



*Dr. Bhasa Science*

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## P5 Integrated Science

### Term 1

### THEME: MATTER AND ENERGY

### Topic 3/4: Immunization



**Immunization** is the process of protecting a person or animal against disease by introducing a vaccine into the body.

#### Types of immunity

- **Active immunity** occurs when our own immune system is responsible for protecting us from a pathogen.

Active immunity is acquired through

- (i) Suffering from disease and curing from it or;
- (ii) Vaccination

**Passive immunity** occurs when we are protected from a pathogen by immunity gained from someone else such as a baby may gain passive immunity from the mother through breast milk.

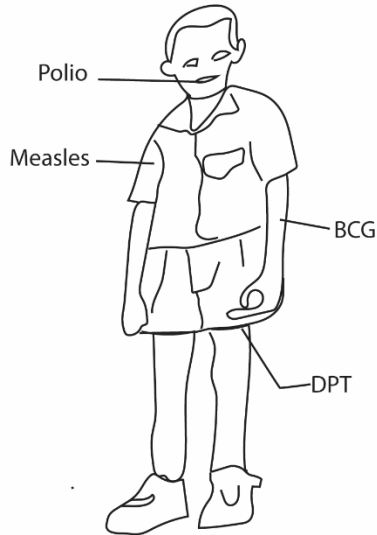
### Exercise 1

- (a) What is immunization?  
 (b) State two types of immunization

A vaccination timetable is shown on the table below.

Disease	Vaccine	Age at vaccination	Method of vaccination
tuberculosis (TB)	BCG	at birth	injection
polio	OPV	at birth, 6 weeks, 10 weeks, 14 weeks	oral
diphtheria, tetanus, whooping cough, - hepatitis B, meningitis	DPT/HepB/HIB	6 weeks, 10 weeks, 14 weeks	injection
Measles	Measles	9 months	injection
yellow fever	yellow fever	9 months	injection
•Vitamin A deficiency	vitamin A	6 months	oral
tetanus	tetanus toxoid (T.T)	3 months, 5 months, 9 months, booster at 4 years of age, then at 10-year intervals	injection
typhoid	typhoid	6 months	injection

## Parts immunised by a child's money



### Measles

Measles is a very contagious disease caused by a virus. It spreads through the air when an infected person coughs or sneezes.

Measles starts with a cough, runny nose, red eyes, and fever. Then a rash of tiny, red spots breaks out. It starts at the head and spreads to the rest of the body.

Measles can be prevented with MMR vaccine. The vaccine protects against three diseases: measles, mumps, and rubella. CDC recommends children get two doses of MMR vaccine, starting with the first dose at 12 through 15 months of age, and the second dose at 4 through 6 years of age. Teens and adults should also be up to date on their MMR vaccination



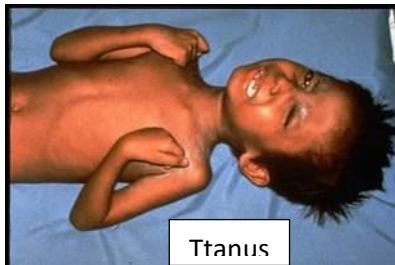
### Tuberculosis

The vaccine for tuberculosis is called BCG is given at birth on the left lower arm between the elbow and the wrist.

### Tetanus

It is also called **lock jaw** because it causes stiffness of joint especially joints of the jaws.

It is caused by bacteria found in soil and enter our bodies through open wounds, and cuts.



### Poliomyelitis/ Polio

It is caused by a bacteria, it attacks the nerve system and muscles causing paralysis in some parts of the body like arms and legs.

The vaccine is administered through the mouth at birth.



## Diphtheria

It is caused by a bacteria

It causes breathing problems and affects the throat of children below ten years.

The neck swells with rashes on the skin.



Whooping cough/pertussis

It is caused by a bacteria which spreads through air

Cough lasts for weeks or months and may kill the child

### Exercise 1

1. Pregnant women are advised to receive immunization against tetanus. What is the importance of this immunization to unborn baby?  
**Protects the child against tetanus at birth.**
2. In the table below, some of the diseases are given below with their symptoms and prevention/controls. Study it and answer the missing information.

Name of disease	symptoms	Prevention/control
Sleeping sickness	Loss of body weight, drowsiness, swelling in the Joints	<b><u>Clear bushes</u></b> <b><u>Spraying tsetse fly</u></b> <b><u>Use tsetse fly traps</u></b>
Common cils (flu)	<b><u>Headache</u></b> <b><u>Running nose</u></b>	Isolation, avoid infected people
Measles	Rash on the body, high fever, cough, red eyes, sore in mouth, diarrhea and vomiting	<b><u>Isolation of infected person</u></b> <b><u>Immunization</u></b>
Trachoma	<b><u>Mild redness and itching of the eyes, pus in eyes after sleep, scarring</u></b>	Washing of eyes, avoid sharing articles with sick person, e.g. basin, towel medical treatment

3. How can a person become infected with tetanus?

**Through rotting wounds**

**Through cuts**

4. (a) State any two ways of acquiring immunity.

Artificial immunity through vaccination

Natural immunity through colostrum

Suffering from disease and recover from it

(b) Apart from the six killer diseases, state any one other disease where one can acquire immunity.

