Power of Pulses Kit

For Adults and Children
Healthy Eating Team
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Description:

The United Nations has declared 2016 the International Year of Pulses. The purpose of the Power of Pulses kit is to increase knowledge of the important role pulses have in food, nutrition, and the environment. This kit includes background information for the facilitator. It also includes three interactive games that provide an opportunity for discussion with the general public on how to identify different pulses, the health benefits of pulses, and how to buy, store, and prepare meals using pulses.

This kit is designed to be used by those you work in the community providing healthy eating information and/or workshops on food: dietitians, nurses, teachers, Community Development Workers, Community Food Advisors, and others.
What's included in this kit:

Background Information
- Includes key messages of pulses and answers to questions that are frequently asked by the public.

Games:
Name that Pulse!
- Game instructions
- 8.5 x 11 game board
- 10 glass jars
- Answer key and hints

Roll the Dice: Pulses Trivia Game
- Game instructions
- Visual display frame with question categories
- Question and answer sheet
- Dice (x2)

Making a Meal with Pulses
- Game instructions
- 20 orange food item cards
- 20 green pulses cards
- Possible Combinations sheet

Resources
- A Taste of Your Local Market Flyer
- Try Legumes You’ll Love Them
- Southwest Baked Bean Soup Recipe
- Vegetarian Chili Recipe
Background Information

Purpose of Pulses Display:

- Raise awareness about the important role of pulses in food, nutrition and its impact on the environment.
- Become familiar with what pulses are and learn the different kinds of pulses.
- Learn how to buy, store, prepare, and use pulses in meals.
- Demonstrate how to prepare a healthy balanced meal using pulses.

Key Messages:

- Pulses are very nutritious
- High in protein
- High in fibre
- A good source of nutrients including B vitamins folate, thiamine, and niacin.
- A good source of minerals like iron, potassium, magnesium, zinc and calcium.
- Pulses have many health benefits
  - Soluble fibre in pulses helps lower blood cholesterol levels.
  - Insoluble fibre helps with digestion as well as maintaining regular bowel movements.
  - Fibre-rich foods like pulses are more filling than other foods, helping to keep you fuller longer.
  - Low glycemic foods such as pulses prevent blood sugars from rising quickly after a meal or snack.
- Pulses are inexpensive
  - The average cost per serving for pulses is much less than meat or fish.
  - ¾ cup of cooked canned pulses is $0.29, while ¾ cup of canned tuna or chicken is $0.75 and ½ cup of steak is $1.37.
- Pulses are good for the environment
  - They produce their own nitrogen fertilizer, lowering the amount of fertilizer needed to grow a crop.
  - Pulse production uses less energy and produces less greenhouse gas than animal based food products.
Frequently Asked Questions:

1. What is the difference between legumes and pulses?
   - Legume refers to the plants whose fruit is enclosed in a pod.
   - Types of legumes are soybeans, peanuts, fresh peas, fresh beans, dried beans, dried peas, chickpeas, and lentils.
   - Pulses are part of the legume family, but the term “pulse” refers to the **dried seed only**.
   - Pulses do not include fresh beans or peas. Soybeans and peanuts also differ because they have a much higher fat content, whereas pulses contain virtually no fat.

2. What are some examples of pulses?
   - Varieties of pulses include:
     - Dried peas (yellow and green pea)
     - Dried beans (red kidney bean, black beans, pinto beans, navy beans, and romano beans)
     - Lentils (green and red lentils)
     - Chickpeas

3. Pulses can be purchased dried or in cans. Is there a difference between them?
   - Canned pulses and dried pulses contain the same amount of fibre and protein.
   - Canned pulses cost a little more than dried pulses, but are still a great buy because they are fast and convenient.
   - Canned pulses are pre-cooked. Rinse canned pulses before using to wash away some of the sodium.
   - Dried peas, chickpeas and beans need to be soaked so they take longer to prepare before cooking.
   - Dried lentils do not need to be soaked, but they need to be cooked.

