

Buchanan

## Blizzard Bag Week 1

### Physical Science Chap 19 Optics

Assignment in your book please read Chap 19 Optics pages 568-597

Complete the Study Guide Homework Handouts on Sections 19.1 Mirrors, 19.2 Lenses, Word Wise, also write the definitions for all of the vocabulary words listed on page 594

## Chapter 19 Optics

**Section 19.1 Mirrors****(pages 570–573)**

*This section describes the law of reflection and explains how images are formed by plane, concave, and convex mirrors. Uses of mirrors are also described.*

**Reading Strategy (page 570)**

**Comparing and Contrasting** After reading this section, compare mirror types by completing the table. For more information on this Reading Strategy, see the **Reading and Study Skills** in the **Skills and Reference Handbook** at the end of your textbook.

Mirror Types		
Mirror	Shape of Surface	Image (virtual, real, or both)
Plane	Flat	Virtual
Concave		
Convex		

**The Law of Reflection (pages 570–571)**

1. A ray diagram shows how rays \_\_\_\_\_ when they strike mirrors and pass through lenses.
2. Is the following sentence true or false? On a ray diagram, the angle of incidence is the angle that a reflected ray makes with a line drawn perpendicular to the surface of a mirror. \_\_\_\_\_
3. Circle the letter of the sentence that best answers the following question. What does a ray diagram of the law of reflection show?
  - a. The angle of incidence is greater than the angle of reflection.
  - b. The angle of reflection is greater than the angle of incidence.
  - c. The angle of incidence is equal to the angle of reflection.
  - d. The angle of incidence increases as the angle of reflection decreases.

**Plane Mirrors (page 571)**

4. A mirror with a flat surface is known as a(n) \_\_\_\_\_.
5. Circle the letter of each sentence that is true about plane mirrors.
  - a. Plane mirrors always produce virtual images.
  - b. Plane mirrors produce right-left reversed images of objects.
  - c. Light rays reflect from a mirror at an angle that is twice as large as the angle of incidence.
  - d. Your image appears to be the same distance behind a mirror as you are in front of it.

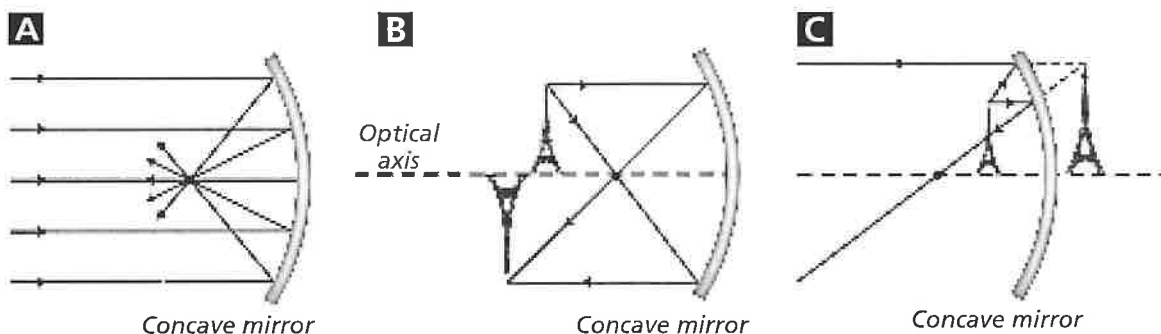
**Chapter 19 Optics**

6. What type of image is a copy of an object formed at the location from which the light rays appear to come?
- a. reversed image                      b. virtual image  
c. real image                              d. reflected image

**Concave and Convex Mirrors (pages 572–573)**

7. Circle the letter of the object that is most like the shape of a concave mirror.
- a. the inside of a shallow bowl      b. the bottom of a bucket  
c. the outside surface of a ball      d. a glass window pane
8. What is the focal point? \_\_\_\_\_  
\_\_\_\_\_
9. Is the following sentence true or false? A real image is a copy of an object formed at the point where light rays actually meet.  
\_\_\_\_\_

For questions 10 through 12, refer to the diagrams below.



