

Nivuru na Siyensiya Naturaji Echuwabo

Kalasi ya Nawunayi

4



REPÚBLICA DE MOÇAMBIQUE
MINISTÉRIO DA EDUCAÇÃO E
DESENVOLVIMENTO HUMANO



USAID
DO POVO AMERICANO

A produção deste livro tornou-se possível graças ao apoio do povo Americano através da Agência dos Estados Unidos para o Desenvolvimento Internacional (USAID). O conteúdo desta publicação é da total responsabilidade do Ministério da Educação e Desenvolvimento Humano da República de Moçambique.

FICHA TÉCNICA

Título:

Nivuru na Siyensiya Naturaji - Kalasi ya Nawunayi

Língua:

Echuwabo

Coordenação Editorial :

MINEDH:

Ismael Nhêze, Telésfero de Jesus, Rafael Bernardo, Fabião Nhabique e Laquene Laisse

Vamos Ler!:

Samima Patel, Abdala Machude,

Autores:

Estela Fonseca, Fiúza Pedro, Ana Bela Amude, Torina Recebeu, Isac Manhique,
Estevão Cocho

Colaboradores:

Alaudino Banze, Lina Raimundo

Supervisora:

Cecília Mascarenha

Tradutores:

Wazir Gomes e Jaquibo Artur Miguel

Assessoria metodológica e linguística:

Samima Patel e Carlos Manuel

Ilustração:

Cassamo Moiane

Maquetização:

Omaia Panachande

Capa:

Cassamo Moiane e Omaia Panachande

Impressão:

Tiragem:

N.º do registo:

**Financiado pela USAID
República de Moçambique**

DDIMA YA MASUNZO 1

ANAMAKALAWO ANVUMA NA ANAMAKALAWO

Sumana 1	8
Anamakalawo anvuma na anamakalawo	8
Makalelo a anamakalawo anvuma	10
Mwanaku	10
Muri wa cibamba	10
Muthu	11
Wileya	12

DDIMA YA MASUNZO 2

Miri

Sumana 2	13
Miri	14
Mucici	16
Nthuku	16
Mataba	18

Sumana 3	20
Nlruwa	20
Dhoolima	21
Thaga	21

Sumana 4	23
Wileyeya wa okalawo wa miri	23
Miri dhilici mmuruddani	23
Munazi	23
Thima ya munazi	24
Mandduwi	24
Thima ya mandduwi	25
Thima ya miri	25

Sumana 5 -Wileya	27
-------------------------------	----

DDIMA YA MASUNZO 3

DHINAMA

Semana 6	29
Dhinama	29
Magawelo a dhipaddi dha enama	29

Sumana 7	30
Dhinama dha vatakulu na dha mutakwani	30
Dhinama dha mutakwani	31
Thima ena dhinama dha vatakulu	31
Thima ena dhinama dha mutakwani	33

Sumana 8	34
Mudhidhi onkoddiyiwa otota	34
Obareliwa wa dhinama dhinfuna otolowa	34

Sumana 9 - Wileya	36
--------------------------------	----

DDIMA YA MASUNZO 4	
MANJE	
Sumana 10	38
Mwego munfwanyeya manje mwilaboni	39
Muniteya manje mwego munfwanya athu na dhinama manje	39
Ncela na puxu	39
Manje a muturunerani	40
Mikalelo dhoosasanyedhana manje	41
Wika murobwe	42
Ocolrolriya	42
Sumana 11	42
Okoddeliya	43
Makalelo anfwanyeya manje	43
Thima ena manje mwa namakalawo	45
Wileya	48
DDIMA YA MASUNZO 5	
MATHAKA	
Sumana 12	50
MATHAKA	50
Makalelo a mathaka	50
Mathaka a mucesa	50
Mathaka a ddongo.....	51
Mathaka a murethe	51
Thima ena mathakwa mwa anamakalawo.....	51
Sumana 13 - Wileya	53
DDIMA YA MASUNZO 6	
Oyesa na Munkaliwa	
Sumana 14	55
Merelo a oyesa a anamwinji	55
Mikalelo dhoobarelana munkaliwa	57
Mikalelo dhoosasanyedhana zungu	58
Sumana 15 - Wileya	60
DDIMA YA MASUNZO 7	
DHOOJA	
Sumana 16	62
Dhooja dha mmuruddani	62
Mujelo wa paama	63
Makuru a dhooja	64
Sumana 17	67
Thima ena dhooja	67
Sumana 18 - Wileya	69

DDIMA YA MASUNZO 8

Mwiwelelo na Dhaano dha maningo

Sumana 19	71
Dhaano dha maningo	71
Sumana 20	72
Nibasa na dhaano dha maningo	72
Sumana 21	74
Makalelo owinanelana dhaano dha mmaningoni	74
Meento	74
Maru	74
Puno	75
Thebe	75
Nlumi	75
Thima ena dhaano dha mmaningoni mwa Muthu na dhinama.....	76
Sumana 22-Wileya	77

DDIMA YA MASUNZO 9

EGUMI

Sumana 23	79
MITIPA	79
Sumana 24	81
Maredda antotiwa na mitipa	81
Malaariya	81
Mikalelo dhoobarelana eredda ya malariya	81
Sumana 25	82
Nihanya	82
Merelo a paama a mitipa	83
Sumana 26 - Wileya	86

DDIMA YA MASUNZO 10

MANINGO A MUTHU

Sumana 27	88
Dhipaddi dha maningo a muthu	88
Dhaano	89
Miribo dha maningo a muthu	89
Sumana 28	90
Dhipaddi dha muribo woocilana oja	90
Ociliwa wa dhooja	90
Oyesa wa muribo woocilana oja	91
Sumana 29 - Wileya	92

