Environmental Systems

Assignment for April 27– May 1, 2020

1. Read the paragraph
2. Answer all questions using information provided in reading.
3. Please take a picture of your work and send to your teacher.

Please contact your assigned teacher with questions regarding your assignment(s):

Coach Nance	cnance@mpisd.net
Coach Zaldivar	dzaldivar@mpisd.net
Coach Henderson	rskelton@mpisd.net

Name _____ Class _____ Date _____

Skills Worksheet

Active Reading

Section 1: Water Resources

Read the passage below and answer the questions that follow.

Most of the fresh water that is available for human use cannot be seen—it exists underground. When it rains, some of the water that falls onto the land flows into lakes and streams. But much of the water percolates through the soil and down into the rocks beneath. Water stored beneath the Earth's surface in sediment and rock formations is called **groundwater.**

As water travels beneath the Earth's surface, it eventually reaches a level where the rocks and soil are saturated with water. This level is known as the *water table.* In wet regions, the water table may be at the Earth's surface and a spring of fresh water may flow out onto the ground. But in deserts, the water table may be hundreds of meters beneath the Earth's surface. The water table is actually not as level as its name implies. The water table has peaks and valleys that match the shape of the land above it. Just as surface water flows downhill, groundwater tends to flow slowly from the peaks of the water table to the valleys.

IDENTIFYING MAIN IDEAS

One reading skill is the ability to identify the main idea of a passage. The main idea is the main focus or key idea. Frequently, a main idea is accompanied by supporting information that offers detailed facts about main ideas.

Read each question and write the answer in the space provided.

1. Where is most fresh water that is available for human consumption found?

_____

2. How does water get beneath Earth's surface after it rains?

_____

_____

VOCABULARY DEVELOPMENT

Read each question and write the answer in the space provided.

3. Water stored in sediments and rocks beneath Earth's surface is called

_____

4. The level where rocks and soil become saturated with water is called

_____

SEQUENCING INFORMATION

One reading skill is the ability to sequence information, or to logically place items or events in the order in which they occur.

Read each question and write the answer in the space provided to show the sequence of the process in which groundwater is formed.

5. Water that will become groundwater falls on the surface of Earth when

_____ .

6. Water first percolates through the _____.
7. Then, water reaches the _____ beneath.
8. Eventually, the water reaches the _____, where the rocks and soil are already _____ with water.

RECOGNIZING SIMILARITIES AND DIFFERENCES

One reading skill is the ability to recognize similarities and differences between two phrases, ideas, or things. This is sometimes known as comparing and contrasting.

Read each question and write the answer in the space provided.

9. Why is a water table not like a table in your home?

_____

_____

10. Explain the difference between water tables in wet and desert regions.

_____

_____

RECOGNIZING CAUSE AND EFFECT

One reading skill is the ability to recognize cause and effect.

Read each question and write the answer in the space provided.