10. Label the focal point on each diagram.
11. In B and C, label the object and image locations and identify the image as real or virtual. (*Hint: The object is always right-side up and in front of the reflecting surface of the mirror.*)
12. What determines whether a concave mirror produces a real image or a virtual image?
- a. the size of the object  
b. the shape of the object  
c. the position of the object relative to the focal point  
d. the location of the optical axis
13. A curved mirror whose outside surface is the reflecting surface is called a(n) \_\_\_\_\_ mirror.
14. Why do convex mirrors always form virtual images? \_\_\_\_\_  
\_\_\_\_\_
15. Is the following sentence true or false? The image formed by a convex lens is always upright and smaller than the object.  
\_\_\_\_\_

## Chapter 19 Optics

**Section 19.2 Lenses****(pages 574–578)**

*This section defines index of refraction and discusses how it is related to the way light behaves upon entering different materials. Image formation in concave and convex lenses are presented.*

**Reading Strategy (page 574)**

**Building Vocabulary** As you read the section, define in your own words each vocabulary word listed in the table. For more information on this Reading Strategy, see the **Reading and Study Skills** in the **Skills and Reference Handbook** at the end of your textbook.

Refraction and Reflection	
Vocabulary Term	Definition
Index of refraction	
Critical angle	
Total internal reflection	

**Index of Refraction of Light (pages 574–575)**

- Circle the letter of the sentence about the speed of light through media that is true.
  - Once light passes from a vacuum into any medium, it speeds up.
  - Compared to other media, air slows the speed of light only slightly.
  - The speed of light is greater in water than in air.
  - The speed of light in a new medium depends on the size of the new medium.
- What determines how much a light ray bends when it passes from one medium to another? \_\_\_\_\_  
\_\_\_\_\_
- The ratio of the speed of light in a vacuum to the speed of light in a particular material is known as the \_\_\_\_\_ of that material.

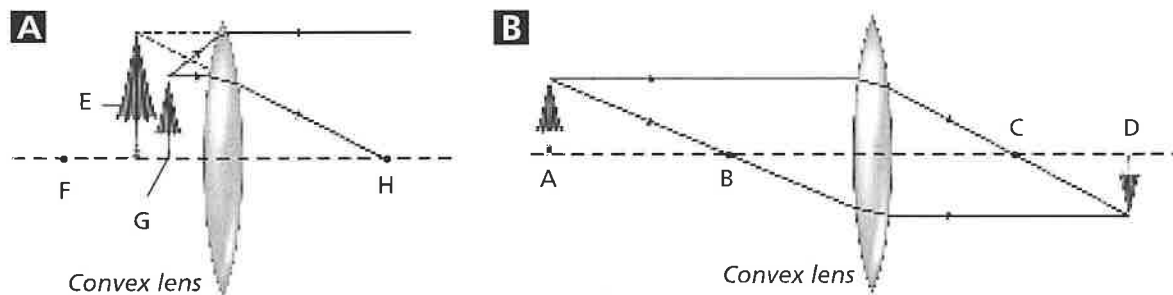
**Concave and Convex Lenses (pages 576–577)**

- An object made of transparent material that has one or two curved surfaces that can refract light is called a(n) \_\_\_\_\_.
- Two properties of a lens that affect the way it refracts light are \_\_\_\_\_ and \_\_\_\_\_.
- A lens that is curved inward at the center and is thickest at the outside edges is called a(n) \_\_\_\_\_ lens.

**Chapter 19 Optics**

7. Concave lenses always cause light rays to \_\_\_\_\_.
8. Circle the letter of each sentence that is true about convex lenses.
  - a. Convex lenses are diverging lenses.
  - b. Fly eyes have many facets shaped like the surface of convex lenses.
  - c. Convex lenses can form either real or virtual images.
  - d. Convex lenses are shaped somewhat like the inside of a bowl.
9. What determines whether a convex lens will form a real image or a virtual image? \_\_\_\_\_

For questions 10 and 11, refer to the diagrams below.