Sumana 30	93
Maredda a mmuriboni woocilana oja	93
Mikalelo dhoobarelana kolera viina ovaluwa	94
Sumana 31	94
Muribo woovumana	94
Dhipaddi dha muribo woovumana	94
Ovumela mwari na ovumela otakulu	95
Sumana 32	97
Maredda a mmuriboni woovumana	97
Sumana 33 - Wileya	99
DDIMA YA MASUNZO 11	
OVINONA	
Sumana 34	101
Thalro dha munuwelo wa muthu	101
Oyima	101
Sumana 35	103
Thima ya oviramo muthalroni dhootene dha munuwelo	103
Wileya	105
DDIMA YA MASUNZO 12	
DHITAGANO NA MIKALELO DHAWA	
Sumana 36	107
Dhitagano	107
Maningo	107
Yoobo	108
Sumana 37	109
Mukalelo wa etagano	109
Mukalelo onfwanyeya etagano	109
Mukalelo woothiddeya	110
Mukalelo woocolrolrowa	110
Mukalelo woothuwela	110
Osadduwa wa mukalelo onfwanyeya etagano	111
Dhinkala mwetaganoni	113
Otaganiya	114
Sumana 38 - Wileya	117

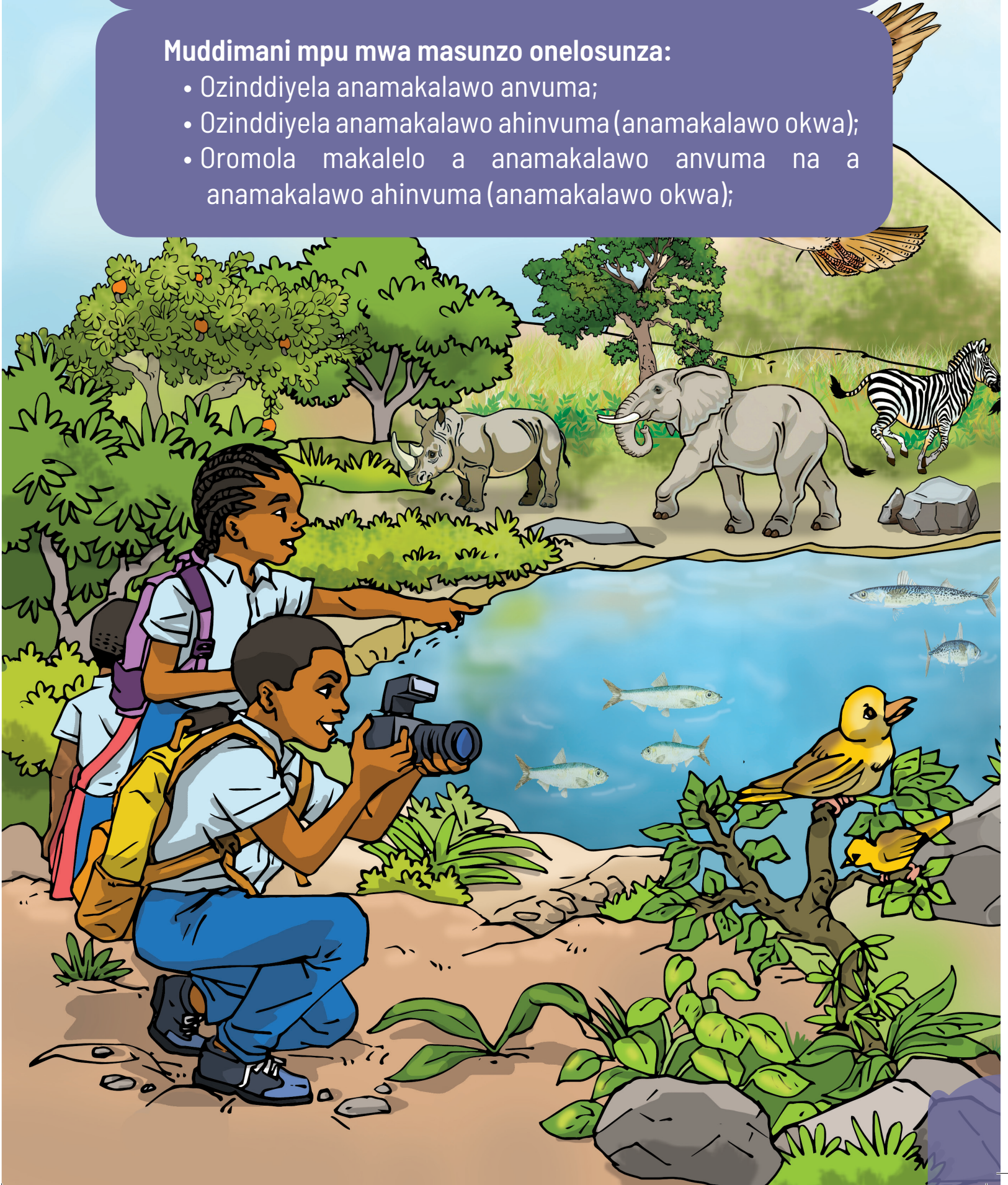
DDIMA YA MASUNZO

1

ANAMAKALAWO ANVUMA NA ANAMAKALAWO

Muddimani mpu mwa masunzo onelosunza:

- Ozinddiyela anamakalawo anvuma;
- Ozinddiyela anamakalawo ahinvuma (anamakalawo okwa);
- Oromola makalelo a anamakalawo anvuma na a anamakalawo ahinvuma (anamakalawo okwa);

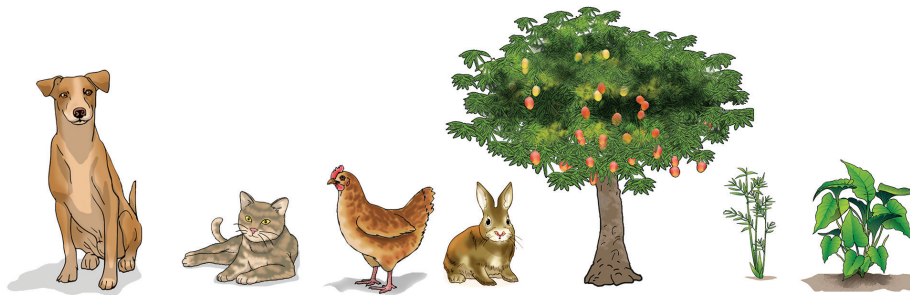


1. Anamakalawo anvuma na anamakalawo

Olebe mukaderinoni mwawo mazina meeli a anamakalawo anvuma viina mazina meeli a anamakalawo ahinvuma anaziwa weyo.