11. What movement occurs with groundwater? What causes this movement?

_____

_____

12. Why might a spring flow out of the ground in a wet region?

_____

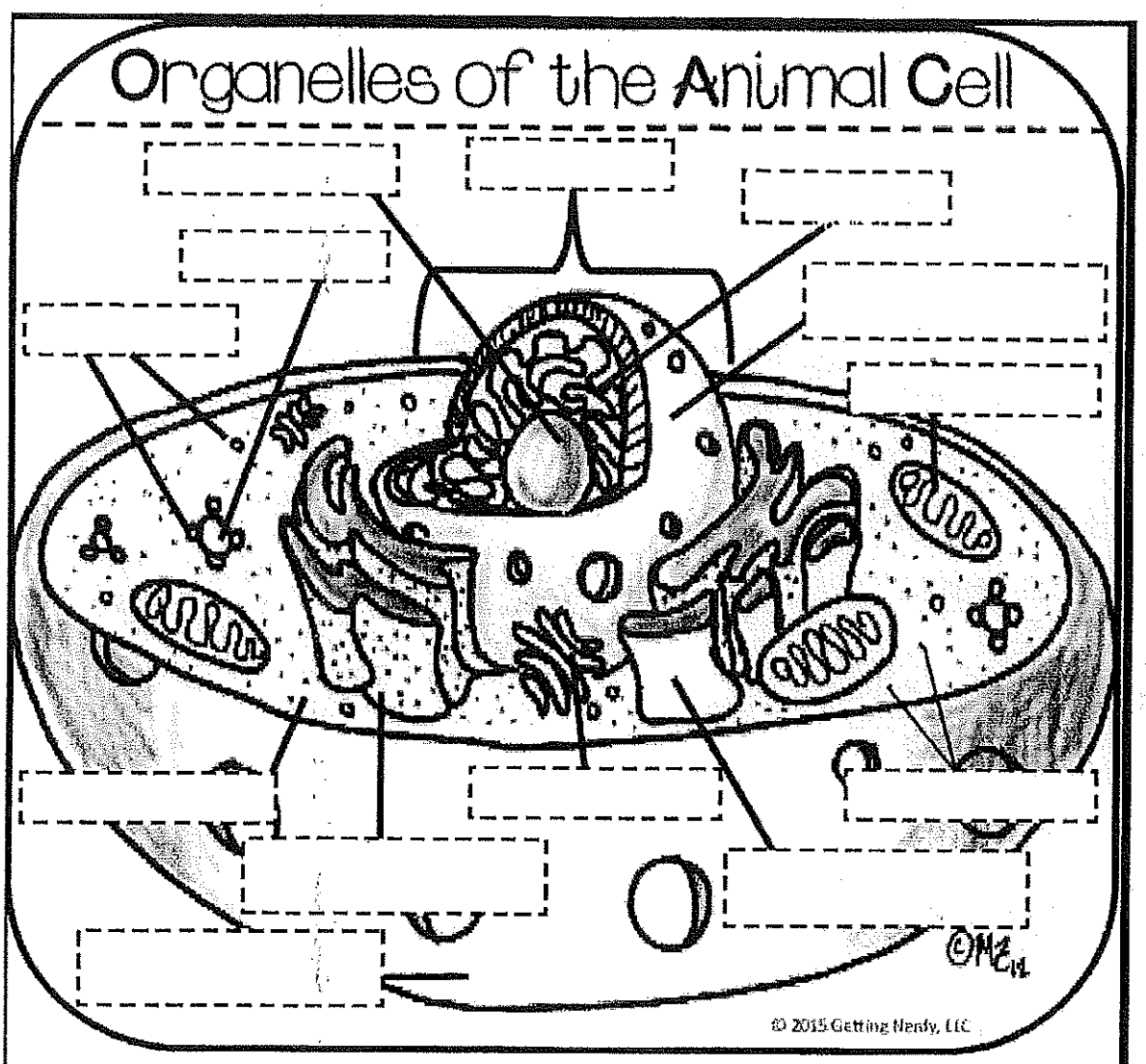
_____

BIO 1054 Week 4 7/21

Name: _____ Date: _____ Period: _____

- Go to www.cellsalive.com
- Click on "animal cell" on the right.
- Start the animation to label the cell below and write the functions on the previous page.
- Color each cell part you label a different color and color the matching name the same color as the part.
- Cut out the template and glue it on the previous page at the top only.

Organelles of the Animal Cell



Directions: Cut out the cell organelle parts below and glue them onto the INB sheet to the right. Cut out the INB sheet.

Nucleus

Cell Membrane

Cytoplasm

Ribosome

Rough Endoplasmic Reticulum

Lysosome

Smooth Endoplasmic Reticulum

Mitochondria

Nucleolus

Nuclear Membrane

Golgi Bodies

Chromatin

Vacuole

iology : Read Pages 115 & 116. Answer questions on pg. 117.

Name: _____ Date: _____ Period: _____

Energy Transformation

Content Objective: describe the process of converting the energy in glucose into ATP.

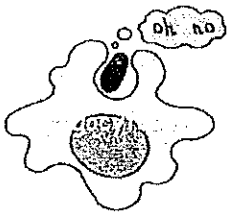
Language Objective: read to understand the process of converting the energy in glucose into ATP

TEKS: B9.B

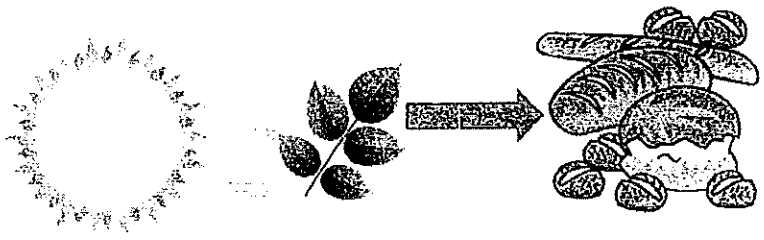
Essential Question: _____

Cellular Respiration

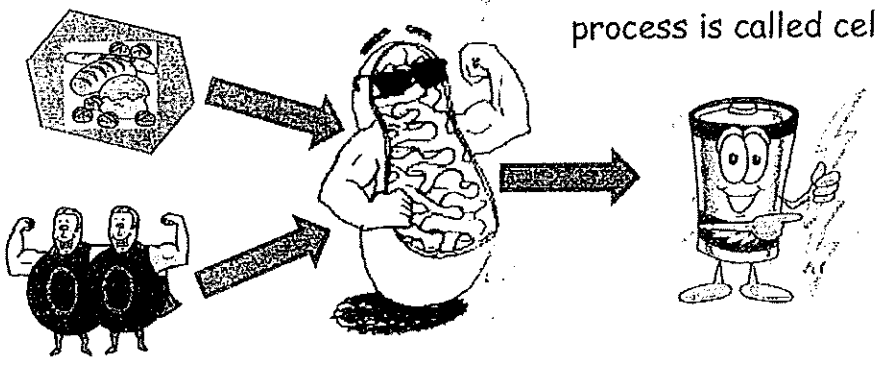
1. All living organisms need energy to survive. This energy is used for many things from active transport of molecules through the cell membrane to walking and running. But where does the energy come from?



2. The energy that fuels your body comes from the foods that you eat. Carbohydrates are the main source of energy for living organisms. Carbohydrates, which are made by plants during photosynthesis, are broken down into many glucose molecules. It is these glucose molecules that power your cells.