4. What are some examples of ways I can use pulses?
   - Add cooked beans (black, white, or cranberry) to an omelette.
   - Add chickpeas (whole or pureed) to spaghetti sauce as a substitute for ground beef.
   - Serve hummus (chickpeas) with carrots, celery and other vegetables for a healthy snack.
   - Add cooked pulses to soups.
   - When making pizza, add a handful of cooked black beans to usual pizza toppings.
   - Add pulses to any salad.
5. I am not vegetarian, why should I eat pulses?

- Pulses are very inexpensive compared to other protein containing foods.
- Average cost of canned cooked pulses (3/4 cup) is $0.29 versus $0.48 for tofu (3/4 cup), $0.75 for canned tuna (3/4 cup), $0.75 for chicken (1/2 cup), and $1.37 for steak (1/2 cup).
- Pulses can be stored for long periods of time.
- Canned pulses are pre-cooked which makes them a convenient food to add to meals.
- They are the most sustainable source of protein, so they are good for the environment.
- Canada’s Food Guide recommends choosing beans, lentils, and peas more often as a meat alternative.
- They taste great, are very nutritious, and add variety to the diet.

6. What makes pulses sustainable?

- Pulses use less water than other protein sources.
- Pulses use less fertilizer.
- Pulses improve soil health because they contain food microbes which enrich the soil.
- Pulses have a low carbon footprint; they are resilient in the face of climate change.

7. How many pulses should I eat?

- Canada’s Food Guide recommends eating beans, lentils and peas often as an alternative to meat.
- 1 serving of pulses equal 3/4 cup (175mL), which is about the size of a tennis ball.
- Pulses can be eaten every day. If you do not eat pulses often, start adding them to your diet gradually.

8. Can eating too many pulses be bad for me?

- Eating too many pulses is not bad for you as long as they are part of a healthy diet.
- You can eat pulses everyday at every meal, but if you are not used to eating pulses you may experience some digestive discomfort when you first introduce them into your diet.
- Adding high fibre foods like pulses to your diet slowly will help control bloating and gas if you are not used to them.

9. What types of pulses need to be soaked?

- Dry beans, whole peas and chickpeas must be soaked because their skins do not readily absorb water.
- Lentils do not need to be soaked before cooking.
10. How long do pulses need to be soaked for?

- Soak 1 cup (250 mL) of dried beans, peas, or chickpeas in 3 cups (750 mL) of water and follow one method:
  - **Overnight method**: Let stand 8-12 hours or overnight in refrigerator. Drain.
  - **Quick Method**: Bring pulses to boil and simmer for 2-3 minutes. Remove from heat, cover and let stand 1 hour. Drain.
  - **Microwave method**: Cover and microwave on high for 10-15 minutes and let stand 1 hour. Drain.

11. How should I store dried pulses?

- Store dried pulses in an airtight container, away from sunlight for up to one year.

12. How should I store cooked pulses?

- Cooked pulses should be stored in air tight containers and refrigerated within two hours of cooking.
- Cooked pulses can be kept in covered containers in the fridge for 1-3 days or frozen for up to 6 months.
- Label all containers with a date.

14. Where can I get more information and recipes about pulses?

- Pulses Canada: [www.pulsecanada.com](http://www.pulsecanada.com)
- International Year of Pulses: [www.iyp2016.org](http://www.iyp2016.org)
- Lentils: [www.lentils.ca](http://www.lentils.ca)
- Pulses: [www.pulses.org](http://www.pulses.org)
- Ontario Bean Growers: [http://ontariobeans.ca/](http://ontariobeans.ca/)
- Alberta Pulse: [http://www.pulse.ab.ca](http://www.pulse.ab.ca)
- Manitoba pulse: [www.manitobapulse.ca](http://www.manitobapulse.ca)
Name that Pulse!
Activity #1
Name that Pulse!

Objective: To identify different types of dried pulses by looking at them in jars and matching the dried pulse to the correct name on the board.