Mwilaboni anamakalawo anofwanyeya vati, mmanjeni viina odhulu. Dhooteene dhiliwo mwilaboni dhinithaniwa anamakalawo. Anamakalawoya angaweya mmakuruni meeli manddimuwa:

1. Nikuru nimodha ninithaniwa anamakalawo anvuma. Ninga, miri na dhinama.



Nladdaniyo 1: Anamakalawo anvuma

2. Nikuru ninaguwa na anamakalawo ninithaniwa anamakalawo ahinvuma ninga, manje, mathaka, malugu na dhilobo dhootene dhikosiwe na muthu ninga, mukukutha, lapi na kumpero.



Nladdaniyo 2: Anamakalawo ahinvuma



Wakule mavuzo ali muciddo

1. Wang'ane nladdaniyo nili muciddo.



Nladdaniyo 3: Anamakalawo anvuma na ahinvuma

1.1 Mwa anamakalawo ali vanladdaniyoni na 4, baavi:

- Anvuma?
- Ahinvuma?

1.2. Mwa anamakalawo ali vanladdaniyoni na 4, ologe mazina meeli a miri na mazina meeli a dhinama.

2. Olebe mukaderinoni mwawo nladdaniyo na namakalawo oninfuna weyo.

- a) Omusigiye malremba namakalawo omulebile weyo.
- b) Olebe muciddo mwa nladdaniyona nzina na namakalawo omulebile weyo.
- c) Nladdaniyo nilebile weyo tha namakalawo onvuma obe namakalawo ohinvuma?



Osunzevi!

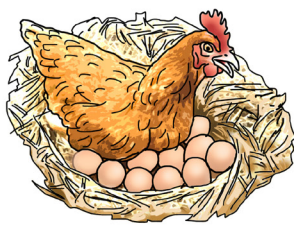
Muthu enama yoonthiyana na dhinama dhinaguwa sabwa yawi onowubuwela viina onologa na athu enaguwa alabiyedhaga mazu, mada viina mulebo.

2. Makalelo a anamakalawo anvuma

Masiki anamakalawo anvuma athiyane na muunuwelo wa maningo, malremba viina na mikalelo dhookalawo, awene oteene akana makalelo mamodhene ninga: obaliwa, wuunuwa, obala na okwa.

Wang'ane maladdaniyo anfwarelana antonya makalelolo a makamaka a anamakalawo anvuma:

Mwanaku:



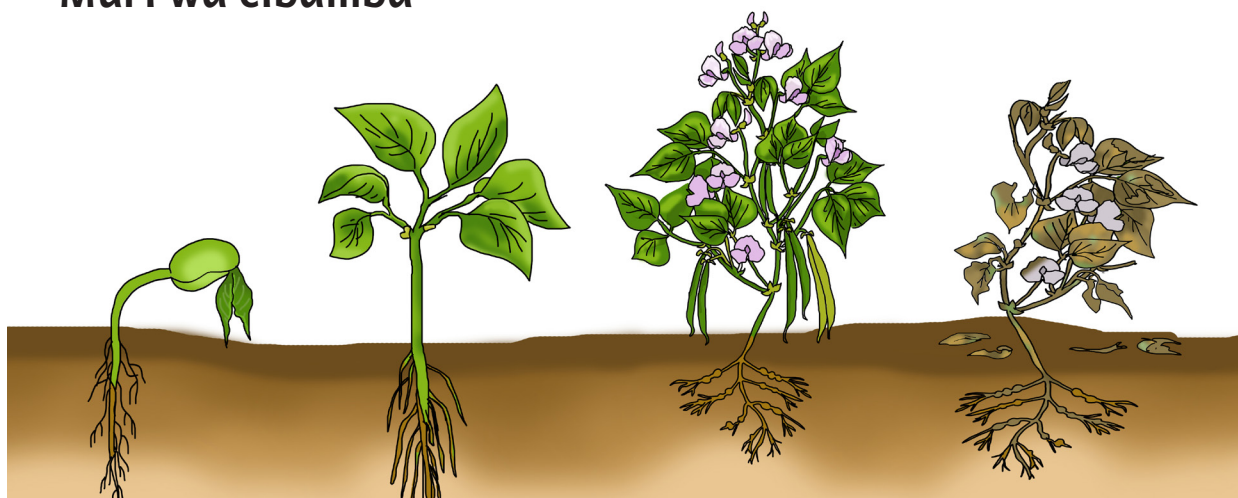
onoburameliwa onowuunuwa

onototora

onokwa

Nladdaniyo 4: Mwanaku

Muri wa cibamba



onobaliwa

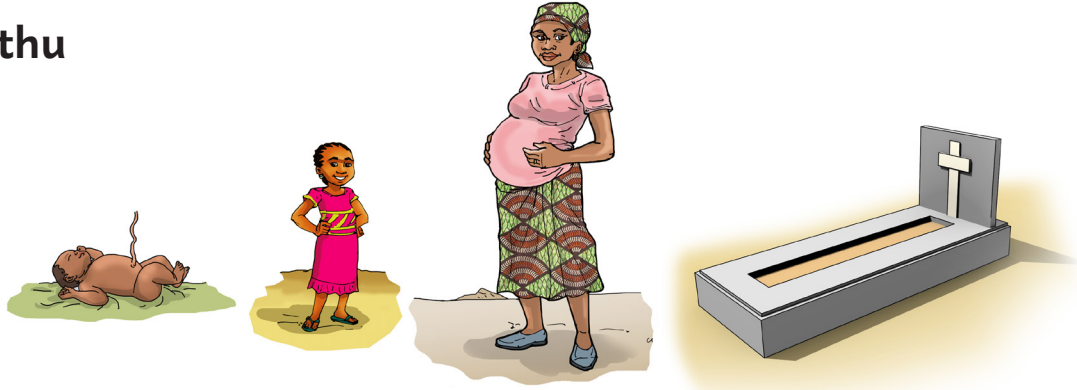
onowuunuwa

onobala

onokwa

Nladdaniyo 5: Muri wa cibamba

Muthu



onoburameliwa onowuunuwa

onototora

onokwa

Nladdaniyo 6: Muthu

Ninga moonile weyo vamaaladdaniyoni 5, 6 na 7 anamakalawo oteene anobaliwa, anowuunuwa, anobala viina anokwa. Namakalawo ddi namakalawo ohina makalelo aba oteene namakalawo ohinvuma (namakalawo wookwa).