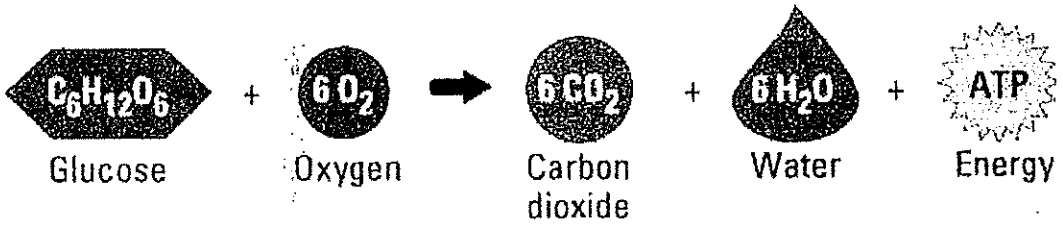


3. Here is how it works. Glucose diffuses into your cells using a transport protein called insulin. From there it moves into the mitochondria. The mitochondria are the cell organelles that convert the energy in glucose into energy that is usable by cells. This process is called cellular respiration. The energy from the glucose is stored in a little molecule called ATP.



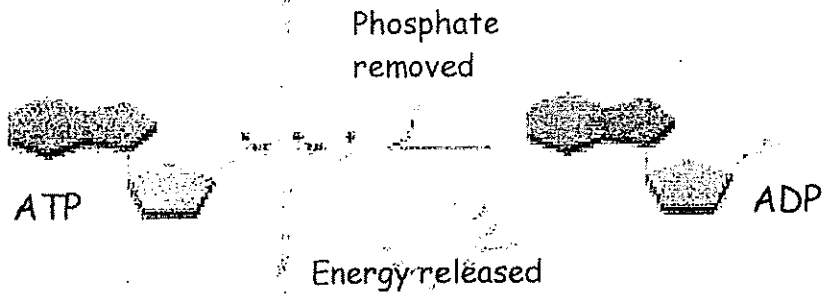
Name: _____ Date: _____ Period: _____

4. Aerobic organisms are able to convert the energy in a molecule of glucose into 36 molecules of ATP by adding oxygen to the process. As a result of this process, carbon dioxide (CO_2) and water (H_2O) are also made.



5. In humans, glucose must be ingested (eaten) and the O_2 needed is taken in by the lungs when we inhale. The glucose and the oxygen then go to the mitochondrion where they have a little party! During the party they make some energy molecules (ATP) and some trash (CO_2 & H_2O). The trash is removed from the cell and the body by diffusion and osmosis and exhaled from the lungs.

6. How is ATP made? When the glucose molecule is broken down, energy is released. This energy is used to add a phosphate group to a molecule called adenosine diphosphate; ADP. The result is the formation of adenosine triphosphate or ATP. Energy is stored in the bond that holds the extra phosphate to the ADP. When this bond is broken, ATP becomes ADP again and energy is released for use by the organism.



7. Sometimes there is not enough oxygen available for aerobic respiration to occur. In animals a small amount of energy can still be released from glucose (2ATP), but instead of making CO_2 & H_2O, the cells make lactic acid which causes muscle soreness. Plants and fungi also produce only 2 ATP molecules, but instead of lactic acid, these organisms produce alcohol. This process is known as anaerobic respiration or fermentation.

Name: _____ Date: _____ Period: _____

Complete the following sentence stems from the reading.

1. The carbohydrate that gives your cells energy is _____.
2. The job of the mitochondria is to convert _____ into _____.
3. Converting energy from food you eat into food your cells can use is called _____ _____.
4. The energy released from glucose in the mitochondria is stored in a molecule called _____.
5. Aerobic organisms can get more energy out of glucose by using _____.
6. In addition to ATP, _____ and _____ are also made during cell respiration.
7. CO_2 and H_2O leave the body when you _____.

Find a partner. Read your sentences to your partner. They will read to you. Correct your answers if necessary.

1. The carbohydrate that gives your cells energy is _____.
2. The job of the mitochondria is to convert _____ into _____.
3. Converting energy from food you eat into food your cells can use is called _____ _____.
4. The energy released from glucose in the mitochondria is stored in a molecule called _____.
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6. In addition to ATP, _____ and _____ are also made during cell respiration.
7. CO_2 and H_2O leave the body when you _____.

Highlight your answers in the text and write the number of the question beside the answer.
Write the number of the paragraph below to show where you got your answer.

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____

Write a paragraph to summarize cellular respiration. Include all of the following terms: carbohydrate, mitochondria, ATP, oxygen, carbon dioxide, cell respiration, glucose, and fermentation.

Chemistry/ Pre-AP Chemistry Assigned 5/4, Due 5/11

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SECTION 14-1

Compounds in Aqueous Solutions

OBJECTIVES

- Write equations for the dissolution of soluble ionic compounds in water
- Predict whether a precipitate will form when solutions of soluble ionic compounds are combined, and write net ionic equations for precipitation reactions
- Compare dissociation of ionic compounds with ionization of molecular compounds.
- Draw the structure of the hydronium ion, and explain why it is used to represent the hydrogen ion in solution
- Distinguish between strong electrolytes and weak electrolytes.

As you have learned, solid compounds can be ionic or molecular. In an ionic solid, a crystal structure is made up of charged particles held together by ionic attractions. In a molecular solid, molecules are composed of covalently bonded atoms held together by intermolecular forces. When they dissolve in water, ionic compounds and molecular compounds behave differently.