10. In each diagram identify the labeled items as the object, focal point, or image. Also, identify the image as virtual or real.

- |          |          |
|----------|----------|
| A. _____ | B. _____ |
| C. _____ | D. _____ |
| E. _____ | F. _____ |
| G. _____ | H. _____ |

11. Which diagram shows the formation of a virtual image?  
\_\_\_\_\_

**Total Internal Reflection (page 578)**

12. Circle each letter of a sentence that is true about the critical angle.
  - a. At the critical angle, light refracts along the surface between two media.
  - b. All the light is reflected back into the first medium at the critical angle.
  - c. Only concave lenses have critical angles.
  - d. All the light is reflected back into the second, denser medium when the critical angle is exceeded.
13. Is the following sentence true or false? Materials that have small critical angles, such as the glass used in fiber optics, cause most of the light entering them to be totally internally reflected. \_\_\_\_\_

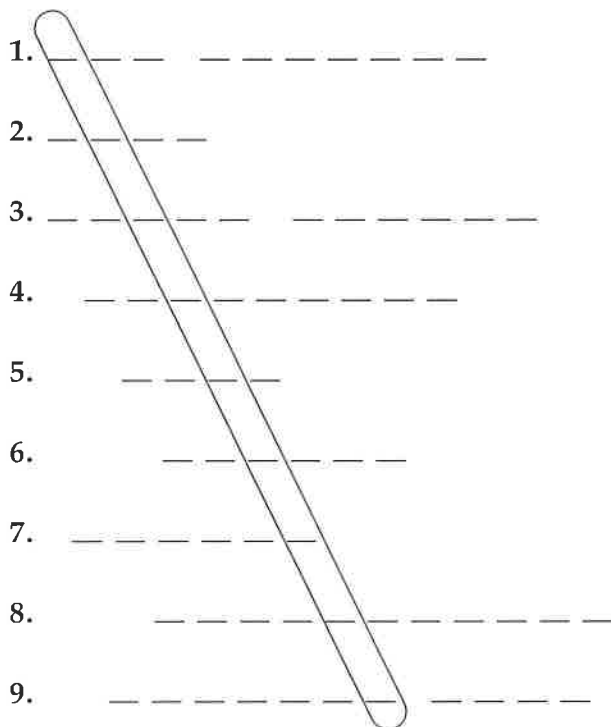
**Chapter 19 Optics**

**WordWise**

Use the clues below to identify vocabulary terms from Chapter 19. Write the terms below, putting one letter in each blank. When you finish, the term enclosed in the diagonal will reveal a term that is important in the study of optics.

**Clues**

1. Shows how the paths of light rays change when they strike mirrors or pass through lenses
2. Transparent material with one or two curved surfaces that can refract light
3. A mirror with a flat surface
4. An instrument that uses lenses or mirrors to collect and focus light from distant objects
5. Expands and contracts to control the amount of light entering the eye
6. An optical instrument that records an image of an object
7. Transparent outer layer of the eye
8. When the cornea is misshapen, this vision problem can result.
9. Type of lens that causes light rays to diverge



**Hidden Word:** \_\_\_\_\_

**Definition:** \_\_\_\_\_

## Blizzard Bag Week 2

### Physical Science Chap 26 Exploring the Universe

Assignment in your book please read Chap 26 Exploring the Universe pages 826-858

Complete the Study Guide Homework Handouts on Sections 26.1 The Sun, 26.2, Stars, Word Wise, also write the definitions for all of the vocabulary words listed on page 858

**Chapter 26 Exploring the Universe**

**Section 26.1 The Sun**

**(pages 828–833)**

*This section describes how the sun produces energy. It also describes the sun’s interior and atmosphere.*

**Reading Strategy (page 828)**

**Build Vocabulary** Copy the table on a separate sheet of paper and add more lines as needed. As you read, write a definition of each vocabulary term in your own words. For more information on this Reading Strategy, see the **Reading and Study Skills** in the **Skills and Reference Handbook** at the end of your textbook.