Wakule mavuzo ali muciddo

Wang'ane nladdaniyo nili muciddo:

1. Oromole mazina mararu a anamakalawo anvuma.



- a) Makalelo gani oladdana ana anamakalawo alogile weyo?

- b) Wakwaniye mukaderinoni mwawo mimburo dhinjomba na mazu anfwarelana: anowuunuwa, anokwa, anobaliwa, anobala.

2. Anamakalawo oteene _____; _____; _____; viina _____



Wuubucedha

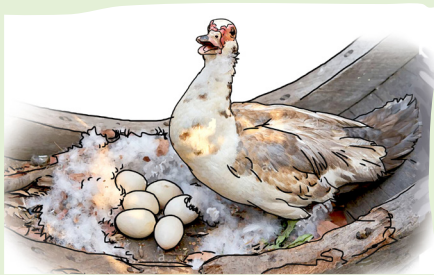
- Mwilaboni mukala anamakalawo anvuma na anamakalawo ahinvuma.
- Anamakalawo anvuma akana okalawo.
- Anamakalawo oteene anvuma anobaliwa, anowuunuwa, anobala viina anokwa.
- Anamakalawo ahinvuma kana makalelo aba.



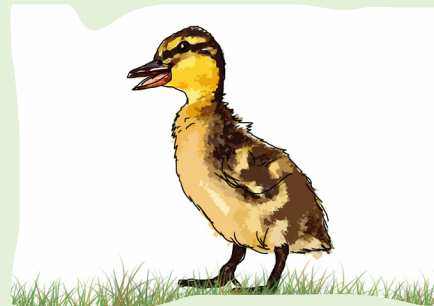
Mabingiyo ononelamo

1. Osaziye mukaderinoni mwawo ddima dha mazu dhinfwarelana ogamala wakwaniye na mazu aba: anamakalawo anvuma na namakalawo ahinvuma:
 - a. kumpero, muziyo, kopo ba _____
 - b. Juwawu, mwanabwa na muthimathi ba _____
2. Olebe mukaderinoni mwawo makalelo manayi (4) animuthiyaniya mwanaku na mpaddo.
3. Wang'ane na ofwaseya maladdaniyo ali vakwaduruni. Mukaderinoni mwawo otadele paamene makalelo a anamakalawo anvuma.

A



B



C



D



Nladdaniyo 8

DDIMA YA MASUNZO

2

MIRI

Muddimani mpu mwa masunzo onelosunza:

- Ozinddiyela dhipaddi dha muri;
- Okosa mulebo onziddiyela dhipaddi dhootene dha muri;
- Otapulelamo ciini enlabela dhipaddi dha muri;
- Ovaha mutonyo wa miri dhilici mmuruddani;
- Otapulela thima ya miri munkaliwa viina mwa anamakalawo oteene;
- Otapulela wileyaya wa okalawo wa miri ovenyana omela mpaka obala milima.



2. Miri

Onvuze mukwawo owaddamele mazina meeli a miri dhinziwa iyene viina mburo onfwanyiwani

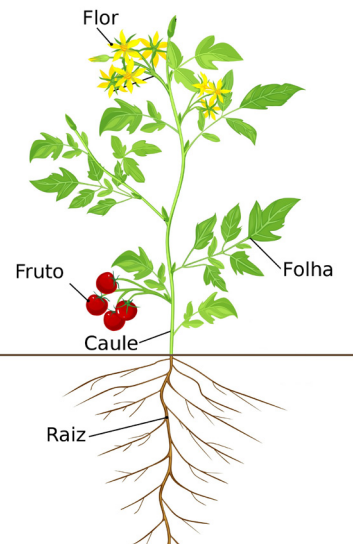
Ninga musunzile weyo muddimani ya masunzo evirile, miri anamakalawo anvuma.

Mwilaboni mukala miri dhinji dhoothiyana, dhina munuwelo woothiyana, dhiina dhinobala malruwa vano dhiina kadhimbala malruwa.

Miri dhinomela na mukalelo wohijiyedheya obe dhinoceyiwa na muthu, omundda, mujaridi viina mimburo dhinaguwa.

Dhipaddi dhoowakwana dha muri na enlabelani

Dhipaddi dha muri sisi: mucici, nthuku, mataba, malruwa, milima na thaga. Muri wa cibamba, wa nraga, wa muthimathi, wa mmangelra, wa muddimwi mintonyedhe dha miri dhoowakwana.



Enlabela dhipaddi dha miri

Omala osunza dhipaddi dha muri. Ovano, onelosunza ciini enlabelani dhipaddidha.

Nladdaniyo 1: Muri woowakwana

Mucici

1. Wi oziwe ciini enlabela mucici wa muri wang'ane tagiya enfwarela:

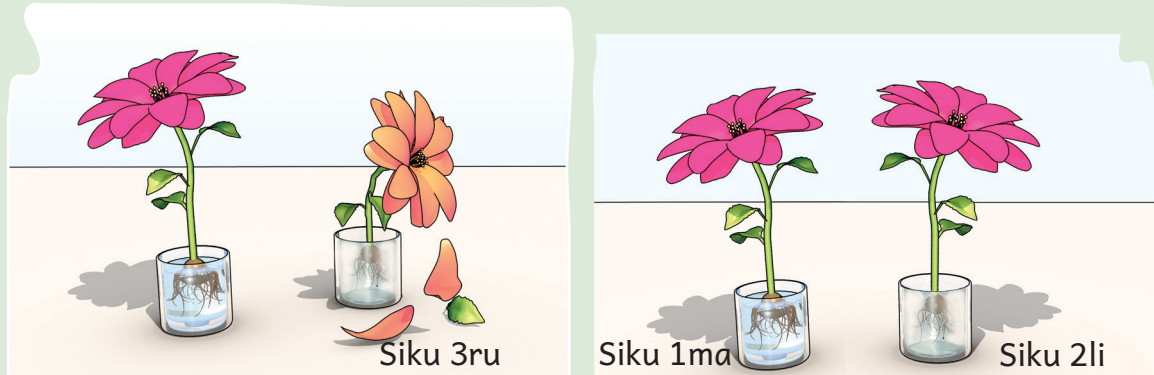
Ehinjidheya: empadduwa na ohifuna wa muthu



Nibingiyo

Tagiya mwaha wa enlabela mucici

Iva oddula vathaddo miri miili, mmaleliye owika muri modha mukoponi mwali manje, muri mwinaguwa owika mukoponi mwahili manje mpaka malabo 5, ninga entonya nladdaniyo nili muciddo.