**Hepatitis**

**Meningitis**

**Yellow fever**

**Typhoid**

5. Why is it not possible to acquire immunity against AIDS disease?

- Because AIDS virus attacks white blood cells which weaken immunity of a person

- The AIDS virus has very many forms that it is difficult to develop immunity to very many forms

6. (a) Name any two immunizable diseases caused by bacteria.

**Tuberculosis**

**Polio**

**Measles**

**Tetanus**

**Whooping cough**

**Mumps**

(b) State two uses of Health cards

**To know the weight of the baby**

**To know the sex**

**To know the date of birth**

**To know which vaccines already given**

**To monitor child's growth**

7. Give any one way in which a child can acquire immunity against a disease without being given a vaccine.

**By suffering and recover from the disease**

**Through breast milk.**

8. (a) What type of immunity does a child get in each of the following

(i) From mother to child.

**Passive immunization**

(ii) After immunization

**Artificial immunization**

(iii) After suffering from a disease like measles?

**Natural immunity**

(b) Why should a pregnant mother be immunized against tetanus?

**To prevent her and her child from getting tetanus at delivery**

9. When measles attack a child, there are signs and symptoms:

(a) Give an example of:

(i) a sign of measles

Skin rash

Painful eyes

Flue like symptoms

(ii) a symptom of measles

High fever

Mouth sores

Pneumonia

(b) In which way can measles can be prevented from attacking a baby?

**By vaccination**

(a) Why is it important to give a child suffering from measles plenty of fluids to drink?

**To replace water lost by evaporation due to fever**

10. How can a child acquire artificial immunity?

**Through vaccination**

11. The table below shoes part of child`s immunization card. Use it to answer question (a) to (d) below

	1	2	3
BCG	12/8/88	16/12/88	
POLIO	11/8/88	16/12/88	13/01/89
DPT	11/8/88		13/01/89
MEASLES	9/5/89	<b>COMPLETED</b>	

(a) When was this child born?

**12/8/88**

(b) Give a reason to support your answer in (a) above

**BCG is give soon after birth**

(c) At what age was the immunization completed?

**9months**

(d) Give a reason for your answer in (c) above

**9months is difference between the dates of completion of vaccination and that of commencement of vaccination**

12. Suggest one possible reason why immunization of children is emphasized in Uganda.

**To protect children against the killer diseases**

13. Some diseases can be treated without the use of drugs.

(a) Give an example of such a disease

**Flue**

**Rickets**

**Kwashiorkor**

(b) How would you treat the disease you have named in (a) above?

**Flu by eating fruit and drinking a lot of juice**

**Rickets by giving foods rich in vitamin K and calcium**

**Kwashiorkor by giving proteins**

14. Give any one reason why parents should take their children for immunization.

**To protect then them against the killer diseases such as measles, TB, polio**

15. Give any one practice in a home that would help in the control of malaria

- sleeping in insecticide treated nets

- draining stagnant water

- slashing around the house

- spraying with insecticide

16. (a) Name any one disease that is immunized against at birth.

**Polio, tuberculosis**

(b) Which site on the body is measles immunization usually given?

**Left upper arm**

(c) Why are pregnant women immunized against tetanus?

**To protect the child and mother against tetanus at birth**

(d) How does tetanus get into our bodies?

**Through rotting wound**

**Through cuts**

17. How can the school health committee tell whether a child is already immunized against Tuberculosis without referring to the Child- Health Card?

**By checking for a scar on the right hand**

18. (a) What are communicable diseases?

**Diseases that can be got from another person such as malaria**

19. (a) What is the importance of taking children for immunization?

**To improve their immunity against the killer diseases such as measles, tetanus.**

(b) Which vaccine is given to the child in the mouth at birth?

**Polio vaccine**

(c) Give any two ways in which the child's health card is important to the parents

**(i) Give information of the birth day of the child**

**(ii) Enable the child to monitor child's growth**

**(iii) Enables the parent to know the when to immunize**

20. How does immunization promote health in a child?

**Protect the child from killer diseases such as tetanus, TB.**

21. State an immunizable disease which enters our bodies through cuts and wounds.

**Tetanus**

22. Why is immunization of children carried out free of charge in Uganda?

**to enable all children be protected from the killer diseases**

23. (a) Why are vaccines used in the prevention of certain diseases?

**To boost/induce body immunity**

(b) How is the measles vaccine given to a baby?

**Through injection**

(c) Apart from immunization, state two other ways in which a baby's immunity can be improved.

(i) **by breast feeding**

(ii) **eating balanced diet**

24. Apart from the polio vaccine, name any other vaccine administered to children at 6 weeks of age

**DPT**

25. Give any one way in which school children can promote immunization in their community.

- **Remind their parents on the immunization days**
- Sensitize community on the importance of immunization

26. (a) What type of immunity does a child get in each of the following

(iv) From mother to child.

**Passive immunization**

(v) After immunization

**Artificial immunization**

(vi) After suffering from a disease like measles?

**Natural immunity**

(b) Why should a pregnant mother be immunized against tetanus?

**To prevent her and her child from getting tetanus at delivery**

**Thank You**

**Dr. Bbosa Science**