Dissociation

When a compound that is made of ions dissolves in water, the ions separate from one another, as shown in Figure 14-1. *The separation of ions that occurs when an ionic compound dissolves is called* **dissociation**. For example, dissociation of sodium chloride and calcium chloride in water can be represented by the following equations. (As usual, (*s*) indicates a solid species and (*aq*) indicates a species in an aqueous solution. Note that the equation is balanced for charge as well as for atoms.)

$$NaCl(s) \xrightarrow{H_2O} Na^+(aq) + Cl^-(aq)$$

$$CaCl_2(s) \xrightarrow{H_2O} Ca^{2+}(aq) + 2Cl^-(aq)$$

Notice the number of ions produced per formula unit in the equations above. One formula unit of sodium chloride gives two ions in solution, whereas one formula unit of calcium chloride gives three ions in solution.

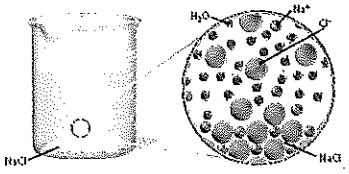

FIGURE 14-1 When NaCl dissolves in water, the ions separate as they leave the crystal.

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Assuming 100% dissociation, a solution that contains 1 mol of sodium chloride contains 1 mol of Na^+ ions and 1 mol of Cl^- ions. In this book, you can assume 100% dissociation for all soluble ionic compounds. The dissociation of NaCl can be represented as follows.

$$\underset{1\ mol}{NaCl(s)} \xrightarrow{H_2O} \underset{1\ mol}{Na^+(aq)} + \underset{1\ mol}{Cl^-(aq)}$$

A solution that contains 1 mol of calcium chloride contains 1 mol of Ca^{2+} ions and 2 mol of Cl^- ions—a total of 3 mol of ions.

$$\underset{1\ mol}{CaCl_2(s)} \xrightarrow{H_2O} \underset{1\ mol}{Ca^{2+}(aq)} + \underset{2\ mol}{2Cl^-(aq)}$$

SAMPLE PROBLEM 14-1

Write the equation for the dissolution of aluminum sulfate, $Al_2(SO_4)_3$, in water. How many moles of aluminum ions and sulfate ions are produced by dissolving 1 mol of aluminum sulfate? What is the total number of moles of ions produced by dissolving 1 mol of aluminum sulfate?

SOLUTION

1 *ANALYZE*
Given: amount of solute = 1 mol $Al_2(SO_4)_3$
solvent identity = water
Unknown: a. moles of aluminum ions and sulfate ions
b. total number of moles of solute ions produced

2 *PLAN*
The coefficients in the balanced dissociation equation will reveal the mole relationships, so you can use the equation to determine the number of moles of solute ions produced.

$$Al_2(SO_4)_3(s) \xrightarrow{H_2O} 2Al^{3+}(aq) + 3SO_4^{2-}(aq)$$

3 *COMPUTE*
a. 1 mol $Al_2(SO_4)_3 \rightarrow 2$ mol $Al^{3+} + 3$ mol SO_4^{2-}
b. 2 mol $Al^{3+} + 3$ mol $SO_4^{2-} = 5$ mol of solute ions

4 *EVALUATE*
The equation is correctly balanced. Because one formula unit of $Al_2(SO_4)_3$ produces 5 ions, 1 mol of $Al_2(SO_4)_3$ produces 5 mol of ions.

PRACTICE

1. Write the equation for the dissolution of each of the following in water, and then determine the number of moles of each ion produced as well as the total number of moles of ions produced.
   a. 1 mol ammonium chloride
   b. 1 mol sodium sulfide
   c. 0.5 mol barium nitrate

Answer
a. $NH_4Cl(s) \xrightarrow{H_2O} NH_4^+(aq) + Cl^-(aq)$;
1 mol NH_4^+, 1 mol Cl^-, 2 mol ions
b. $Na_2S(s) \xrightarrow{H_2O} 2Na^+(aq) + S^{2-}(aq)$;
2 mol Na^+, 1 mol S^{2-}, 3 mol ions
c. $Ba(NO_3)_2(s) \xrightarrow{H_2O} Ba^{2+}(aq) + 2NO_3^-(aq)$;
0.5 mol Ba^{2+}, 1 mol NO_3^-, 1.5 mol ions

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The two possible products of a double-replacement reaction between $(NH_4)_2S$ and $Cd(NO_3)_2$ are ammonium nitrate, NH_4NO_3, and cadmium sulfide, CdS. (The question marks indicate that the states are unknown.)

$$(NH_4)_2S(aq) + Cd(NO_3)_2(aq) \longrightarrow NH_4NO_3(?) + CdS(?)$$

To decide whether a precipitate can form, you must know the solubilities of these two compounds. Consulting Table 14-1, you can see that NH_4NO_3 is soluble in water. However, CdS is insoluble. You can therefore predict that when solutions of ammonium sulfide and cadmium nitrate are combined, ammonium nitrate will not precipitate and cadmium sulfide will. As illustrated in Figure 14-3, crystals of CdS form when the solutions are mixed. In the following equation, the designations (aq) and (s) show that ammonium nitrate remains in solution and cadmium sulfide precipitates.