Olebe mukaderinoni mwawo othiyana woonile weyo wa muri oli mukoponi muli manje na muri ohili mukoponi na manje, siku na 1ma, na 2li na 3ru, ogamala wakwaniye tabela eli muciddo.

Muri na manje		Mataba		Malruwa		Muri	
		Amotha	Kamothile	Amotha	Kamothile	Okwa	okalawo
Muri na manje	Siku 1ma						
	Siku 2li						
	siku 3ru						
Muri wahana manje	Siku 1ma						
	Siku 2li						
	Siku 3ru						

Mmalele weyo wona tagiya eji ciini enonelemo weyo?

Esunziwemo

Muri wahana manje okwa vano muri wana manje okalawo.

Mucici**Nladdaniyo 2: Micici**

Mucici epaddi ya muri enfwanyeya vati vamathaka.

Enlabela mucici:

- Wimeca muri vamathakani.
- Omwela manje na minerale dha mmathakani wi muriya okane egumi.

**Wakule mavuzo ali muciddo**

1. Dipaddi dha muri siivi?
2. Mucici onlabela nni?

Nthuku

Nthuku epaddi ya muri enliganiya mucici na dhipaddi dhinaguwa ninga, mataba, malruwa na milima.

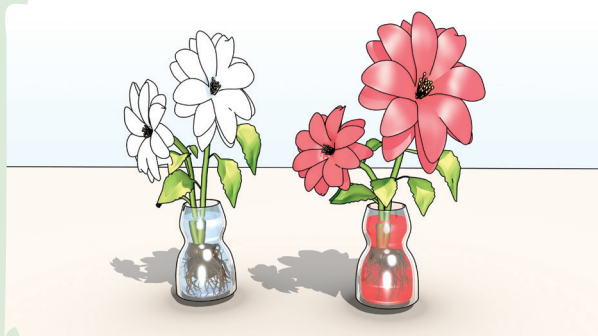
**Nladdaniyo 3: Nthuku****Nthuku ninlabela:**

- Othiddela mataba, malruwa na dhoowima.
- Opereka manje na minerale dha mmathakani mpaka mmatabani.



Nibingiyo

Tagiya mwaha wa enlabela nthuku



Dhitagano:

Malruwa manayi ocena obe muri mung'ono wa nampurapura
 ona malruwa ocena
 Kopo biili dha mathaka dhinooneya
 Manje
 Kororawu

Merelo:

Odhaliye kopo biili na maje.
 Wike kororawo mukoponi modha.
 Wike malruwa meeli mukoponi dhoothiyana, ninga entonya
 nladdaniyo, ogamala othiye mudhidhi.

Koona: Ogakosa na muri wa nampurapura, wike muri modha mukoponi dhoothiyana.

Wang'anela

Ciini empadduwa na malruwa ali mukoponi muli kororawo mudhidhi ogavira?
 Ejiya empadduwela nni?

Esunziwemo:

Malruwa ayikalana nlremba na kororawo sabwa nthuku ninlabela opereka manje na minerale dha mmathakani ovenya vamicicini mpaka omalruwani.



Wakule mavuzo ali muciddo

1. Nthuku ninlabela nni?

Mataba

Mataba ali opatanene na nthuku. Matabaya akana munuwelo, makalelo na malremba othiyana.

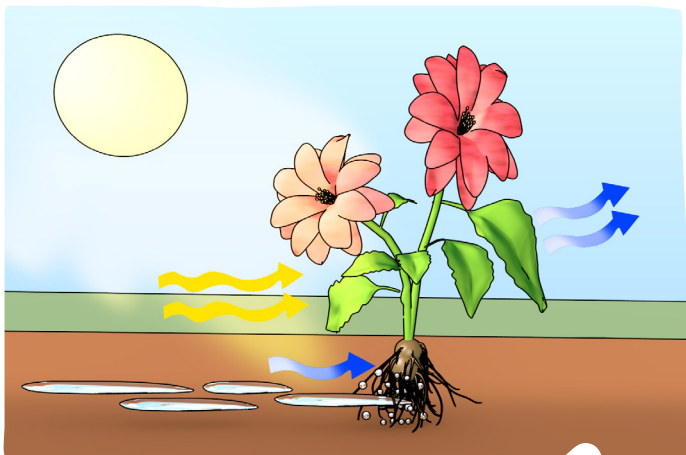
Wang'ane makalelo othiyana a mataba ali vanladdaniyoni nili muciddo.



Nladdaniyo 4: Mataba

Mataba anlabela okosa oja wa muri. Nibasa nthi ninithaniwa fotosintese.

Wi mataba akosa oja wa muri, micici dhinomwela manje na minerale dha mmathakani vano mataba anopura ceza ya nzuwa na diyokisidu ya karibono endela mmuyani. Munibasani mpu muri onoburuca okisigeniyu onvumana anamakalawo ooteene.



Nladdaniyo 5: Muvumelo wa muri

Mataba anolabela ovuma viina oburuca karuma ya muri. Karuma ya muri egabudduwaga, muri onoburuca manje na ekalelo ya kugu.

Ovano onelwoona mukalelo ombudduwa karuma mmirini.



Nibingiyo

Tagiya ya mukalelo ombudduwa karuma mmurini

Dhitagano:

Muziyo 1 mwikiwe muri mung'ono

Muliyado 1 ya okunelana muriya

Laxitiku 1 obe kabala ya omagana muziyo

Merelo

Okunela muri na muliyado, omage muliyadoya na kabala obe laxitiku, ogamala wang'ane mpaka midhidhi miraru egali vanzuwani, ninga enlagiya nladdaniyo.



Wang'anela

Ciini empadduwa na muri dhigavira midhidhi miili? Omamalelo wa midhidhi miraru? Olebe mukaderinoni mwawo ewoonile weyo.