The Sun	
Vocabulary Term	Definition
Core	
Radiation zone	
Convection zone	

**Energy from the Sun (pages 828–829)**

- The sun gives off a large amount of energy in the form of \_\_\_\_\_ radiation.
- Circle the letter of each sentence that is true about nuclear fusion in the sun.
  - Less massive nuclei combine into more massive nuclei.
  - The end product of fusion is hydrogen.
  - Fusion is a type of chemical reaction.
  - Hydrogen nuclei fuse into helium nuclei.

**Forces in Balance (page 829)**

- For the sun to be stable, inward and outward forces within it must be in \_\_\_\_\_.
- Is the following sentence true or false? The sun remains stable because the inward pull of gravity balances the outward push of thermal pressure from nuclear fission. \_\_\_\_\_

**The Sun’s Interior (pages 830–831)**

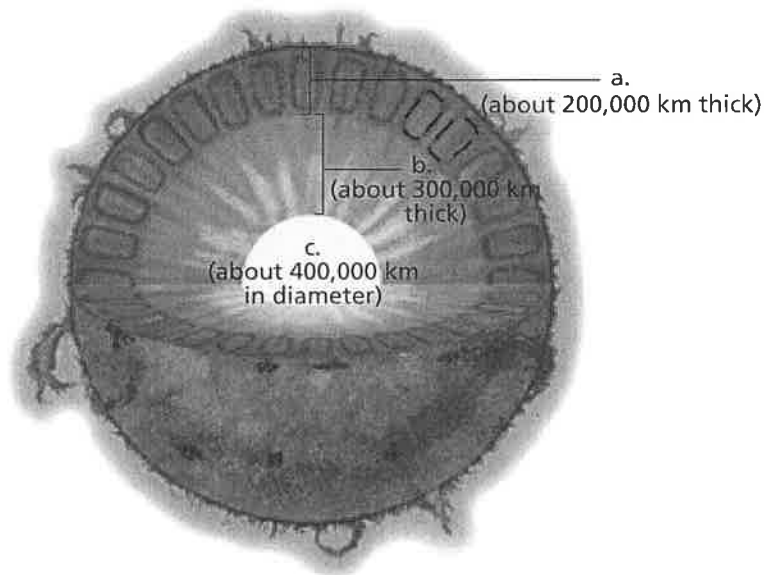
- Circle the letter of each layer of the sun’s interior.
 

a. the radiation zone	c. the convection zone
b. the photosphere	d. the core



## Chapter 26 Exploring the Universe

6. Circle the letter of each way that energy moves through the sun.
- a. gravity                                      b. convection  
c. radiation                                    d. nuclear fusion
7. List the layers of the sun's interior shown on the diagram.



- a. \_\_\_\_\_  
b. \_\_\_\_\_  
c. \_\_\_\_\_

### The Sun's Atmosphere (page 831)

8. Circle the letter of each layer of the sun's atmosphere.
- a. photosphere                                      b. chromosphere  
c. corona    d. core
9. When can the corona be seen? \_\_\_\_\_  
\_\_\_\_\_

### Features of the Sun's Atmosphere (pages 832-833)

Match each description to a feature of the sun's atmosphere.

Description	Feature of Sun's Atmosphere
_____ 10. Spectacular features of the sun's atmosphere that occur near sunspots	a. solar flares
_____ 11. Areas of gas in the atmosphere that are cooler than surrounding areas	b. prominences
_____ 12. Sudden releases of energy that produce X-rays and hurl charged particles into space	c. sunspots