Materials:

- 1 cardboard game platform
- 10 different types of pulses in glass jars
  - Green Split Peas
  - Black Turtle Beans
  - Adzuki (Small Red)
  - Laird Class Lentils (Green)
  - Red Lentils
  - Kabuli Chickpeas (Garbonzo Bean)
  - Dark Red Kidney Beans
  - Pinto Beans
  - Cranberry Beans (Romano)
  - Navy Beans
- Answer key and hint sheet for game facilitator

Game Instructions:

- Set up the activity by placing the game board on a table with the 10 glass jars off the board.
- Allow participants to guess the names of the dried pulses by letting them place the glass jars on the board.
- If participants are unable to guess the names of the pulses, help them by using the provided hints on the answer key.
- Once participants have completed placing all the jars on the game board check and make corrections using the answer key.
- Remove all jars from the board to allow the next participant to play the activity.
Answers: Name that Pulse!

- Kabuli Chickpea
- Dark Red Kidney Bean
- Pinto Beans
- Green Split Peas
- Navy Beans
- Black Turtle Bean
- Red Lentils
- Cranberry (Romano) Bean
- Laird Class (Green Lentils)
- Adzuki Beans

Hints:
- Lentils are small and flat
- Cranberry (Romano) beans and pinto beans look similar, for cranberry beans think red
Roll the Dice: Pulses Trivia Game
Activity #2
Roll the Dice: Pulses Trivia Game

Objective: To learn more about different aspects of pulses, depending on the category chosen by the dice.

Materials:
- Question and answers for adults
- Question and answers for kids
- Visual display frame with question categories
- Dice (x2)

Game Instructions:
- The six categories of questions are:
  - 1- Health
  - 2- Name 3 Ways to Use Pulses
  - 3- Canadian Production & Environment Sustainability
  - 4- Buying and Storing
  - 5- Preparing and Eating Pulses
  - 6- Choose a Category from the 5 above
- Ask the participant to roll the dice. The number it lands on determines the category of question that will be asked.
- If the participant is an adult or teen ask a question from the adult question and answer sheet.
- If the participant is a young child or youth ask a question from the kids question and answer sheet.
- Once participant has answered the question, provide them with additional knowledge by reading the answer provided on the Q&A sheet.
Roll the Dice: Question and Answers for Adults

1: Health and Pulses

<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>True or false: Pulses have zero cholesterol</td>
<td>True. Pulses are low in fat and rich in fibre, excellent for managing cholesterol levels.</td>
</tr>
<tr>
<td>What vitamin are pulses rich in?</td>
<td>B vitamins (folate, thiamin, niacin). B-vitamins keep your nervous system healthy and help your body use energy from food.</td>
</tr>
<tr>
<td>True or False: Pulses contain the same amount of protein as whole grain cereals.</td>
<td>False. Pulses contain twice the amount of protein as whole grain.</td>
</tr>
<tr>
<td>True or False: The fibre in pulses helps with regularity of bowels and controls blood sugar levels.</td>
<td>• True. Fibre helps with digestion and maintaining regular bowel movements and helps control blood sugar levels.</td>
</tr>
</tbody>
</table>

2: Name 3 Ways to Use Pulses

Answers may vary
- Apple slices and hummus
- Black bean omelette
- Arugula and lentil salad with goat cheese

3: Canadian Production and Sustainability

<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>True or false: Canada is the largest producer of pulses in the world.</td>
<td>False they are the 3rd, but they are the largest exporter.</td>
</tr>
<tr>
<td>Canada the largest producer in the world of what pulse: peas, chickpeas or dried beans?</td>
<td>Peas.</td>
</tr>
<tr>
<td>True or false: Pulses require less nitrogen fertilizers because they create their own fertilization.</td>
<td>• True. Pulses require little to no nitrogen fertilizer, due to their ability to biologically fix nitrogen from the air. This reduces the dependence on synthetic fertilizers.</td>
</tr>
<tr>
<td>What nutrient do pulses leave behind in soil?</td>
<td>Nitrogen, which acts as a natural fertilizer for the next crop.</td>
</tr>
</tbody>
</table>

4: Buying and Storing Pulses

<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Where should dried pulses be stored?</td>
<td>Cool, dark, dry place in a tightly covered container.</td>
</tr>
<tr>
<td>How long can cooked pulses be stored in the freezer?</td>
<td>6 months.</td>
</tr>
<tr>
<td>What are the 3 different forms of pulses you can buy?</td>
<td>Canned, dried, flour.</td>
</tr>
</tbody>
</table>