Esunziwemo

Mmuliyado mukala niinyo sabwa wi mataba aburuca manje na ekalelo ya kugu. Nibasa nthi ninithaniwa karuma.



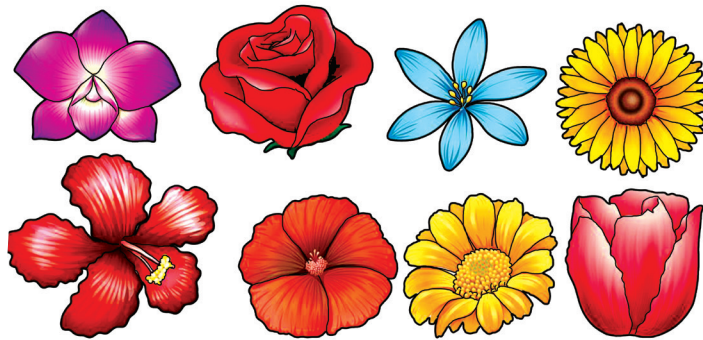
Wakule mavuzo ali muciddo

1. Olebe mukaderinoni mwawo nibasa na ntaba.
2. Olebe nladdaniyo nintonya ntaba na muri oli vaxikoola vawo.

Nlruwa

Nlruwa epaddi ya muri epatanile na nthuku.

Mwilaboni mukala malruwa othiyana-thiyana. Malruwaya anokana malremba menjene, meena manddimuwa, meena mang'ono viina anokana munukelo woothiyana.

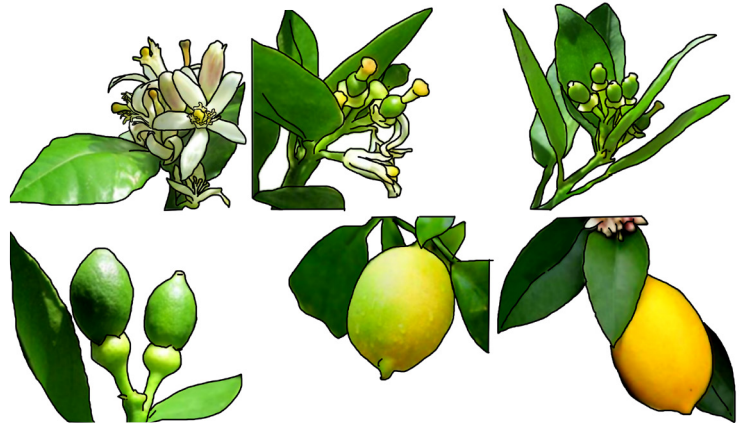


Nladdaniyo 6: Malruwa

Thi nlruwa nikosa wila muri obale miri dhinaguwa.

Malruwa menjene anosadduwa bakala dhoowima.

Eji, jimpadduwa na malruwa a munddimwi ansadduwa bakala manddimwi, a muthimathi ansadduwa bakala mathimathi, na a muri wa abakati ansadduwa bakala abakati.



Nladdaniyo 7: Osadduwa wa nlruwa mpaka okala yawima



Wakule mavuzo ali muciddo

1. Olebe mukaderinoni mwawo nibasa na nlruwa.
2. Olebe nladdaniyo na nlruwa ninziveliweca weyo, muciddomwa olebe nzinana.

Dhoolima

Dhoolima dhikana malremba na munuwelo woothiyana, dhikalawo dhoolima dhinjiwa na dhihinjiwa.

Dhoolima dhinlabela obarela thaga.

Malabo menjene, mwari mwa dhoolima mukala thaga. Dhikalawo dhoolima dhina thaga modha, ninga manga, abakati na pesego. Dhoolima dhinaguwa dhikana thaga dhinji ninga nraranja, musawa na nathando.

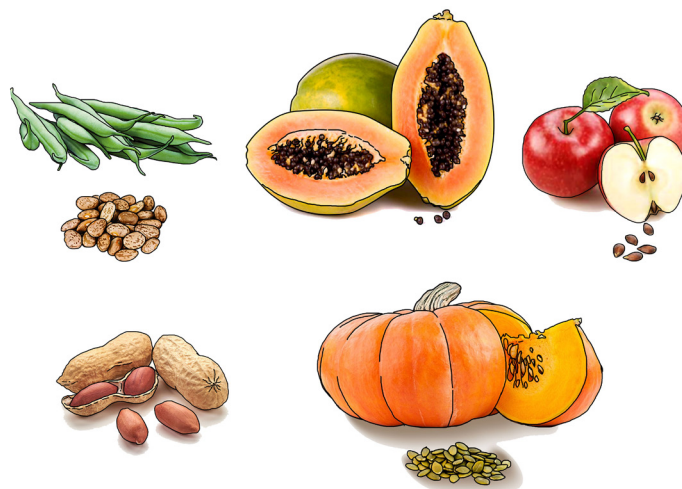


Nladdaniyo 8: Yawima

Thaga

Thaga dhikana malremba na munuwelo woothiyana-thiyana.

Thaga enlabela obala muri muswa, malabomenji mulima onokoya viina onobarela thaga.



Nladdaniyo 9: Thaga



Nibingiyo

Tagiya mwaha wa omela wa thaga

Dhitagano

Thaga ya (cibamba, nambedde, mandduwi na dhinaguwa)

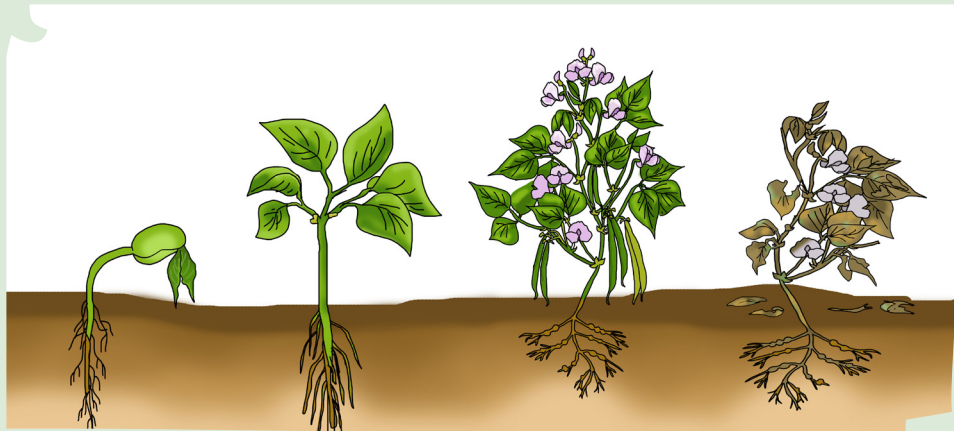
Katha

Manje

Mathaka obe nthoge

Merelo

Wike mathaka mang'ono obe nthoge mukathani, variva wike thaga ya cibamba ogamala owadhelege manje masiku oteene.