Chapter 26 Exploring the Universe

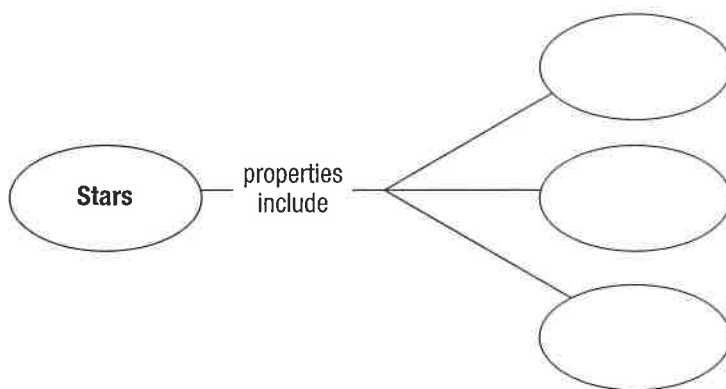
## Section 26.2 Stars

(pages 834–839)

*This section discusses how scientists classify stars. It also describes other important properties of stars.*

### Reading Strategy (page 834)

**Using Prior Knowledge** Add what you already know about stars to the concept map. After you read, complete your concept map, adding more ovals as needed. For more information on this Reading Strategy, see the **Reading and Study Skills** in the **Skills and Reference Handbook** at the end of your textbook.



### Distances to the Stars (pages 834–836)

- Circle the letter of each sentence that is true about a light-year.
  - It is a typical unit of measure for distances on Earth.
  - It is a distance of about 9.5 trillion kilometers.
  - It is the distance that light travels in a vacuum in a year.
  - It is a unit of time.
- Is the following sentence true or false? Parallax is the apparent change in position of an object with respect to a distant background.  
\_\_\_\_\_
- Astronomers measure the parallax of a nearby star to determine its \_\_\_\_\_.

### Properties of Stars (pages 836–837)

- Circle the letter of each property that astronomers use to classify stars.
 

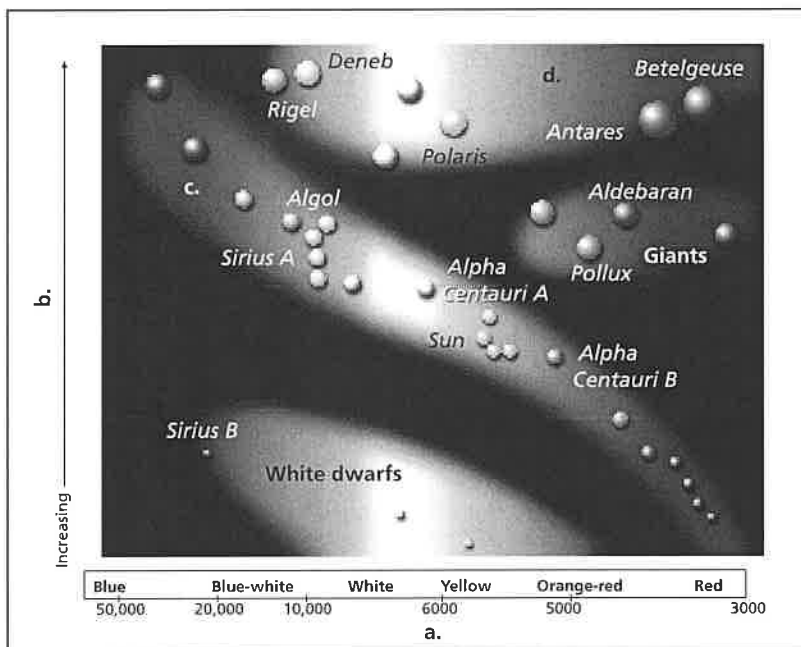
a. brightness	b. distance
c. color	d. size
- Is the following sentence true or false? The brightness of a star as it appears from Earth is called its absolute brightness. \_\_\_\_\_
- A star's \_\_\_\_\_ can be used to identify different elements in the star.