$$(NH_4)_2S(aq) + Cd(NO_3)_2(aq) \longrightarrow NH_4NO_3(aq) + CdS(s)$$

Net Ionic Equations

Reactions of ions in aqueous solution are usually represented by net ionic equations rather than formula equations. *A* net ionic equation *includes only those compounds and ions that undergo a chemical change in a reaction in an aqueous solution.* To write a net ionic equation, you first convert the chemical equation into an overall ionic equation. All soluble ionic compounds are shown as dissociated ions in solution. The precipitates are shown as solids. The precipitation of cadmium sulfide described previously can be shown by the following overall ionic equation.

$$Cd^{2+}(aq) + 2NO_3^-(aq) + 2NH_4^+(aq) + S^{2-}(aq) \longrightarrow CdS(s) + 2NO_3^-(aq) + 2NH_4^+(aq)$$

Notice that the ammonium ion, NH_4^+, and the nitrate ion, NO_3^-, appear on both sides of this equation. Therefore, they have not undergone any chemical change and are still present in their original form. *Ions that do not take part in a chemical reaction and are found in solution both before and after the reaction are* spectator ions.

To convert an ionic equation into a net ionic equation, the spectator ions are canceled on both sides of the equation. Eliminating the NH_4^+ and NO_3^- ions from the overall ionic equation above gives the following net ionic equation.

$$Cd^{2+}(aq) + S^{2-}(aq) \longrightarrow CdS(s)$$

This net ionic equation applies not only to the reaction between $(NH_4)_2S$ and $Cd(NO_3)_2$ but also to *any* reaction in which a precipitate of cadmium sulfide forms when the ions are combined in solution. For example, it is also the net ionic equation for the precipitation of CdS when $CdSO_4$ and H_2S react.

Answer the following questions:

2. Use Table 14-1 to predict whether each of the following compounds is considered soluble or insoluble:
   a. KCl
   b. $NaNO_3$
   c. AgCl
   d. $BaSO_4$
   e. $Ca_3(PO_4)_2$
   f. $Pb(ClO_3)_2$
   g. $(NH_4)_2S$
   h. $PbCl_2$ (in cold water)
   i. FeS
   j. $Al_2(SO_4)_3$

Dissociation

13. Write the equation for the dissolution of each of the following ionic compounds in water. (Hint: See Sample Problem 14-1.)
    a. KI
    b. $NaNO_3$
    c. $MgCl_2$
    d. Na_2SO_3

14. For the compounds listed in the previous problem, determine the number of moles of each ion produced as well as the total number of moles of ions produced when 1 mol of each compound dissolves in water.

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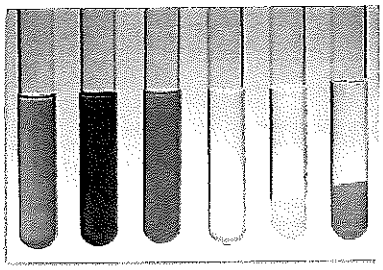


FIGURE 14-2 Ionic compounds can be soluble or insoluble in water. $NiCl_2$, $KMnO_4$, $CuSO_4$, and $Pb(NO_3)_2$ are soluble in water. AgCl and CdS are insoluble in water.

Precipitation Reactions

Although no compound is completely insoluble, compounds of very low solubility can be considered insoluble for most practical purposes. Some examples of ionic compounds that are soluble and insoluble in water are shown in Figure 14-2. It is difficult to write solubility rules that cover all possible conditions. However, we can write some general guidelines to help predict whether a compound made of a certain combination of ions is soluble. These general solubility guidelines are given in Table 14-1.

By looking at the table you can tell that most sodium compounds are soluble. Sodium carbonate, Na_2CO_3, is soluble because it contains sodium. Its dissociation equation is as follows.