Wang'anela:

Wang'anele malabo oteene ciini empadduwa ogamala olebe mukaderinoni mwawo.

Esunziwemo:

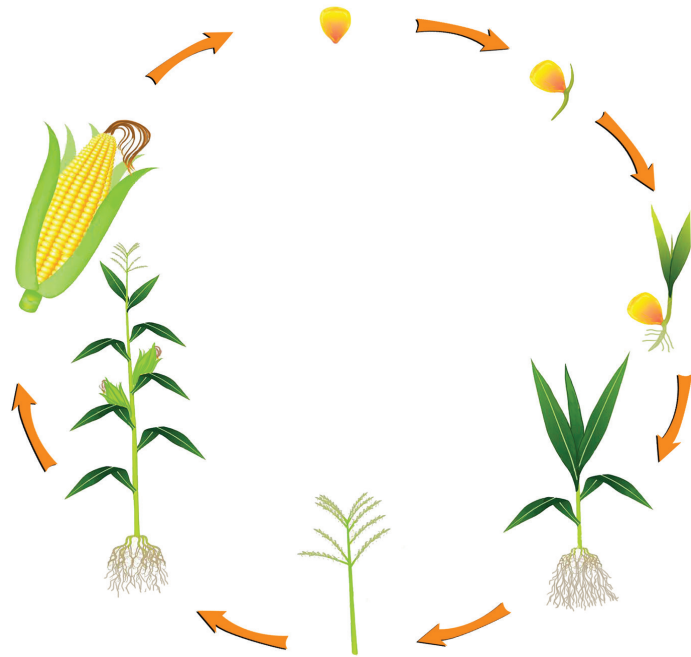
Muvirile malabo mang'ono thaga ya cibamba ehimela.

2. Wileyeya wa okalawo wa miri

Thaga egamotha vamathakani vapaama, enomela ebalaga muri muswa.

Wila muri wuunuwe paamene enofuneya manje, mathaka a paama viina nsaka na deretu.

Muri muswa onowuunuwa okanaga malruwa na milima. Mmilimani munobudduwa thaga dhiswa munfuna omela muri muswa.



Nladdaniyo 10: Wileyeya wa okalawo wa muri wa nambedde

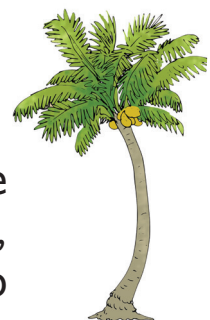
3. Miri dhilici mmuruddani

Mmuruddanini ninofwanyamo miri dhoothiyanathiyana ninga: muri wa nambedde, muri wa fwarinya, mukaju, muri wa cibamba, munazi, mbuga, mbila, kalipitu, xanfuta na miri dhinaguwa.

Ovano onelosunza mwaha wa miri miili dhinlimiweca mwilaboni nwehu.

Munazi

Munazi muri onlimiweca mirudda dhaddamele bara ninga porovinsiya ya Inyambani, Zambeziya, Nampula na Kabu Delegado. Munazi muri onkalawo



Nladdaniyo 11

dhaaka dhinjidhene okanaga mameturu makumi mararu a elapi. Mataba a munazi ba maremba a mataba a manddimwi, malruwaya ba nlremba a njano. Mulima wa munazi onithaniwa koko.



Thima ya munazi

Nthuku na munazi ninolabiyedhiwa omaga na nyumba, osema na mwanddiya, osema na dhoobo viina dhinaguwa.

Matabaya anolabiyedhiwa opibela na nyumba, wasa museelo viina omaga na ng'omi ya vatakulu.

Makumbi a koko anolabiyedhiwa okosa na kuluxa viina sofa.

Nladdaniyo 12

Mulimaya onopiyiwana, onokosiwa na makura, okosiwa na keremi, okosiwa na sabawu na dhinaguwa. sabão, entre outros.

Mandduwi

Mandduwi anolimiwa dhipaddi dhootene dha elabo yehu makamaka oporovinsiya ya Inyambani, Gaza, Maputu, Nampula na Niyansa.

Muri wa mandduwi onuunuwa mmindani, onkalawo meri mitanu na modha.



Nladdaniyo 13: Muri wa mundduwi

Mulima wa mandduwi onkala vati vamathaka, mandduwiya agawarara matabaya anonyala viina anowuma. Eji ezinddiyelo entonya wi madduwi amala owarara, nsaka nodduliwa.

Thima ya mandduwi

Mandduwi anolabela ojiwa, okosiwana makura, okosiwana matega na dhinaguwa.

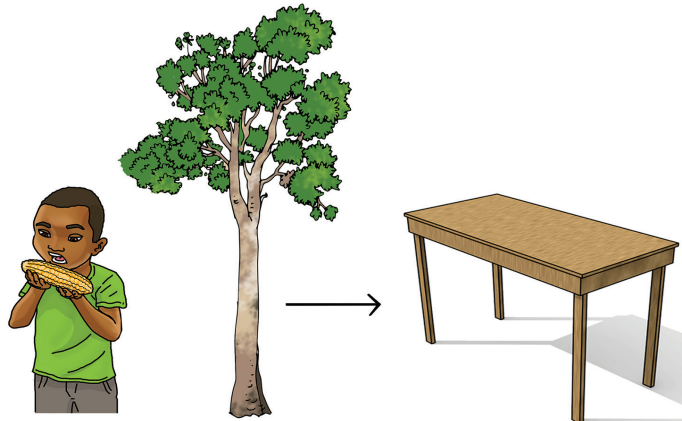
Athu enji mwilaboni mwewo ankalawo na olima, milimadha dhinlimiwa dhinojiwa dhinaguwadhinoguliyiwa.