**Chapter 26 Exploring the Universe3**

7. Describe the chemical makeup of most stars. \_\_\_\_\_

**The Hertzsprung-Russell Diagram (pages 838–839)**

8. Circle the letter of each way that Hertzsprung-Russell (H-R) diagrams might be used.
- a. to study sizes of stars
  - b. to study distant planets
  - c. to determine a star’s absolute brightness
  - d. to determine a star’s surface temperature or color



9. Provide labels for each of the letters shown on the H-R diagram above.

- a. \_\_\_\_\_
- b. \_\_\_\_\_
- c. \_\_\_\_\_
- d. \_\_\_\_\_

10. Circle the letter of each sentence that is true about supergiants.

- a. They are found at the upper right of the H-R diagram.
- b. They are much brighter than main sequence stars of the same temperature.
- c. They are 100 to 1000 times the diameter of the sun.
- d. They are smaller and fainter than giants.

11. How does the brightness of white dwarfs compare to the brightness of main sequence stars? \_\_\_\_\_

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**Chapter 26 Exploring the Universe**

**WordWise**

Answer the questions by writing the correct vocabulary terms from the chapter in the blanks. Use the circled letter in each word to find the hidden word.

**Clues**

What is the central region of the sun?

What is the surface layer of the sun?

What is a dramatic eruption on the sun that produces X-rays and hurls charged particles into space at nearly the speed of light?

What is a contracting cloud of gas and dust with enough mass to form a star?

What is the diagonal band of stars on the H-R diagram?

What is the dense remnant of a high-mass star that has exploded as a supernova?

What are the very bright stars at the upper right of the H-R diagram?

What is the apparent change in position of an object with respect to a distant background?

What is an object whose surface gravity is so great that nothing, not even light, can escape from it?

What is the distance that light travels in a vacuum in a year?

What is a large glowing ball of gas in space?

What is a large cloud of gas and dust spread out over a large volume of space?

**Vocabulary Terms**

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**Hidden Word:** \_ \_ \_ \_ \_ \_ \_ \_ \_ \_

**Definition:** \_\_\_\_\_

## Blizzard Bag Week 3

### Physical Science Chap 21 Magnetism

Assignment in your book please read Chap 21 pages 628-657

Complete the Study Guide Homework Handouts on Sections 21.1 Magnets and Magnetic Fields, 21.2 Electromagnetism, Word Wise, also write the definitions for all of the vocabulary words listed on page 650

Chapter 21 Magnetism

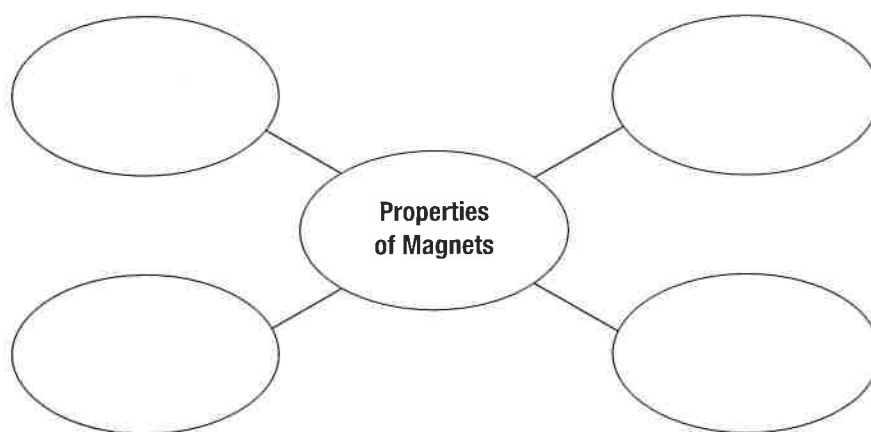
# Section 21.1 Magnets and Magnetic Fields

(pages 630–633)

*This section describes magnetic forces and magnetic fields. Characteristics of magnetic materials also are discussed.*

## Reading Strategy (page 630)

**Using Prior Knowledge** Before you read, copy the diagram below and add what you already know about magnets to the diagram. After you read, revise the diagram based on what you learned. For more information on this Reading Strategy, see the **Reading and Study Skills** in the **Skills and Reference Handbook** at the end of your textbook.



