

**Biology****5.3 Some Economically Important Insects**

Some insects are great economically important. E.g honey bee, silk worm.
Some insects are economically harmful. E.g tsetse fly, dark moth and maize stock borer moth.

Tsetse fly:- a vector of the disease known as trypanosomiasis or trypan (sleeping sickness in human and gundi in cattle with common symptom such as intermittent fever, progressive anemia and loss of weight.)

What is the method of controlling tsetse fly ?

- ❖ Removing bushes and undergrowth along a stream to reduce tsetse fly population.
- ❖ Spraying areas known to shelter the tsetse flies with insecticide.
- ❖ Spraying live stock with insect repellent
- ❖ Trapping tsetse fly by traps.

Army Worms (Dark Moth)

Army worms are caterpillars that move in mass as armies and consume grasses on their way. It attacks maize, sorghum, wheat, barley, millet, teff, rice, sugar cane and range land grasses.

They do not attack vegetables, tea, and coffee.

The larval stage of moth and butterfly are called caterpillars.

- ❖ Caterpillar can be hairy, spiny and have unusual shapes.
- ❖ They have large powerful jaws adapted to cut and chew leaves.
- ❖ Caterpillars are very greedy eaters.
- ❖ Most adult butterfly and moth feed on nectar.
- ❖ The larvae have biting mouth parts and the adults have sucking mouth parts.
- ❖ Write exercise 5.3 page 110-111 question 1 - 5

6.2 የውርወራ ተግባራት

- ከሰው ልጅ ተፈጥሯዊ እንቅስቃሴዎች ውስጥና ከአትሌቲካዊ ተግባራት ውስጥ አንዱ ውርወራ ነው።
- የውርወራ ተግባራት እንቅስቃሴዎች የተለያዩ አካላዊ ችሎታዎች ለማዳበር ከፍተኛ አስተዋጽኦ አላቸው።
- አትሌቲካዊ ተግባራትን ከመሰራት በፊት ቅድመ አካላዊ ችሎታን ለማዳበር ክብደት ያላቸውን ኳሶችን በማንሸራተትና በመወርወር ክህሎትን ማዳበር ያስፈልጋል ።

6.2.1 ክብደት ያላቸው ኳሶች ወደ ኋላ በመንሸራተት መወርወር



የእንቅስቃሴ ውሳኔ

- ❖ ለዚህ እንቅስቃሴ ክብደት ያላቸው እጅ ላይ ለመቀመጥና ለመያዝ የሚያስችል መጠን ያላቸው ኳሶች ከላስቲክና፤ከጨርቅ፤አሸዋ ወይም ክብደት ሊሰጥ የሚችል ሌላ ነገር በመጨመር ማዘጋጀት።
- ❖ ወደ ኋላ ተንሸራትቶ ከመወርወር በፊት ኳሷን ትክክል አካባቢ ከጀሮ በታች አስጠግቶ መዳፍ ላይ በአሉሎ አያያዝ መያዝ።
- ❖ ፊትን ከሚወርወርበት አቅጣጫ በተቃራኒ በመመለስ እግርን በትክክል ስፋት ልክ ከፍቶና የማይወረውረውን እጅ ወደ ላይ ዘርግቶ መቆም።
- ❖ ተንሸራቶከመወርወርበፊትከወገብበላይያለውንሰውነትከፍልወደፍትእያዘነበሉበግራእግርወደኋላአንድእርምጃተንሸራቶቀኙንማስከተልናእንደገናበግራሌላእርምጃበመውሰድከአጎነበሱበትቀናብሎወርዋረውንእጅወደላይናወደፊትበመመንጨቅኳሷንመወርወር።
- ❖ ሰውነት ከአጎነበሰበት ቀና ማለትና እጅን ለመወርወር መመንጨቅና መዘርጋት አንድ ላይ የሚከናወን ይሆናል።
- ❖ ወርዋሪ እጅ ሲዘረጋና ሲወረወር ከኋላ ያለው እግር ተረከዝም ብድግ ብሎ በእግርጣት መሬት በመመርኮዝ በሙሉ ሰውነት ሚወረወረውን ኳስ መሸኘት።

Energy level

- An electron on a higher orbit has a greater energy than an electron in a lower orbit and the orbits are known as energy levels. Each shell represents an energy level.
- Atomic shells are represented by letters. They are labeled as k, l, M, N etc and also designate by the numbers 1, 2, 3 etc, The 1st shell is k shell the 2nd shell is L shell, the 3rd shell is M shell and so on.

