

Important Concepts . . .

Preview Review



Science

Grade 9

W2 - Quiz

Important Concepts of Grade 9 Science

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W1 - Lesson 2	Electrical Circuits
W1 - Lesson 3A	Energy Consumption
W1 - Lesson 3B	The Distribution of Matter in Space
W1 - Lesson 4	Objects in Space
W1 - Lesson 5	Optical and Radio Telescopes
W1- Quiz	
W2 - Lesson 1	Physical and Chemical Properties of Materials
W2 - Lesson 2	Chemical Reactions
W2 - Lesson 3	Using the Periodic Table
W2 - Lesson 4	Naming Chemical Compounds
W2 - Lesson 5	Writing Chemical Equations
W2 - Quiz	
W3 - Lesson 1	Variation
W3 - Lesson 2	Reproduction and Patterns of Inheritance
W3 - Lesson 3A	Genes and Cell Division
W3 - Lesson 3B	Organisms and Matter in their Environment
W3 - Lesson 4	Biological and Chemical Monitoring/Acids and Bases
W3 - Lesson 5	Transfer of Materials through the Air, Ground, and Water/Biological Impacts of Hazardous Chemicals
W3 - Quiz	

Materials Required

Textbook:
Science in Action 9

Science Grade 9
Version 5
Preview/Review W2 - Quiz

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Preview/Review Concepts for Grade Nine Science



W2 - Quiz

W2 - Quiz

/ 45 marks

This quiz should take approximately 20 minutes to complete. There is a periodic table at the back of this quiz for your use.

Part I: Multiple Choice

Place the letter of the best answer in the blank before each question. (5 marks)

- _____ 1. The conversion of a gas into a liquid occurs by a process called
- A. sublimation
 - B. condensation
 - C. evaporation
 - D. melting
- _____ 2. The ability of a substance to be stretched into a long thin wire is called
- A. ductility
 - B. malleability
 - C. lustre
 - D. hardness
- _____ 3. Which of the following is **not** a chemical property of matter?
- A. ability to burn
 - B. reaction with water
 - C. reaction with acids
 - D. conductivity
- _____ 4. What caution is associated with the following WHMIS symbol?
- A. oxidizing material
 - B. flammable and combustible material
 - C. corrosive material
 - D. biohazardous infectious material
- 
- _____ 5. A substance that is made of two or more elements is called a
- A. mechanical mixture
 - B. element
 - C. compound
 - D. colloid

Part II: Matching

Match the following words to their definitions. (8 marks)

Words

- A. compound
- B. element
- C. solution
- D. exothermic reaction
- E. endothermic reaction
- F. metal
- G. atom
- H. catalyst
- I. corrosion
- J. noble gas
- K. halogen
- L. non-metal

Definitions

- ___ the most stable unreactive group found on the periodic table
- ___ a substance that participates in a chemical reaction to speed it up
- ___ a *homogeneous* mixture made of different substances that are not all visible
- ___ a slow chemical change that occurs when oxygen in the air reacts with a metal
- ___ shiny, ductile, and malleable solids that conduct electricity
- ___ the smallest part of an element
- ___ a substance that is made of only one type of atom
- ___ a chemical reaction that absorbs energy

Part III: Written Response

1. In a chemical reaction, a chemical change causes the formation of a new substance or substances. Identify two ways you can tell that a chemical change has occurred. (2 marks)

2. A chemist wants to produce silver metal by completing the following reaction.



- a. The reactants of the chemical reaction are (1 mark)

_____ + _____

- b. The chemical symbol for silver is _____. (1 mark)

- c. It is found in Period _____, Group _____. (2 marks)

- d. Two ways that the chemist could speed up the reaction are (2 marks)

3. Sodium is an element found on the periodic table. (1 mark each = 8 marks)

- a. The symbol for sodium is _____.

- b. The atomic number for sodium is _____.

- c. The atom of sodium has _____ protons and _____ electrons.

- d. Sodium is found in Group _____, which is also known as the _____.

- e. A common substance that is made with sodium is _____, which has the chemical formula of _____.