1. In the year 1600, William Gilbert published a book explaining the properties of \_\_\_\_\_.

## Magnetic Forces (page 630)

2. Is the following sentence true or false? Magnetic force can be exerted on moving charges, as well as on iron or on another magnet.  
\_\_\_\_\_

3. What did William Gilbert discover when he used a compass to map forces around a magnetic sphere? \_\_\_\_\_  
\_\_\_\_\_

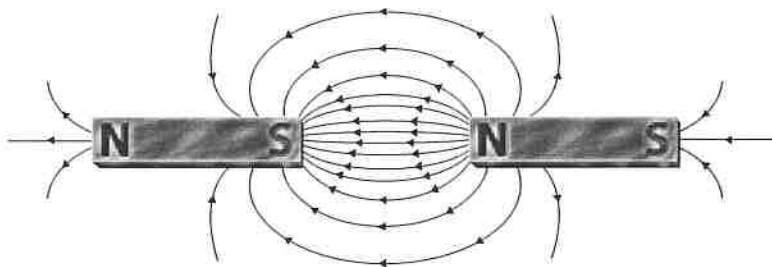
4. Circle the letter of each sentence that is true about magnetic force.

- a. Two magnets that approach each other may attract or repel.
- b. Magnetic forces do not vary with distance.
- c. Opposite magnetic poles repel one another.
- d. Magnetic forces act over a distance.

**Chapter 21 Magnetism**

**Magnetic Fields (pages 631–632)**

For questions 5 and 6, refer to the figure below.



5. Where is the magnetic field the strongest? \_\_\_\_\_  
\_\_\_\_\_
6. Based on this figure, what would you expect to happen when the north pole of one magnet faces the south pole of another magnet?  
\_\_\_\_\_
7. Circle the letter of each sentence that is true about magnetic fields.
  - a. Magnetic fields surround a magnet and can exert a magnetic force.
  - b. Field lines begin near the south pole of a magnet and extend toward the north pole.
  - c. Iron filings are most attracted to areas where the field is strongest.
  - d. A magnetic field is strongest near the north and south poles of a magnet.
8. The area that is influenced by the magnetic field surrounding Earth is called the \_\_\_\_\_.

**Magnetic Materials (pages 632–633)**

Match each term with its description.

- | Description   | Term                      |
|---|---------------------------|
| _____ 9. Can be magnetized because it has many domains                                  | a. ferromagnetic material |
| _____ 10. Has randomly oriented domains   | b. magnetic domain        |
| _____ 11. Region that has many atoms with aligned magnetic fields                       | c. nonmagnetized material |
| 12. What can cause the realignment of magnetic domains in a material?<br>_____<br>_____ |                           |

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## Chapter 21 Magnetism

**Section 21.2 Electromagnetism****(pages 635–639)**

*This section describes how electricity and magnetism are related. Uses of solenoids and electromagnetic devices are discussed, and a description of how these devices work is presented.*

**Reading Strategy (page 635)**

**Identifying Main Ideas** Copy the table on a separate sheet of paper. As you read, write the main idea of the text that follows each topic in the table. For more information on this Reading Strategy, see the **Reading and Study Skills** in the **Skills and Reference Handbook** at the end of your textbook.

Electromagnetism	
Topic	Main Idea
Electricity and magnetism	
Direction of magnetic fields	
Direction of electric currents	
Solenoids and electromagnets	
Electromagnetic devices	

1. In 1820 Hans Oersted discovered a connection between electricity and \_\_\_\_\_.

**Electricity and Magnetism (pages 635–636)**

2. Electricity and magnetism are different aspects of a single force known as the \_\_\_\_\_ force.
3. Both aspects of the electromagnetic force are caused by \_\_\_\_\_.
4. Is the following sentence true or false? Moving electric charges create a magnetic field. \_\_\_\_\_
5. Is the following sentence true or false? The vibrating charges that produce an electromagnetic wave also create a magnetic field. \_\_\_\_\_
6. A charge moving in a magnetic field will be deflected in a direction that is \_\_\_\_\_ to both the magnetic field and to the velocity of the charge.