Table 4.3 designation of atomic shells

Shell	Letters
First shell	K
Second shell	L
Third shell	M
Fourth shell	N

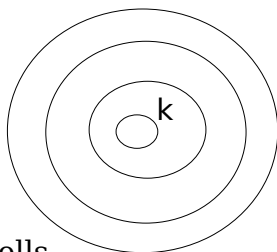


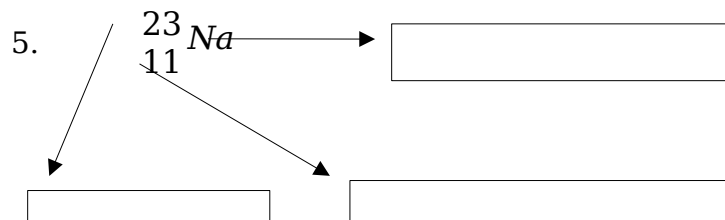
Fig. atomic shells

Look at the picture on page 97

Exercise

ANSWER THE FOLLOWING QUESTION

1. What is an isotope?
2. Define atomic mass.
3. Hydrogen has _____ isotopes.
4. Chlorine has _____ isotopes.



Physics

UNIT 8

ELECTRICITY AND MAGNETISM

General objectives: After the end of this unit students will understand concepts related to electricity and magnetism.

PART-I MAGNETISM

9.1 Magnets

- A magnet :- is a piece of iron that attracts substances like iron, steel and nickel at a distance.
- comes from the name magnetite
- Magnet was in a form of stone and it was called lodestone (meaning leading stone).
- Lodestone is a naturally found magnet.

Types of magnets

Natural magnets

- naturally occurring magnets

E.g. lodestone
iron e.g. steel

Artificial magnets have different shapes such as

- Rectangular bar magnet



- cylindrical magnet



- Horse - shoe magnet



- U-shaped magnet



Artificial magnets

- magnets that are made by
- made of iron and alloys of

Magnetic and Non-magnetic substances

- Materials are classified into two as

Magnetic substances:- are substances that can be attracted by magnets. Eg. Iron, steel, cobalt, nickel

Non-magnetic substances

- are substances which cannot be attracted by magnets. Eg Rubber, paper, wood, plastics, copper, Aluminium, gold, glass, cloth.
- All materials are not attracted by a magnet.

Magnetization

- is the process of making a magnet by stroking or other methods.
- if the stroking is with north pole of the permanent magnet the last end of the steel bar will be magnetized as a south pole and vice versa.
- the magnet produced by this process will not have both the poles at the two exact ends.

Properties of Magnets

a. Magnetic poles

- if a magnet is dipped in to iron filings and then shaken lightly, the iron filings sticks to the end of the magnet.
- The force of the magnets is concentrated at the two ends. This ends of a magnet are called magnetic poles.

Magnetic poles are the two ends of a magnet where the attractive forces are strong.

- The end of the magnet that points north is called the North pole (N-pole).
- The end of the magnet that points south is called the south pole (s. pole).

The following are some basic properties of magnet

- A magnet attracts pieces of iron and steel.
- A magnet is suspended freely, it always comes to rest with its ends pointing in a north-south direction.
- It has two poles.
- Its two poles always exist in pairs no matter what its shape or size may be.

B. The law of magnetism

- States that: unlike poles attract each other and like poles repel each other.
- If we break a bar magnet into two pieces then its north and south poles will



A compass

- a compass is a small suspended magnet to show the geographic north direction
- it consists of a bar magnet that it can turn freely in the horizontal plane.

It is used by Navigators and pilots to find their direction in their journey.

Reading Assignment

Dear students: read and understand the topic "Earth's magnetism" on page 156-157 by your own and relate with social studies lesson.