4. Name the following chemical compounds and identify them as ionic or molecular. (1 mark each = 8 marks)

	Name	Ionic or Molecular?
a. SO ₂	_____	_____
b. CaCl ₂	_____	_____
c. CBr ₄	_____	_____
d. FeO	_____	_____

5. Write the following chemical formulas. (4 marks)

- a. tin (II) chloride _____
- b. carbon monoxide _____
- c. potassium iodide _____
- d. diphosphorus pentaoxide _____

6. a. The reaction to produce heat (by burning natural gas) in your furnace is known as a _____ reaction. (1 mark)



b. This reaction releases energy and can also be known as an _____ reaction. (1 mark)

c. The word equation for this reaction is (2 marks)



Periodic Table

<div style="display: flex; justify-content: space-between;"> <div style="border: 1px solid black; padding: 5px; width: 15%;"> <p>1 H Hydrogen 1.0</p> </div> <div style="border: 1px solid black; padding: 5px; width: 15%;"> <p>8 O Oxygen 16.0</p> </div> <div style="border: 1px solid black; padding: 5px; width: 15%;"> <p>2 He Helium 4.0</p> </div> </div> <p style="text-align: center;">atomic number symbol atomic mass ion charge</p>																				
<div style="display: flex; justify-content: space-around; margin-bottom: 10px;"> <div style="border: 1px solid black; padding: 2px;">S</div> Solid <div style="border: 1px solid black; padding: 2px;">Br</div> Liquid <div style="border: 1px solid black; padding: 2px;">He</div> Gas </div> <div style="display: flex; justify-content: space-around; margin-bottom: 10px;"> <div style="background-color: #e0e0e0; width: 15px; height: 15px;"></div> Metal <div style="background-color: #808080; width: 15px; height: 15px;"></div> Metalloid <div style="background-color: #d3d3d3; width: 15px; height: 15px;"></div> Non-metal </div>																				
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18			
1 H Hydrogen 1.0	3 Li Lithium 6.9	4 Be Beryllium 9.0	5 B Boron 10.8	6 C Carbon 12.0	7 N Nitrogen 14.0	8 O Oxygen 16.0	9 F Fluorine 19.0	10 Ne Neon 20.2	11 Na Sodium 23.0	12 Mg Magnesium 24.3	13 Al Aluminum 27.0	14 Si Silicon 28.1	15 P Phosphorus 31.0	16 S Sulfur 32.1	17 Cl Chlorine 35.5	18 Ar Argon 39.9				
19 K Potassium 39.1	20 Ca Calcium 40.1	21 Sc Scandium 45.0	22 Ti Titanium 47.9	23 V Vanadium 50.9	24 Cr Chromium 52.0	25 Mn Manganese 54.9	26 Fe Iron 55.8	27 Co Cobalt 58.6	28 Ni Nickel 58.7	29 Cu Copper 63.5	30 Zn Zinc 65.4	31 Ga Gallium 69.7	32 Ge Germanium 72.6	33 As Arsenic 74.9	34 Se Selenium 79.0	35 Br Bromine 79.9	36 Kr Krypton 83.8			
37 Rb Rubidium 85.5	38 Sr Strontium 87.6	39 Y Yttrium 88.9	40 Zr Zirconium 91.2	41 Nb Niobium 92.9	42 Mo Molybdenum 95.9	43 Tc Technetium (98)	44 Ru Ruthenium 101.1	45 Rh Rhodium 102.9	46 Pd Palladium 106.4	47 Ag Silver 107.9	48 Cd Cadmium 112.4	49 In Indium 114.8	50 Sn Tin 118.7	51 Sb Antimony 121.8	52 Te Tellurium 127.6	53 I Iodine 126.9	54 Xe Xenon 131.3			
55 Cs Cesium 132.9	56 Ba Barium 137.3	57 La Lanthanum 138.9	58 Ce Cerium 140.1	59 Pr Praseodymium 140.9	60 Nd Neodymium 144.2	61 Pm Promethium (145)	62 Sm Samarium 150.4	63 Eu Europium 152.0	64 Gd Gadolinium 157.3	65 Tb Terbium 158.9	66 Dy Dysprosium 162.5	67 Ho Holmium 164.9	68 Er Erbium 167.3	69 Tm Thulium 168.9	70 Yb Ytterbium 173.0	71 Lu Lutetium 175.0				
87 Fr Francium (223)	88 Ra Radium (226)	89 Ac Actinium (227)	90 Th Thorium 232.0	91 Pa Protactinium 231.0	92 U Uranium 238.0	93 Np Neptunium (237)	94 Pu Plutonium (244)	95 Am Americium (243)	96 Cm Curium (247)	97 Bk Berkelium (247)	98 Cf Californium 251	99 Es Einsteinium 252	100 Fm Fermium 257	101 Md Mendelevium 258	102 No Nobelium 259	103 Lr Lawrencium 262				
101 Bi Bismuth 209.0	102 Po Polonium 209	103 At Astatine 210	104 Rn Radon 222	105 Fr Francium (223)	106 Ra Radium (226)	107 Ac Actinium (227)	108 Th Thorium 232.0	109 Pa Protactinium 231.0	110 U Uranium 238.0	111 Np Neptunium (237)	112 Pu Plutonium (244)	113 Am Americium (243)	114 Cm Curium (247)	115 Bk Berkelium (247)	116 Cf Californium 251	117 Es Einsteinium 252	118 Fm Fermium 257	119 Md Mendelevium 258	120 No Nobelium 259	121 Lr Lawrencium 262
121 Uub Ununbium 277	122 Uuq Ununquadium 278	123 Uur Ununseptium 279	124 Uus Ununseptium 280	125 Uuq Ununquadium 281	126 Uur Ununseptium 282	127 Uus Ununseptium 283	128 Uuq Ununquadium 284	129 Uur Ununseptium 285	130 Uus Ununseptium 286	131 Uuq Ununquadium 287	132 Uur Ununseptium 288	133 Uus Ununseptium 289	134 Uuq Ununquadium 290	135 Uur Ununseptium 291	136 Uus Ununseptium 292	137 Uuq Ununquadium 293	138 Uur Ununseptium 294	139 Uus Ununseptium 295	140 Uuq Ununquadium 296	141 Uur Ununseptium 297

