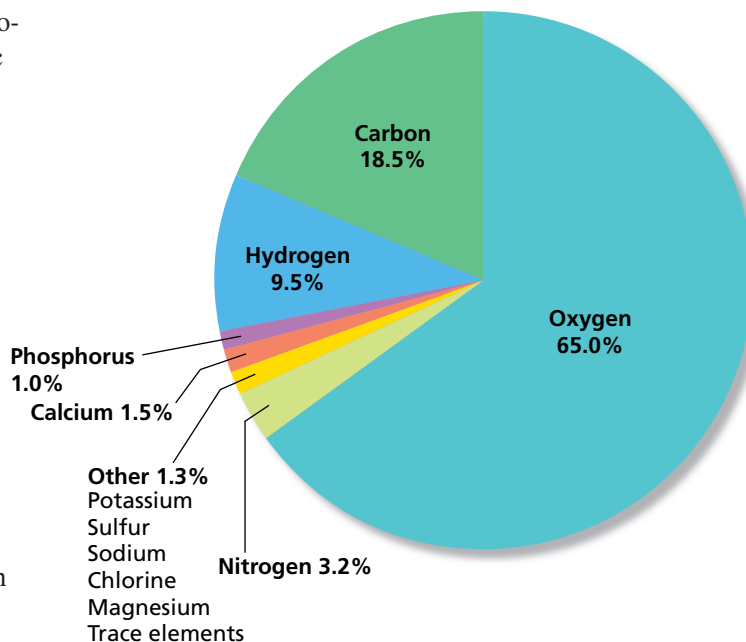


**APPLICATION** *Health***Elements in the Body**

The four most abundant elements in the body (oxygen, carbon, hydrogen, and nitrogen) are the major components of organic biomolecules, such as carbohydrates, proteins, fats, and nucleic acids. Other elements compose a dietary category of compounds called minerals. Minerals are considered the inorganic elements of the body. Minerals fall into two categories—the major minerals and the trace minerals, or trace elements, as they are sometimes called. Notice in the periodic table below that most elements in the trace elements category of minerals are transition metals.

Trace elements are minerals with dietary daily requirements of 100 mg or less. They are found in foods derived from both plants and animals. Though these elements are present in very small quantities, they perform a variety of essential functions in the body, as shown in Table 3C on the next page.

**Abundance of Elements in the Body (by mass)**

<div><div></div> Elements in organic matter</div> <div><div></div> Major minerals</div> <div><div></div> Trace elements</div>																		Group 18																	
Group 1		Group 2														Group 13		Group 14	Group 15	Group 16	Group 17	Group 18													
1	H															5	B	6	C	7	N	8	O	9	F	10	Ne								
3	Li	4	Be													13	Al	14	Si	15	P	16	S	17	Cl	18	Ar								
11	Na	12	Mg	Group 3		Group 4		Group 5		Group 6		Group 7		Group 8		Group 9		Group 10		Group 11		Group 12		31	Ga	32	Ge	33	As	34	Se	35	Br	36	Kr
19	K	20	Ca	21	Sc	22	Ti	23	V	24	Cr	25	Mn	26	Fe	27	Co	28	Ni	29	Cu	30	Zn	49	In	50	Sn	51	Sb	52	Te	53	I	54	Xe
37	Rb	38	Sr	39	Y	40	Zr	41	Nb	42	Mo	43	Tc	44	Ru	45	Rh	46	Pd	47	Ag	48	Cd	81	Tl	82	Pb	83	Bi	84	Po	85	At	86	Rn
55	Cs	56	Ba	57	La	72	Hf	73	Ta	74	W	75	Re	76	Os	77	Ir	78	Pt	79	Au	80	Hg	81	Tl	82	Pb	83	Bi	84	Po	85	At	86	Rn
87	Fr	88	Ra	89	Ac																														

■ Elements in organic matter  
■ Major minerals  
■ Trace elements