$$Na_2CO_3(s) \xrightarrow{H_2O} 2Na^+(aq) + CO_3^{2-}(aq)$$

Internet connect

SCILINKS. NSTA

TOPIC: Precipitation reactions
GO TO: www.scilinks.org
sciLINKS CODE: HC2141

TABLE 14-1 General Solubility Guidelines

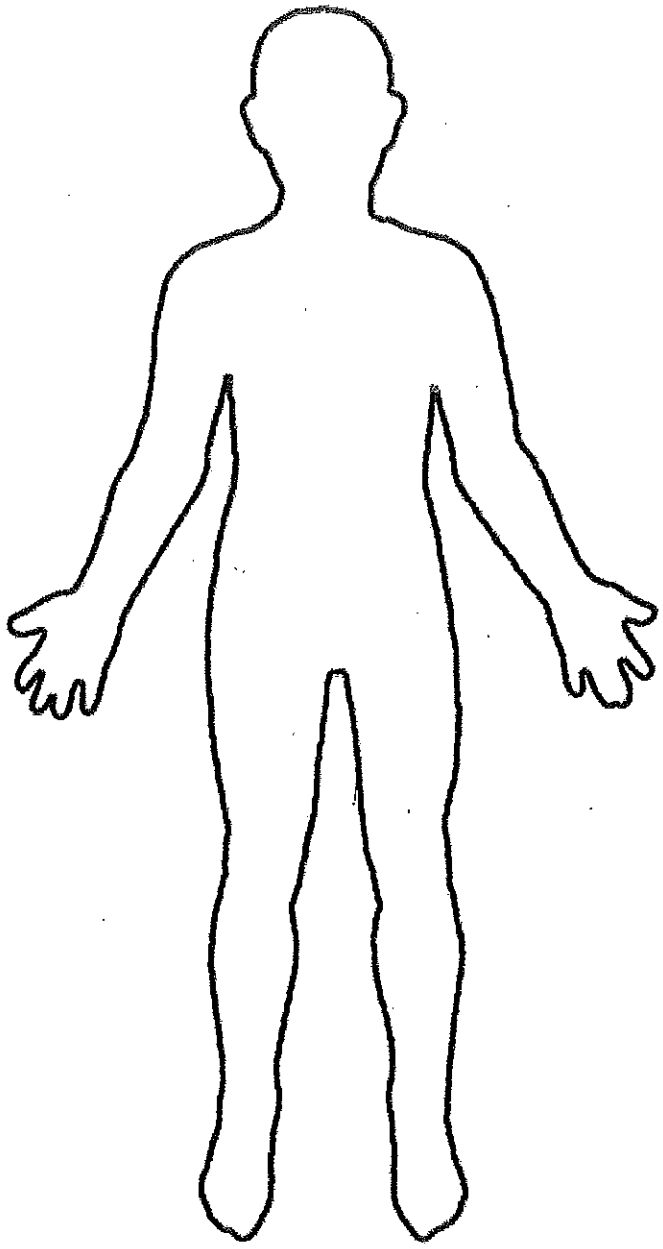
1. Most sodium, potassium, and ammonium compounds are soluble in water.
2. Most nitrates, acetates, and chlorates are soluble.
3. Most chlorides are soluble, except those of silver, mercury(I), and lead. Lead(II) chloride is soluble in hot water.
4. Most sulfates are soluble, except those of barium, strontium, and lead.
5. Most carbonates, phosphates, and silicates are insoluble, except those of sodium, potassium, and ammonium.
6. Most sulfides are insoluble, except those of calcium, strontium, sodium, potassium, and ammonium.

Assignment for AP Biology for Weeks of April 27th to May 10th, 2020

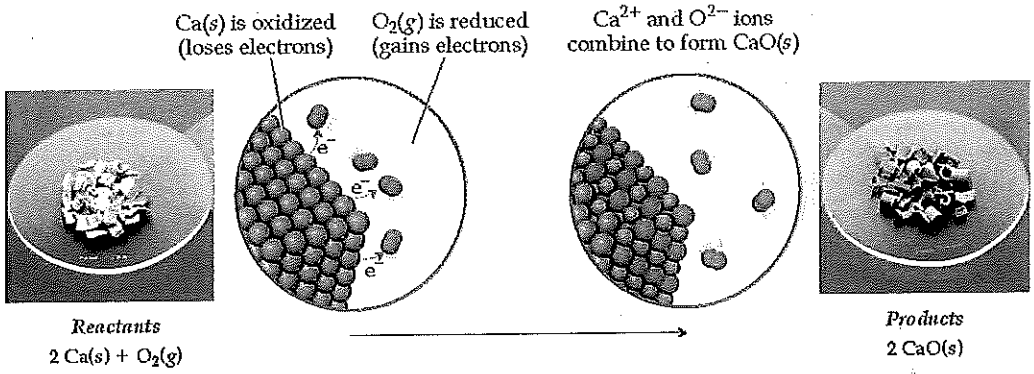
You are to complete 11 Body Systems. The Body Template is for drawing the particular organs associated with the Body System. Be sure to label and color the organs involved. On another sheet of paper (or in you Composition Book) Describe the functions of the Body System. For example: The Digestive System has the mouth, esophagus, liver, stomach, pancreas, gall bladder, small intestine, large intestine, and rectum. I will be posting a picture of this on Schoology. Again if you have not signed in to Schoology, the code is 6FNXS-3NJCZ

The 11 Body Systems are:

Respiratory, Digestive, Circulatory, Endocrine, Integumentary, Skeletal, Muscular, Nervous, Reproductive, Immune and Urinary.



AP Chemistry Assigned May 4, Due May 18



▲ FIGURE 4.12 **Oxidation of calcium metal by molecular oxygen.** The oxidation involves transfer of electrons from the calcium metal to the O_2, leading to formation of CaO.

Oxidation Numbers

Before we can identify an oxidation-reduction reaction, we must have a bookkeeping system—a way of keeping track of electrons gained by the substance being reduced and electrons lost by the substance being oxidized. The concept of oxidation numbers (also called *oxidation states*) was devised as a way of doing this. Each atom in a neutral substance or ion is assigned an **oxidation number**. For monatomic ions the oxidation number is the same as the charge. For neutral molecules and polyatomic ions, the oxidation number of a given atom is a hypothetical charge. This charge is assigned by artificially dividing up the electrons among the atoms in the molecule or ion. We use the following rules for assigning oxidation numbers:

1. *For an atom in its elemental form, the oxidation number is always zero.* Thus, each H atom in the H_2 molecule has an oxidation number of 0 and each P atom in the P_4 molecule has an oxidation number of 0.
2. *For any monatomic ion the oxidation number equals the ionic charge.* Thus, K^+ has an oxidation number of +1, S^{2-} has an oxidation number of −2, and so forth. In ionic compounds the alkali metal ions (group 1A) always have a 1+ charge and therefore an oxidation number of +1. The alkaline earth metals (group 2A) are always +2, and aluminum (group 3A) is always +3 in ionic compounds. (In writing oxidation numbers we will write the sign before the number to distinguish them from the actual electronic charges, which we write with the number first.)
3. *Nonmetals* usually have negative oxidation numbers, although they can sometimes be positive:
   (a) *The oxidation number of oxygen is usually −2 in both ionic and molecular compounds.* The major exception is in compounds called peroxides, which contain the O_2^{2-} ion, giving each oxygen an oxidation number of −1.
   (b) *The oxidation number of hydrogen is usually +1 when bonded to nonmetals and −1 when bonded to metals.*
   (c) *The oxidation number of fluorine is −1 in all compounds.* The other *halogens* have an oxidation number of −1 in most binary compounds. When combined with oxygen, as in oxyanions, however, they have positive oxidation states.
4. *The sum of the oxidation numbers of all atoms in a neutral compound is zero. The sum of the oxidation numbers in a polyatomic ion equals the charge of the ion.* For example, in the hydronium ion H_3O^+ the oxidation number of each hydrogen is +1 and that of oxygen is −2. Thus, the sum of the oxidation numbers is 3(+1) + (−2) = +1, which equals the net charge of the ion. This rule is useful in obtaining the oxidation number of one atom in a compound or ion if you know the oxidation numbers of the other atoms, as illustrated in Sample Exercise 4.8.

It's important to remember that in every oxidation-reduction reaction, the oxidation numbers of at least two atoms must change. The oxidation number increases for any atom that is oxidized and decreases for any atom that is reduced.

GIVE IT SOME THOUGHT

What is the oxidation number of nitrogen (a) in aluminum nitride, AlN, and (b) in nitric acid, HNO_3?

SAMPLE EXERCISE 4.8 Determining Oxidation Numbers

Determine the oxidation number of sulfur in (a) H_2S, (b) S_8, (c) SCl_2, (d) Na_2SO_3, (e) SO_4^{2-}.

SOLUTION

Analyze We are asked to determine the oxidation number of sulfur in two molecular species, in the elemental form, and in two substances containing ions.

Plan In each species the sum of oxidation numbers of all the atoms must equal the charge on the species. We will use the rules outlined previously to assign oxidation numbers.

Solve

(a) When bonded to a nonmetal, hydrogen has an oxidation number of +1 (rule 3b). Because the H_2S molecule is neutral, the sum of the oxidation numbers must equal zero (rule 4). Letting x equal the oxidation number of S, we have $2(+1) + x = 0$. Thus, S has an oxidation number of −2.

(b) Because this is an elemental form of sulfur, the oxidation number of S is 0 (rule 1).

(c) Because this is a binary compound, we expect chlorine to have an oxidation number of −1 (rule 3c). The sum of the oxidation numbers must equal zero (rule 4). Letting x equal the oxidation number of S, we have $x + 2(-1) = 0$. Consequently, the oxidation number of S must be +2.

(d) Sodium, an alkali metal, always has an oxidation number of +1 in its compounds (rule 2). Oxygen has a common oxidation state of −2 (rule 3a). Letting x equal the oxidation number of S, we have $2(+1) + x + 3(-2) = 0$. Therefore, the oxidation number of S in this compound is +4.

(e) The oxidation state of O is −2 (rule 3a). The sum of the oxidation numbers equals −2, the net charge of the SO_4^{2-} ion (rule 4). Thus, we have $x + 4(-2) = -2$. From this relation we conclude that the oxidation number of S in this ion is +6.

Comment These examples illustrate that the oxidation number of a given element depends on the compound in which it occurs. The oxidation numbers of sulfur, as seen in these examples, range from −2 to +6.

PRACTICE EXERCISE

What is the oxidation state of the boldfaced element in (a) P_2O_5, (b) NaH, (c) $Cr_2O_7^{2-}$, (d) $SnBr_4$, (e) BaO_2?

Answers: (a) +5, (b) −1, (c) +6, (d) +4, (e) −1

Oxidation of Metals by Acids and Salts

The reaction between a metal and either an acid or a metal salt conforms to the general pattern

$$A + BX \longrightarrow AX + B \qquad [4.24]$$

Examples:

$$Zn(s) + 2\,HBr(aq) \longrightarrow ZnBr_2(aq) + H_2(g)$$

$$Mn(s) + Pb(NO_3)_2(aq) \longrightarrow Mn(NO_3)_2(aq) + Pb(s)$$

These reactions are called **displacement reactions** because the ion in solution is *displaced* (replaced) through oxidation of an element.

4.48 Determine the oxidation number of sulfur in each of the following substances: (a) barium sulfate, $BaSO_4$, (b) sulfurous acid, H_2SO_3, (c) strontium sulfide, SrS, (d) hydrogen sulfide, H_2S. (e) Based on these compounds what is the range of oxidation numbers seen for sulfur? Is there any relationship between the range of accessible oxidation states and sulfur's position on the periodic table?

4.50 Determine the oxidation number for the indicated element in each of the following compounds: (a) Co in $LiCoO_2$, (b) Al in $NaAlH_4$, (c) C in CH_3OH (methanol), (d) N in GaN, (e) Cl in $HClO_2$, (f) Cr in $BaCrO_4$.