142 Uue Ununhexium 298	143 Uuq Ununquadium 299	144 Uur Ununseptium 300	145 Uus Ununseptium 301	146 Uuq Ununquadium 302	147 Uur Ununseptium 303	148 Uus Ununseptium 304	149 Uuq Ununquadium 305	150 Uur Ununseptium 306	151 Uus Ununseptium 307	152 Uuq Ununquadium 308	153 Uur Ununseptium 309	154 Uus Ununseptium 310	155 Uuq Ununquadium 311	156 Uur Ununseptium 312	157 Uus Ununseptium 313	158 Uuq Ununquadium 314	159 Uur Ununseptium 315	160 Uus Ununseptium 316	161 Uuq Ununquadium 317	162 Uur Ununseptium 318	163 Uus Ununseptium 319	164 Uuq Ununquadium 320	165 Uur Ununseptium 321	166 Uus Ununseptium 322	167 Uuq Ununquadium 323	168 Uur Ununseptium 324	169 Uus Ununseptium 325	170 Uuq Ununquadium 326	171 Uur Ununseptium 327	172 Uus Ununseptium 328	173 Uuq Ununquadium 329	174 Uur Ununseptium 330	175 Uus Ununseptium 331	176 Uuq Ununquadium 332	177 Uur Ununseptium 333	178 Uus Ununseptium 334	179 Uuq Ununquadium 335	180 Uur Ununseptium 336	181 Uus Ununseptium 337	182 Uuq Ununquadium 338	183 Uur Ununseptium 339	184 Uus Ununseptium 340	185 Uuq Ununquadium 341	186 Uur Ununseptium 342	187 Uus Ununseptium 343	188 Uuq Ununquadium 344	189 Uur Ununseptium 345	190 Uus Ununseptium 346	191 Uuq Ununquadium 347	192 Uur Ununseptium 348	193 Uus Ununseptium 349	194 Uuq Ununquadium 350	195 Uur Ununseptium 351	196 Uus Ununseptium 352	197 Uuq Ununquadium 353	198 Uur Ununseptium 354	199 Uus Ununseptium 355	200 Uuq Ununquadium 356	201 Uur Ununseptium 357	202 Uus Ununseptium 358	203 Uuq Ununquadium 359	204 Uur Ununseptium 360	205 Uus Ununseptium 361	206 Uuq Ununquadium 362	207 Uur Ununseptium 363	208 Uus Ununseptium 364	209 Uuq Ununquadium 365	210 Uur Ununseptium 366	211 Uus Ununseptium 367	212 Uuq Ununquadium 368	213 Uur Ununseptium 369	214 Uus Ununseptium 370	215 Uuq Ununquadium 371	216 Uur Ununseptium 372	217 Uus Ununseptium 373	218 Uuq Ununquadium 374	219 Uur Ununseptium 375	220 Uus Ununseptium 376	221 Uuq Ununquadium 377	222 Uur Ununseptium 378	223 Uus Ununseptium 379	224 Uuq Ununquadium 380	225 Uur Ununseptium 381	226 Uus Ununseptium 382	227 Uuq Ununquadium 383	228 Uur Ununseptium 384	229 Uus Ununseptium 385	230 Uuq Ununquadium 386	231 Uur Ununseptium 387	232 Uus Ununseptium 388	233 Uuq Ununquadium 389	234 Uur Ununseptium 390	235 Uus Ununseptium 391	236 Uuq Ununquadium 392	237 Uur Ununseptium 393	238 Uus Ununseptium 394	239 Uuq Ununquadium 395	240 Uur Ununseptium 396	241 Uus Ununseptium 397	242 Uuq Ununquadium 398	243 Uur Ununseptium 399	244 Uus Ununseptium 