5: Preparing and Eating Pulses

<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>When soaking beans, how many cups of water are needed for each cup of beans?</td>
<td>• 3 cups of water for each cup of beans.</td>
</tr>
<tr>
<td>Name 3 different ways pulses can be cooked.</td>
<td>Stove tops, slow cooker, oven, and microwave.</td>
</tr>
<tr>
<td>Which pulse is used to make falafel and hummus?</td>
<td>Chickpeas.</td>
</tr>
</tbody>
</table>
What is one meat alternative portion of pulses according to Canada’s Food Guide?  
- ¾ cup (175 mL) cooked, the size of a tennis ball.

How long do dried chickpeas, beans, and peas need to be soaked for in cold water?  
- Let stand 12 hours or overnight in refrigerator.

Roll the dice: Question and Answers for Kids

1: Health and Pulses

<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>True or false: Pulses are part of Canada’s Food Guide.</td>
<td>True. Pulses are an excellent meat alternative. They provide protein which helps you grow, fibre which is good for your heart and B vitamins which gives you energy.</td>
</tr>
<tr>
<td>What food group do pulses belong in: vegetables and fruit, grain products, milk and alternatives, or meat and alternatives?</td>
<td>Meat and alternatives. Even though peas, lentils and chickpeas and beans are vegetables, they have so much protein that they are in the meat alternative group.</td>
</tr>
</tbody>
</table>

2: Name 3 Pulses You Like

Answers may vary
- Chickpeas
- Lentils
- Dried beans (red kidney bean, pinto bean, white kidney bean, black turtle bean)
- Dried peas

3: Canadian Production and Sustainability

<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>True or false: Pulses are only grown in the United States.</td>
<td>False. Pulses are grown all over the world. Canada is one of the highest producers of pulses.</td>
</tr>
<tr>
<td>True or false: Planting pulses is good for the soil.</td>
<td>True. Pulses make the soil healthier by putting nutrients, back into the soil.</td>
</tr>
</tbody>
</table>

4: Buying and Storing Pulses

<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>True or false: Pulses are only available in cans.</td>
<td>False. Pulses can be purchased dried. Dried pulses need to be soaked before cooking so they take longer to prepare. Canned pulses are pre-cooked.</td>
</tr>
<tr>
<td>How long can cooked pulses be stored in the fridge?</td>
<td>1-3 days.</td>
</tr>
</tbody>
</table>

5: Preparing and Eating Pulses

<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>True or False: Chickpeas take longer to cook than lentils.</td>
<td>True. Chickpeas need to be soaked before cooking. Lentils do not need to be soaked.</td>
</tr>
<tr>
<td>True or False: Eat pulses only once a day.</td>
<td>False. You can eat pulses everyday at every meal.</td>
</tr>
</tbody>
</table>
Making a Meal with Pulses
Activity #3
Make a Meal with Pulses

Time: 15-20 minutes

Objective:

• To allow participants to brainstorm creative ways to make a meal with pulses.

Materials:

• 20 green cards labelled with different pulses.
• 20 orange cards labelled with different food items.

Game Instructions:

• Give half of the participants a green card (pulses) and the other half a yellow card (food items).
• Participants are given 1 minute to find someone that has an opposite coloured card of a food item or pulse that goes well with the card they have.
• Once together, the pair will be given 5 minutes to brainstorm 3 different meals they could make with their pulse and food item.
• Participants present to the group what their matching pulse-food item is and different meals they could make with them.

Note:

• Encourage participants to get creative. They can prepare the pulses in anyway (pureed or whole), add any other foods, and use them in any meal or snack.
Make a Meal with Pulses: Possible Combinations

The possible combinations listed below can be used to aid participants in completing the activity or be given as examples.