Note

- generally:- There are two poles of magnets.
- North pole- attracts the south pole of another magnet
- South pole - attracts the north pole of another magnet. But
- North pole with north pole or south pole with south pole of another magnet repels each other.

Dear students, please copy and complete check point 8.1 on page 158 as a home work (1-6)

8.2 Mapping Magnetic lines of force

- Magnets exert force at a distance.
- The space around a magnet is called magnetic field magnetic field.
 - is a region where a magnetic pole would experience a force or exerts a force.
 - is represented by imaginary lines of force called magnetic lines of force.
- Magnetic lines of force are imaginary lines which continuously represent the direction of the magnetic field.

Properties of magnetic lines of forces

i. The magnetic lines of force of a bar magnet emanate from the north pole and following a curved path enter to the south pole and back to north pole from the south pole. So

- they are closed lines.

II. They never cross each other.

III. Near the magnetic poles, magnetic force is stronger, the lines of force are closer.

- all of the magnetic poles, the strength of the magnetic force decreases and the lines become sparse.

Note: The direction of the magnetic field shows the direction of magnetic force.

- The closeness of the magnetic field lines shows the strength of the magnetic force.

Dear students, please copy and complete, check point 8.2 on page 160(1 and 2) as home work by your own.

8.3 Uses of magnets

- magnets have different applications (uses).
 - ✓ Magnets in compasses used to indicate directions on seas, oceans, air and ground.
 - ✓ Used for lifting up iron or steel to higher
 - ✓ Used in the construction of electric bells, motors radio, generators.
 - ✓ Used to separate magnetic substances, like iron from mixtures of different non-magnetic materials.

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ወደ ተማሪዎች ከገፅ 169-171 ያሉትን ጥያቄዎች በራሳችሁ ስሩ

ገፅ 172 ላይ ያሉትን ጥያቄዎች ደብተራችሁ ላይ ገልብጡ።

ገፅ 173 ማህበረሰብን ማገልገል የሚለውን ምንባብ በማንበብ መነጠልና ማጣመዱን ደብተራችሁ ላይ ገልብጡ።

ገፅ 177 የቃላትን ተቃራኒ ፍቺ በዓ.ነገር መጠቀም ጥያቄዎቹን ደብተራችሁ ላይ ገልብጡ

ገፅ 180 ተግባር 1 ደብተራችሁ ላይ ገልብጡ

ተግባር 2 በራሳችሁ ስሩ

ገፅ 181 ምዕራፍ 9“ ተላላፊ በሽታዎች” የሚለውን ምንባብ በማንበብ መነጠልና ማጣመዱን ደብተራችሁ ላይ ገልብጡ

ወደ ተማሪዎቹ

“ሰላምና ቤና እመኝላችኋለሁ”

“መልካም ረመዳን ይሁንላችሁ”።

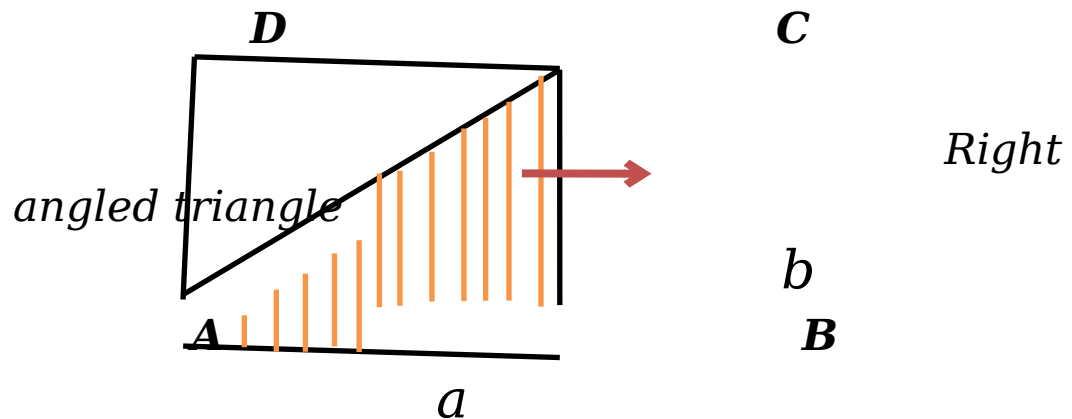
5.3 Measurement

5.3.1 Area of a Triangle

- ✓ The area of a rectangle tells how many unit squares the triangle contains.
- ✓ The height & base of the triangle should be known to find the area of a triangle.