400	245 Uuq Ununquadium 401	246 Uur Ununseptium 402	247 Uus Ununseptium 403	248 Uuq Ununquadium 404	249 Uur Ununseptium 405	250 Uus Ununseptium 406	251 Uuq Ununquadium 407	252 Uur Ununseptium 408	253 Uus Ununseptium 409	254 Uuq Ununquadium 410	255 Uur Ununseptium 411	256 Uus Ununseptium 412	257 Uuq Ununquadium 413	258 Uur Ununseptium 414	259 Uus Ununseptium 415	260 Uuq Ununquadium 416	261 Uur Ununseptium 417	262 Uus Ununseptium 418	263 Uuq Ununquadium 419	264 Uur Ununseptium 420	265 Uus Ununseptium 421	266 Uuq Ununquadium 422	267 Uur Ununseptium 423	268 Uus Ununseptium 424	269 Uuq Ununquadium 425	270 Uur Ununseptium 426	271 Uus Ununseptium 427	272 Uuq Ununquadium 428	273 Uur Ununseptium 429	274 Uus Ununseptium 430	275 Uuq Ununquadium 431	276 Uur Ununseptium 432	277 Uus Ununseptium 433	278 Uuq Ununquadium 434	279 Uur Ununseptium 435	280 Uus Ununseptium 436	281 Uuq Ununquadium 437	282 Uur Ununseptium 438	283 Uus Ununseptium 439	284 Uuq Ununquadium 440	285 Uur Ununseptium 441	286 Uus Ununseptium 442	287 Uuq Ununquadium 443	288 Uur Ununseptium 444	289 Uus Ununseptium 445	290 Uuq Ununquadium 446	291 Uur Ununseptium 447	292 Uus Ununseptium 448	293 Uuq Ununquadium 449	294 Uur Ununseptium 450	295 Uus Ununseptium 451	296 Uuq Ununquadium 452	297 Uur Ununseptium 453	298 Uus Ununseptium 454	299 Uuq Ununquadium 455	300 Uur Ununseptium 456	301 Uus Ununseptium 457	302 Uuq Ununquadium 458	303 Uur Ununseptium 459	304 Uus Ununseptium 460	305 Uuq Ununquadium 461	306 Uur Ununseptium 462	307 Uus Ununseptium 463	308 Uuq Ununquadium 464	309 Uur Ununseptium 465	310 Uus Ununseptium 466	311 Uuq Ununquadium 467	312 Uur Ununseptium 468	313 Uus Ununseptium 469	314 Uuq Ununquadium 470	315 Uur Ununseptium 471	316 Uus Ununseptium 472	317 Uuq Ununquadium 473	318 Uur Ununseptium 474	319 Uus Ununseptium 475	320 Uuq Ununquadium 476	321 Uur Ununseptium 477	322 Uus Ununseptium 478	323 Uuq Ununquadium 479	324 Uur Ununseptium 480	325 Uus Ununseptium 481	326 Uuq Ununquadium 482	327 Uur Ununseptium 483	328 Uus Ununseptium 484	329 Uuq Ununquadium 485	330 Uur Ununseptium 486	331 Uus Ununseptium 487	332 Uuq Ununquadium 488	333 Uur Ununseptium 489	334 Uus Ununseptium 490	335 Uuq Ununquadium 491	336 Uur Ununseptium 492	337 Uus Ununseptium 493	338 Uuq Ununquadium 494	339 Uur Ununseptium 495	340 Uus Ununseptium 496	341 Uuq Ununquadium 497	342 Uur Ununseptium 498	343 Uus Ununseptium 499	344 Uuq Ununquadium 500
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