Cards have a photo and name of these foods:

**Food Items**
- Fruit
- Whole grain pita bread or brown rice
- Cauliflower
- Eggs
- Carrots
- Sweet potato
- Tomatoes
- Dark leafy greens (arugula, kale, spinach)
- Red peppers
- Broccoli

**Pulses**
- Chickpeas
- Black beans
- Green lentils
- Green split peas
- Yellow split peas
- Red lentils
- White kidney beans
- Red kidney beans
- Pinto beans
- Cranberry (romano) beans
### Possible combinations:

<table>
<thead>
<tr>
<th>Food Group item</th>
<th>Type of Pulse</th>
<th>Possible Combinations</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Fruit</td>
<td>• Any cooked pulse*</td>
<td>• Apple slices and hummus</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Any cooked pulse and fruit salad</td>
</tr>
<tr>
<td>2. Whole grain pita bread or rice</td>
<td>• Any cooked pulse*</td>
<td>• Whole grain pita bread, hummus and raw veggies snack</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Whole grain pita and hummus wrap</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Black bean wrap</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Pinto bean wrap</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Rice and any cooked pulse</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Rice, pulse and salmon (or other meat and alternative)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Rice, pulse and roasted vegetables</td>
</tr>
<tr>
<td>3. Cauliflower</td>
<td>• Green or yellow split pea</td>
<td>• Cauliflower and green or yellow split pea soup</td>
</tr>
<tr>
<td></td>
<td>• Any cooked pulse*</td>
<td>• Cauliflower and cooked pulse salad</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Cauliflower, any cooked pulse and brown rice</td>
</tr>
<tr>
<td>4. Egg</td>
<td>• Black bean</td>
<td>• Black bean omelette</td>
</tr>
<tr>
<td></td>
<td>• Lentils (red or brown)</td>
<td>• Brown lentils and sunny side up egg</td>
</tr>
<tr>
<td></td>
<td>• Any cooked pulse*</td>
<td>• Scrambled eggs</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Boiled egg in salad and any pulse</td>
</tr>
<tr>
<td>5. Carrots</td>
<td>• Green or yellow split pea</td>
<td>• Green or yellow split pea and carrot soup</td>
</tr>
<tr>
<td></td>
<td>• Any cooked pulse*</td>
<td>• Shredded carrot and any cooked pulse salad</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Carrot and any cooked pulse in stew</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Vegetarian Shepherd’s pie</td>
</tr>
<tr>
<td>6. Sweet Potato</td>
<td>• Any cooked pulse*</td>
<td>• Sweet potato and any pulse soup or stew</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Sweet potato and any pulse salad</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Baked sweet potato (cut into cubes) and any pulse</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>------------------------------------------------------------------</td>
</tr>
<tr>
<td>7.</td>
<td>Tomatoes</td>
<td>• Any cooked pulse*   • Pasta salad (Mediterranean)   • Any type of salad with any cooked pulse with tomato   • Stewed white beans with tomatoes   • Tomato and lentil soup</td>
</tr>
<tr>
<td>8.</td>
<td>Dark leafy vegetables (arugula, kale, spinach)</td>
<td>• Any cooked pulse*   • Arugula and lentil salad with goat cheese   • Couscous (or any grain), arugula and any cooked pulse salad   • Pasta with arugula, white beans and nuts   • Kale and white bean stew   • Kale and mixed bean salad   • Kale and any bean soup   • Stemmed kale and any pulse   • Spinach and lentils stew   • Spinach and bean casserole   • Sautéed spinach and white beans   • Spinach and bean soup</td>
</tr>
<tr>
<td>9.</td>
<td>Red pepper</td>
<td>• Any cooked pulse*   • Stuffed red pepper with any cooked pulse and grain   • Any pulse salad with roasted red peppers   • Lentil and red bell pepper soup</td>
</tr>
<tr>
<td>10.</td>
<td>Broccoli</td>
<td>• Any cooked pulse*   • Any cooked pulse and broccoli salad   • Broccoli, lentils and quinoa   • Broccoli lentil soup   • Broccoli, any pulse and rice</td>
</tr>
</tbody>
</table>

*Any cooked pulse includes: chickpeas, black beans, brown lentils, green peas, yellow peas, red lentils, white kidney bean, red kidney bean, pinto beans, cranberry (romano) bean.