



# Carry Out Science: Tortilla Soup



**Description:** Make a delicious soup and learn some science along the way!



## Ingredients:

- 1 Tablespoon canola/vegetable oil
- 1 medium onion
- 2 garlic cloves
- 1 teaspoon cumin
- 1 teaspoon chili powder
- 2 14.5 ounce cans low-sodium chicken broth  
OR vegetable broth
- 1 pound skinless raw or cooked chicken  
OR 1 can garbanzo beans and 1 can pinto beans  
(vegetarian version)
- 1 14 ounce can low-sodium black beans
- 1 10 ounce can or frozen corn
- 1 15 ounce can diced tomatoes
- 1 10 ounce can enchilada sauce
- 1 teaspoon salt and black pepper

*Optional: (for spicier soup!)*

- 1 4 ounce can chopped green chili peppers

## Optional Garnishes:

- Chopped cilantro or green onion
- Crushed tortilla chips
- Cheese or sour cream
- Sliced avocado

**Grades:** 5 and up  
**Ability Level:** Medium  
**Time:** 45-60 minutes  
**Servings:** 5 (2 cups each)

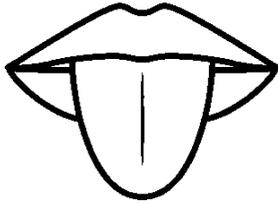
## Tools:

- Cutting board and chef knife
- Can opener
- Measuring cups and spoons
- Strainer
- Medium pot
- Stove



## Instructions:

1. Using cutting board and chef knife, chop medium onion. Next, mince garlic cloves.
2. Using can opener, open the cans and drain beans and corn.
3. If using raw chicken, chop into 1 inch cubes.
4. Heat the pot on medium-high, then add the oil. Add onions and sauté (which means “to jump” or stir items in a hot pan with a little oil) for 2 minutes.
5. Add garlic, cumin and chili powder and allow the spices to toast.
6. You will begin to smell the spices toasting (in less than 1 minute). Then add the stock followed by the rest of the ingredients.
7. Bring all the ingredients to a boil and then lower heat and simmer for 30 minutes.
8. If using cooked chicken, add the chicken in for the last 5 minutes of cook time, just to heat through.
9. Add desired garnishes to each serving.



## What do you Taste?

Taste each ingredient as you go and try using these words to describe what you taste!

**Taste** is what we sense when chemicals in our food react with taste receptor cells on our tongues.

[Click here](#) to learn more about the **science of taste.**

<https://youtu.be/C4rdqXXzPGU>

**5 Tastes:** Unami (savory), Sour (acidic), Sweet, Bitter, Salty

**Texture:** Melty, Chewy, Chunky, Mushy, Creamy, Oily, Fatty, Crispy, Rough, Dry, Firm, Soft, Slimy, Silky, Smooth, Fibrous

**Temperature:** Cold, Warm, Hot

**Descriptive Words:** Sharp, Scrumptious, Aromatic, Moist, Delicious, Fragrant, Fresh, Spicy

## Play with your Food!

- Try using a packet of taco seasoning instead of enchilada sauce for a slightly different broth. Consider adding chunky salsa to the mix!
- Add any fresh vegetables you have on hand, like bell peppers or your own favorites (fill in): \_\_\_\_\_.



## Tasty Questions

What questions do you have? Can you develop one for each of the categories below?



**Noticing:** \_\_\_\_\_?

*Example:* What do you smell when the spices are cooking?  
To answer, use the “taste” terms above!

**Comparing:** \_\_\_\_\_?

*Example:* What is different about the taste of the onions before and after you cook them?

**Predicting:** What do you think would happen if (fill in the rest) \_\_\_\_\_?

**Experimenting:** How could you test to see if the taste changes when you use water instead of broth in the soup?

**Explaining:** Why do onions make you cry?

[Click here](#) to learn about **reflexive tears.**

<https://youtu.be/1OoWsiY6Lf8>



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