**Chapter 21 Magnetism**

**Solenoids and Electromagnets (pages 637–638)**

7. Is the following sentence true or false? The strength of the magnetic field through the center of a coil of current-carrying wire is calculated by adding together the fields from each turn of the coil. \_\_\_\_\_
8. A coil of current-carrying wire that produces a magnetic field is called a(n) \_\_\_\_\_.
9. What is an electromagnet? \_\_\_\_\_  
\_\_\_\_\_
10. Circle the letter of each sentence that is true about electromagnets.
  - a. Placing an iron rod in a solenoid reduces the strength of its magnetic field.
  - b. Devices that utilize electromagnets include doorbells and telephones.
  - c. A magnetic field can be turned on and off with an electromagnet.
  - d. An electromagnet can control the direction of a magnetic field.
11. List three factors that determine the strength of an electromagnet.
  - a. \_\_\_\_\_
  - b. \_\_\_\_\_
  - c. \_\_\_\_\_
12. Is the following sentence true or false? Decreasing the current in the solenoid decreases the strength of an electromagnet.  
\_\_\_\_\_
13. What types of solenoid cores make stronger electromagnets? \_\_\_\_\_  
\_\_\_\_\_

**Electromagnetic Devices (pages 638–639)**

14. Electromagnetic devices change \_\_\_\_\_ energy into \_\_\_\_\_ energy.
15. Complete the following table about electromagnetic devices.

Description	Device
Uses electromagnets to convert electrical signals into sound waves	
	Electric motor
Uses an electromagnet to measure small amounts of current	

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**Chapter 21 Magnetism****WordWise**

Solve the clues to determine which vocabulary words from Chapter 21 are hidden in the puzzle. Then find and circle the terms in the puzzle. The terms may occur vertically, horizontally, or diagonally. Some terms may be spelled backwards.

f	g	d	e	l	o	p	c	i	t	e	n	g	a	m
e	a	a	t	s	o	r	m	e	v	r	p	e	a	b
r	r	q	l	z	f	f	r	e	r	e	v	g	c	t
r	c	i	u	v	t	t	c	h	n	g	n	r	r	r
o	s	d	o	m	a	i	n	i	u	e	t	a	o	a
m	o	u	b	p	l	n	b	k	t	n	u	u	f	n
a	l	t	y	o	i	r	o	o	n	e	r	m	t	s
g	e	k	p	o	u	d	s	m	a	r	b	i	n	f
n	n	k	a	t	p	p	o	i	e	a	i	c	a	o
e	o	g	o	y	h	z	a	v	b	t	n	s	y	r
t	i	e	e	e	h	n	j	n	m	o	e	m	o	m
i	d	i	r	j	u	e	r	t	c	r	f	r	u	e
c	t	e	z	z	w	y	n	r	p	e	r	j	b	r

**Clues**

Region where a magnetic field is strongest

Nickel is a(n) \_\_\_\_\_ material.

Current-carrying wire with a loop in it

Uses an electromagnet to measure small amounts of current

Device with fanlike blades that converts energy from various sources to electrical energy

Area influenced by Earth's magnetic field

Converts mechanical energy into electrical energy

Aligned magnetic fields

Step-down or step-up

**Hidden Words**

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

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# Period 1



Stream

Classwork

People

Grades

# BIOLOGY

All topics

Create

Google Calendar Class Drive folder

## Blizzard Bag Day 1-15

Edited Mar 11

No due date

### Blizzard Bag Day 1-15

Complete Eight Bio Air Questions Per Day

Write Question and Answer Per Day

May of course shorten question and answer, no need to write every word that you see in each question.

There are Five years of questions posted on Tigertown.com and on Google Classroom

Start with the 2015 exam and build your way up to the most current Bio Air test.

Complete this assignment on a hard copy. Staple and turn in when you return.

Value of Assignment- 100 Points per day that we are out...

0

Turned in

12

Assigned

[View assignment](#)

## Blizzard Bag #1-15

Edited Mar 11

