

Elements of a Great Thanksgiving for Chemistry!

Introduction: There are currently 25 elements identified by the FDA as “essential” for good health. These elements, classified as “major,” “lesser,” and “trace,” are listed in the table below.

MAJOR (Make up 99% of your body mass)	LESSER (Build body tissues and maintain cell processes)	TRACE (Essential to important functions such as forming bones, teeth & red blood cells)	
H – Hydrogen	Fe – Iron	V - Vanadium	Sn – Tin
O – Oxygen	K – Potassium	Cr – Chromium	Si – Silicon
C – Carbon	Zn – Zinc	Mo- Molybdenum	Se – Selenium
N – Nitrogen	Na – Sodium	Mn – Manganese	F – Fluorine
P – Phosphorus	S – Sulfur	Co – Cobalt	I – Iodine
Ca – Calcium	Cl – Chlorine	Cu – Copper	
	Mg – Magnesium	B - Boron	

INSTRUCTIONS: Around the room several tables are set-up containing items that represent different phases of your Thanksgiving celebrations.

1. Visit the table for each phase of the celebration (except dessert!). Begin at any phase.
2. Read the nutrients and / or ingredients listed on the labels of items on each table. Identify 3 different elements listed on the labels of 3 different items. (Find **12** different elements!)
3. **Record** item name, element identified, Group Name or # to which that element belongs (1A-8A or transition metal). Classify the element as a major, lesser, or trace nutrient in the Data Collection Tables below.

NOTE: Elements may be combined in chemical compounds. For example, the ingredient “calcium chloride” contains both Ca and Cl. The ingredient “sodium phosphate” contains Na, P, and O. The elements C, H, and O are contained in most acids, fats, carbohydrates, and proteins.

Phase 1: APPETIZERS & SNACKS

Item Name	Element Name (ingredient/nutrient)	Group # or Name	Major, Lesser, Trace

Name _____

Element Trivia: Identify one transition metal in any can of nuts. _____

Phase 2: SALADS, VEGGIES & BEVERAGES

Item Name	Element Name (ingredient/nutrient)	Group # or Name	Major, Lesser, Trace

Element Trivia: Correctly name of the transition metal compound used to color ranch dressing and write its formula.

Phase 3: MAIN COURSE

Item Name	Element Name (ingredient/nutrient)	Group # or Name	Major, Lesser, Trace

Element Trivia: Write the correct formula for the “anti-caking” compound of elements in the Carbon and Oxygen families used in instant potato flakes or gravy powder.

Phase 4: CLEAN-UP & UH-OH, I ATE TOO MUCH!

Item Name	Element Name (ingredient/nutrient)	Group # or Name	Major, Lesser, Trace

Name _____

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Element Trivia: Write correct formulas for the Halogen compounds that help disinfect toilet bowls and whiten your laundry?

Toilet _____ **Laundry** _____

Element Trivia: What Nitrogen family member in “Pepto” settles your stomach? _____