The area of right angled triangle

- The diagonal of a rectangle divides in two congruent triangles.



The two sides of the triangle ABC

- $\overline{AB}$ (a) is the base of the triangle
- $\overline{BC}$ (b) is the height (altitude) of the triangle.

Area of the rectangle is given by:

$$A = a \times b$$

But, Area of a right angled triangle is half of the rectangle. So the area of the right angled triangle is given by

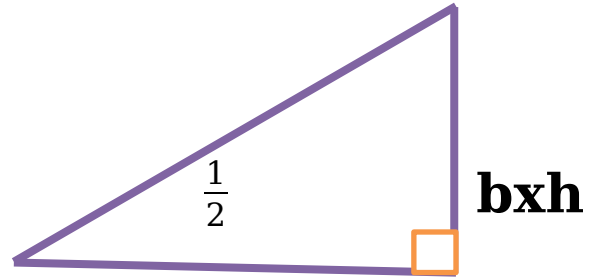
$$A = \frac{a \times b}{2}$$

Theorem: The area of the right angled triangle ABC with base b and height h is given by:

B

$A =$
 h

$$\frac{bh}{2} =$$

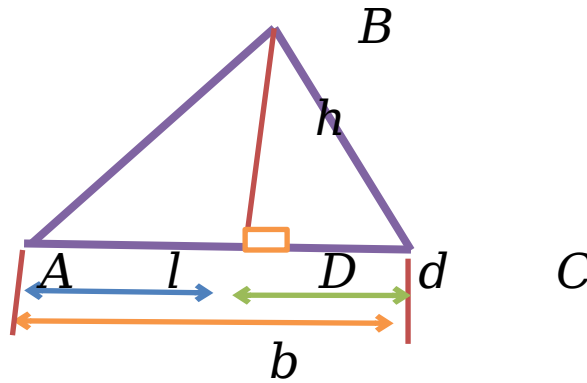


A

C

b

Area of Acute angled triangle



- The altitude BD (h) divides the triangle into two equal right triangles.

- Hence $a(\Delta ABC) = a(\Delta ABD) + a(\Delta CBD)$

$$a(\Delta ABD) = \frac{1}{2}lh \quad \text{and} \quad a(\Delta CBD) = \frac{1}{2}dh$$

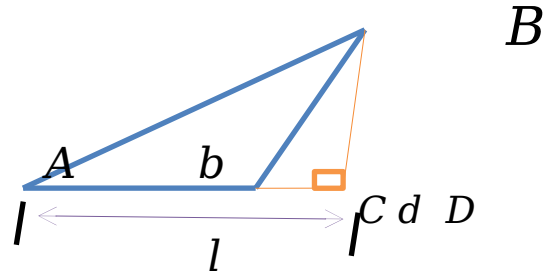
$$a(\Delta ABC) = \frac{1}{2}lh + \frac{1}{2}dh$$

$$= \frac{1}{2}h(l + d) \quad \text{but} \quad l + d = b$$

$$= \frac{1}{2}bh$$

Dear students, the above proof is in your text book on page 184 but it is an incorrect one. Please check it and observe the error. ($l - d = b$ so)

