within the Food and Agriculture Organisation of the UN (FAO).

PULSES AND FOOD SECURITY

In most developing countries, pulses play a fundamental role as a low-fat, high fibre source of protein, an essential component of traditional food baskets. Pulses, by contributing about 10 percent in the daily protein in-take and 5 percent in energy in-take, are of particular importance for food security in low income countries where the major sources of proteins are non-animal products. In addition, pulses contain significant amounts of other essential nutrients like calcium, iron and lysine. Pulses are included in all 'food baskets' and dietary guidelines.

Pulses and a Balanced Diet

Pulses include beans, lentils and peas. They are a cheap, low-fat source of protein, fibre, vitamins and minerals, and they count towards your recommended five daily portions of fruit and vegetables.

What Are Pulses and Why Are They Important?

Pulses, also known as grain legumes, are a group of 12 crops that includes dry beans, dry peas, chickpeas and lentils. They are high in protein, fibre and various vitamins, provide amino acids and are hearty crops. They are most popular in developing countries, but are increasingly becoming recognized as an excellent part of a healthy diet throughout the world.

Zero Hunger Challenge

Pulses play an important role in the Zero Hunger Challenge, as they are carbohydrate and protein rich source of calories.

The challenge of Zero Hunger means:

1. Zero stunted children less than 2 years old
2. 100% access to adequate food all year round
3. All food systems are sustainable
4. 100% increase in smallholder productivity and income
5. Zero loss or waste of food

Resource 4b

Take home sheet



Recipe Card 1

BLACK BEAN BURGERS



Ingredients:

- 540ml (19 fl oz) can black beans, rinsed and drained
- 250ml (1 cup) cooked brown rice
- 1 small onion, chopped
- 2 green (salad) onions, finely chopped
- 2 mL (1/2 tsp) Tabasco sauce (optional)
- 1 egg
- 50ml (1/4 cup) bread crumbs
- 90ml (6 tbsp) ready-made salsa
- 4 hamburger buns
- 50ml (1/4 cup) low fat plain yogurt
- 4 lettuce leaves, ideally Romaine
- 1 avocado, sliced (optional)

Method:

- IN a large bowl, coarsely mash beans with a potato masher or fork. Add rice, onions, tabasco sauce if desired, egg, breadcrumbs and two tablespoons of salsa. Mix well.
- DIVIDE mixture into 4 and form into patties that are about 1 inch thick.
- PREHEAT oven to 350°F (180°C). Meanwhile, cook over medium heat on a non-stick pan for 4-5 minutes each side or until lightly browned. Transfer to a pan and cook in preheated oven for 10 minutes.
- IN a small bowl, combine remaining salsa and yogurt. Serve with lettuce and avocado (if desired) as a condiment to your burger.

Recipe Card 2

LENTIL AND RASPBERRY CHEWS



Base:

- 325ml (1/3 cup) whole wheat flour
- 75ml (1/4 cup) sugar
- 2ml (1/2 tsp) baking powder
- 2ml (1/2 tsp) cinnamon
- A pinch of salt
- 125ml (1/2 cup) reduced fat margarine
- 1 egg, slightly beaten
- 125ml (1/2 cup) raspberry jam

Lentil Filling

- 1/2 540ml (1/2 19fl oz. can) canned lentils, rinsed and drained
- OR
- 250ml (1 cup) cooked lentils
- 175ml (3/4 cup) brown sugar
- 75ml (1/4 cup) all purpose flour
- 7ml (1 1/2 tsp) baking powder
- A pinch of salt
- 2ml (1/2 tsp) vanilla
- 2 eggs, beaten
- 175ml (3/4 cup) unsweetened shredded coconut
- 125ml (1/2 cup) chopped pecans (optional)

Method:

- PREHEAT oven to 375°F (190°C).
- PUREE lentils in a blender with water. In a separate bowl, combine the base dry ingredients and cut in margarine until coarse crumbs form. Stir in egg and mix thoroughly.
- PRESS base dough into a 9"X13" baking dish and bake for 10 minutes until firm.
- COOL and spread a thin layer of jam over base.
- REDUCE oven temperature to 350°F (180°C). In separate bowl, combine dry ingredients for lentil filling. Mix in lentil puree, vanilla and eggs. Add coconut and pecans if desired. Spread mixture on top of jam.
- BAKE until firm, about 35 minutes.
- COOL and cut into 18 bars.