4.51 Which element is oxidized and which is reduced in the following reactions?

(a) $N_2(g) + 3\,H_2(g) \longrightarrow 2\,NH_3(g)$

(b) $3\,Fe(NO_3)_2(aq) + 2\,Al(s) \longrightarrow 3\,Fe(s) + 2\,Al(NO_3)_3(aq)$

(c) $Cl_2(aq) + 2\,NaI(aq) \longrightarrow I_2(aq) + 2\,NaCl(aq)$

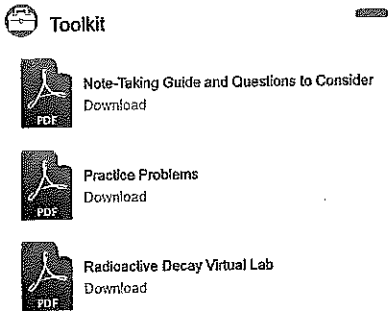
(d) $PbS(s) + 4\,H_2O_2(aq) \longrightarrow PbSO_4(s) + 4\,H_2O(l)$

Pre-AP Physics (L. Russell)
Assignment for Weeks April 27 – May 8

These materials are on the Georgia Public Broadcasting website. Watch the internet video about radioactivity using

https://www.gpb.org/physics-in-motion/unit-7/radioactive-decay

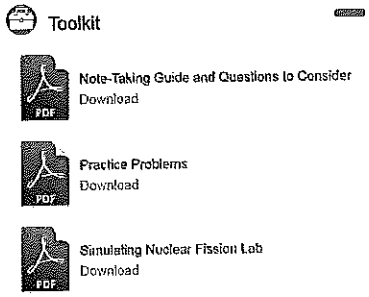
These files are found on the same web page as the video above. Click on the "+" beside the word Toolkit in order to access them. Complete the Note Taking Guide as you watch the video, complete the Practice Problems, then perform the Radioactive Decay Virtual Lab. The virtual lab is available on the "phet" website shown in the lab writeup.



These materials are on the Georgia Public Broadcasting website. Watch the internet video about nuclear fission

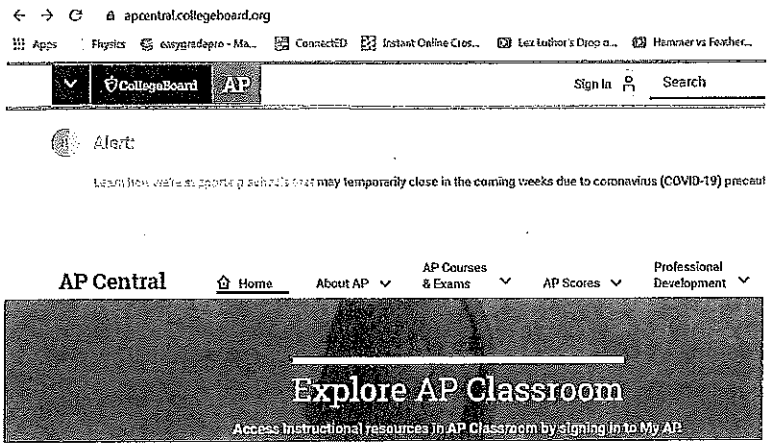
https://www.gpb.org/physics-in-motion/unit-7/fission

These files are found on the same web page as the video above. Click on the "+" beside the word Toolkit in order to access them. Complete the Note Taking Guide as you watch the video, complete the Practice Problems, then perform the Simulating Nuclear Fission Lab. The virtual lab is available on the "phet" website shown in the lab writeup.



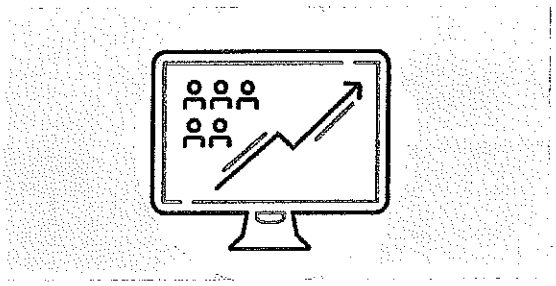
AP Physics C (L. Russell)
Assignment for Week April 27– May 8

Go to apcentral.collegeboard.org and click on the "Learn how we're supporting schools" tab that you see in the screenshot below. Then click on the "AP Online Course Schedule" tab on the next screen. This gives you access to a list of video lessons that the College Board is providing now for AP students. The AP exam will not cover oscillations or gravitation this year due to the shortened schedule. I posted an old AP exam on Schoology in the folder "AP Review Materials". Here is the access code for our Schoology course if you need it. J4ZN-CXRF-7RFF9 You can take a picture of your answers with your phone and submit using Schoology and I'll check it for you.



Resources for Remote Teaching

To support communities that experience substantial disruption or school closures, we're providing several ways for teachers to help students prepare for exam day.



AP Classroom Resources and Tools

Continue to provide remote instruction with AP Classroom. You can assign Topic Questions and use Personal Progress Checks to evaluate where students may want to focus their reviews for exam prep.

Get Tips

AP Online Course Schedule

Get more details, including the schedule, for AP online classes and review sessions. These mobile-friendly classes, designed to be used alongside your work, are recorded and available on demand.

Learn More