The area of Obtuse angled triangle

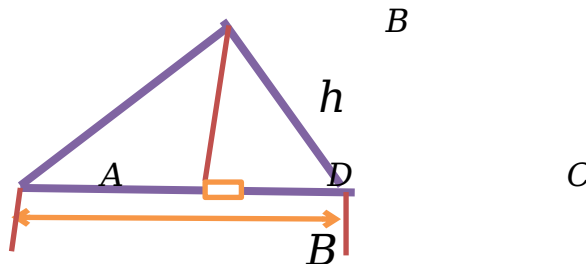


- Hence, $a(\triangle ABC) = a(\triangle ABD) - a(\triangle CBD)$
 $a(\triangle ABD) = \frac{1}{2} l \times h$ and $a(\triangle CBD) = \frac{1}{2} d \times h$
 $a(\triangle ABC) = \frac{1}{2} l h - \frac{1}{2} d h$
 $= \frac{1}{2} h (l - d)$ but $l - d = b$

$$= \frac{1}{2}bh$$

Theorem: The area of a triangle whose base b and altitude to this base is h is given by:

$$A = \frac{1}{2}bh$$



Dear Students, please copy and complete examples from your text book.

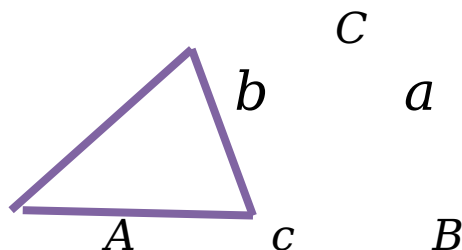
Example 18 - page 185

Example 20 - page 186

Example 21 - page 186

Perimeter of Triangles

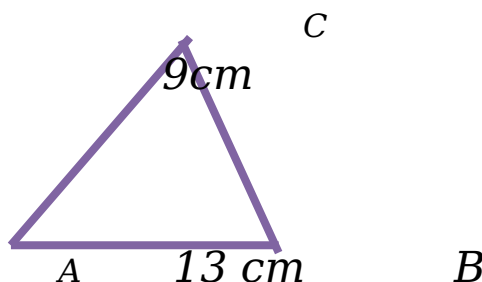
- The perimeter of a triangle is the sum of the three sides of the triangle.



$$P = a + b + c$$

Example: Find the perimeter of the following triangles.

- a)



Solution: The given triangle is isosceles so its two sides are equal.

$$P = 9\text{cm} + 9\text{cm} + 13\text{cm} = 31\text{cm}$$

Dear students copy and complete exercise 5H (1- 5) in your exercise book with your trial answers.

Page 187 - 188

English

The third conditional (Conditional sentence type 3)

We use this type to talk about **past situation that didn't happen**.

Formula 

TYPE	IF CLAUSE	MAIN CLAUSE
TYPE 3	IF + SUBJECT + HAD + V3	SUBJECT + WOULD, COULD, MIGHT + HAVE + V3

Examples:

If clause	Main clause
If I had studied hard,	I would have passed the exams.
If she had saved enough money,	She would have bought a new bicycle.
If he had found her phone number,	He might have called her for the

party.

V1		V2	V3
Come	came	come	
Rain	rained	rained	
get		got	gotten(got)
Save		saved	saved
Do	did	done	
Ask	asked	asked	
Eat	ate	eaten	
Pass	passed	passed	

Examples:

1. If it **had rained**, you **would** have **gotten** wet. (But it did not rain and you didn't get wet)
2. If you **had asked** me, I **would** have **told** you. (But you didn't ask me and I didn't tell you)
3. I **would** have **passed** the exam if I **had studied** hard. (But I didn't study hard and I didn't pass the exam)
4. I **would** have **believed** you if you **hadn't lied** to me before. (But you lied me and I didn't believe you)

Exercise

Choose the correct answer from the given alternatives.

_____ 1. If you _____ me, I would have helped you.

- A. ask
asked
- B. had asked
- C.

_____ 2. If I hadn't taken my umbrella, I _____ very wet.

- A. got
have gotten
- B. had gotten
- C. would

_____ 3. If Mariya had gone to the party, I _____ too.

- A. went
gone
- B. would have gone
- C. had

_____ 4. If you _____ me the money, I wouldn't have bought the ticket.

- A. hadn't lent
lend
- B. don't lend
- C. didn't

_____ 5. I wouldn't have stayed at the hotel if you _____ it to me.

- A. hadn't recommended
recommend
- B. don't recommend
- C. didn't

_____ 6. I would have been very disappointed if you _____ with me.

A. don't come
hadn't come

B. wouldn't have come

C.

Complete the sentences with the correct third conditional form of the verbs in brackets.
Number one is done for you.

1. If you _____ (ask) me, I _____ (help) you.

Answer: If you **had asked** me, I **would have helped** you.

2. If we _____ (arrive) earlier, we _____ (see) Sultan.

3. If she _____ (go) to university, she _____ (study) French.

4. I _____ (write) you a post card if I _____ (have) your address.

5. If you _____ (speak) English, she _____ (understand).

Write 3 conditional sentences using Type 3.

A. _____

B. _____

C. _____

Semi colon (;)

Use# 1

- **A semicolon joins one independent clause to another when the idea of the two clauses is somehow related. No conjunction is used; the relationship is understood from the context.**

Examples:

2. **She owned a car;** she didn't know how to drive it.

- **She owned a car.**
- **She didn't know how to drive it.**

1. **He couldn't go home;** he had no place to go.

- **He couldn't go home.**
- **He had no place to go.**

Use#2

- **It marks the boundary between two independent clauses. The linking adverb relates the idea of the first clause to the next. Both clauses are equal in emphasis.**

- It is used **before** contrast words like (**however, otherwise, nevertheless**)

Examples:

A. We left early; **nevertheless**, we arrived late.

B. I like cows; **however**, I hate the way they smell.

Exercise

Add semi-colons to join the sentences when you copy them in to your exercise book.

1. She didn't want help he didn't ask for it.
2. I wanted to go late she wanted to go on time.
3. She cooked dinner he took her out to a restaurant.
4. He told us he could not give us his assurance nevertheless, we went.
5. We needed to go to have a security report otherwise we wouldn't go.

Home work

Attention:

- Do the exercises given below **on your text book.**
- Do not worry about **the answer whether you are right or not.** Just do as much as you can.
- 3. Vocabulary on page 102
- B. on page 105
- 8. Vocabulary on page 107
- 9. Writing on page 107
- 3. Vocabulary on page 111

Reading

- Read "**Early marriage in Ethiopia**" on page 100-101.
- Read "**Understanding disabilities in Ethiopia**" on page 109-110.

በአቅድ መሰራት

አቅድ አንድን ስራ ለመሰራት ወይም ውጤት ለማግኘት የምንጠቀምበት የአሰራር ስልት መንገድ ማለት ነው።

አቅድ መሰራት መሟላት ያለባቸው ቅድመሁኔታዎች

ልናሳካ የምንፈልገውን ተግባር

ያንን ውጤት ለማግኘት የሚረዱን ስልቶች

ለስራ የሚያስፈልጉ መሳሪያዎች

በአቅድ ልክ አለመመራት የሚያስከትላቸው ችግሮች

በሰዎች ሀብትና ንብረት ባላቸው ጊዜ ለችግር የሚሆናቸውን ነዋይ ያለአግባብ ያጠፋና የወጣትነት ዘመናቸው አልፎ አረጋግጦ ሲሆኑ ይቸገራሉ።

የቁጠባ ውጤቶች ማለት አንድ ሰው ከሚገኘው ገቢ ላይ እየቆጠበ በማስቀመጥ ከአጭርና ከረጅም የጊዜ ሂደቶች በኋላ የሚያገኛቸውን ጠቀሜታዎች ለማመልከት ነው።

በአቅድ አለመመራት የሚያስከትላቸው ችግሮች

ዕቅድ ገንዘብን፣ ጊዜንና ጉልበትን በአስፈላጊ ሁኔታዎችና አግባብነት ባላቸው ተግባራት ላይ ተጠንቅቆ መጓዝ ነው።

ስራ በአግባቡ እንዳይሰራ ማድረግ

ጠቀሜታ ባላቸው ጉዳዮች ላይ ገንዘብ እንዲባክን ማድረግ

በግልና በቤተሰብ ውስጥ ሠላምና መረጋጋት እንዳይኖር ያደርጋል።

የምዕራፍ ዘጠኝ የክለሳ ጥያቄዎች

የአዛውንትና የምርጫ ጥያቄዎች በደብተራችሁ ስሩ።

ቀሪውን በመፅሀፍችሁ ላይ ስሩ።