Kobiri empuriwa na malronddaya enoguliyana dhaabalo, sabawu, mwinyu, manivuru viina mirobwe wi athuya akalewo paama.



Nladdaniyo 14

4. Thima ya miri



Nladdaniyo 15

Muthu na anamakalawo enaguwa kankalawo dhigahikalewo miri sabwa esi dhinonivaha okisigeniyu onvumana iyo (muya).

Miri dhinolaba ninga oja, ninga dhitagano, ninga mirobwe (dhoovulumuca), okoddeliyana vatakulu, okoddeliyana vaxikoola, okoddeliyana murudda na dhinaguwa.



Wakule mukaderinoni mwawo mavuzo ali muciddo:

1. Mwaha wa dhipaddi dha muri na enlabani, oliganiye na mukwereto muddonddo A na muddonddo B

Muddonddo A	Muddonddo B
Malruwa	Obala dhoolima
nthuku	Ovuma wa muri
thaga	Wimeca muri vamathakani

2. Ologe ciini enfuneya wi muri wuunuwe paamene?
3. Olebe mazina mararu a miri dhili mmuruddani mwawo.
4. Kavaha mitonyo minayi (4) dha nibasa na miri.



Wuubucedha

- Dhipaddi dha muri sisi: mucici, nthuku, mataba, malruwa na milima.
- Wileyea wa okalawo wa muri onroma na omela wa thaga. Thagaya egamela muri muswa onobaliwa, panromani wileyea wa okalawo wa muri.
- Miri dhigahikalewo kawuli okalawo mwilaboni, sabwa wi dhinonivaha okisigeniyu onvumana anamakalawo oteene.
- Miri oja wa makamaka wa anamakalawo enjene.
- Miri dhinokosiwana mirobwe, dhitagano dha mabasa dhinkosiwana dhoobo, nyumba viina okoddeliyana.
- Miri dhilici mmuruddani siisi, muri wa nambede, muri wa fwarinya, muri wa mandduwi, muri wa cibamba na dhinaguwa.



Mabingiyo onenelamo

1. Olebe nzina na muri oli vankala weyo ogamala otapulele ekalelani muri wowakwana.
2. Oliganiye na mukwereto dhipaddi dha muri (A) na enlabelani (B).

A: Dhipaddi dha muri	B: Enlabani
	<ul style="list-style-type: none"> • Wimeca muri vamathakani • Obala muri muswa • Opereka manje na minerale dha mmathakani ovenya vamucicini mpaka matabani • Enlabela obala miri dhiswa • Okoya viina obarela thaga • Okosa oja wa miri

4. Ologe thima ya miri ovahaga mitonyo miraro.
5. Ologe ciini enfuneya wi muri wuunuwe paamene?

DHINAMA

Muddimani mpu mwa masunzo onelosunza:

- Onona dhipaddi dha makamaka dha enama;
- Otapulelamo mikalelo wa dhinama dha vatakulu na dhinama dha mutakwani;
- Otapulela thima ena dhinama dha vatakulu na dha mutakwani mwa anamakalawo viina munkaliwa;
- Otapulela mikalelo dha paama dhoopurana dhinama dhili mmawani;
- Otapulela mudhidhi onkoddiiwa otota dhinama;
- Oromola mikalelo dhoobarelana dhinama dhinfuna otolowa.



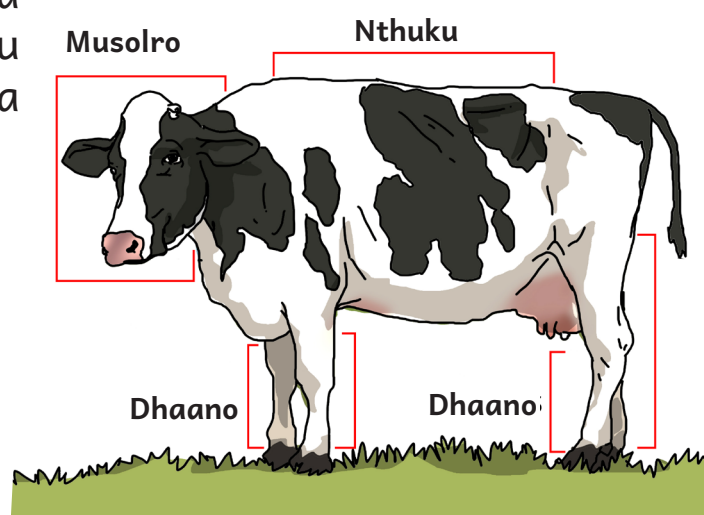
3. Dhinama

Dhinama anamakalawo ambaliwa, anuunuwa, ambalana viina ankwa, ninga, muthu, mwanabwa na thebo.

Muthu enama enthiyana na dhinama dhinaguwa sabwa wi onowuubuwela viina onologa na athu enaguwa alabiyedhaga mazu na mulebo.

Magawelo a dhipaddi dha enama

Maningo a dhinama angaweya dhipaddi tharu dhili: musolro, nthuku na dhaano.



Nladdaniyo 1: Dhipaddi dha maningo a ng'ombe

Musolro epaddi ya mmaningoni vankala mento, mulomo, puno na maru. Musolro onlabela wang'ananiya dhooteene dhinkosa enama ninga, wedda, oja na ogona

Nthuku epaddi ya mmaningoni enlabela okoya viina obarela dhaano dhinkala mwarimwa ninga, murima, madhadhu na miribo.

Dhaano dhipaddi dha mmaningoni dhinlabela weddiya enama.



Wakule mavuzo ali muciddo

1. Maningo a enama angaweya dhipaddi tharu. Dhipaddidha siivi?

Dhinama dha vatakulu na dha mutakwani

Mwilaboni ninofwanyamo dhinama dhoothiyana-thiyana dhingumaniyiwa mmakuruni meeli: nikuru na dhinama dha vatakulu ninga: mwanaku, paka na nimbatha viina nikuru na dhinama dha mutakwani ninga: nowa, nikunkuni na nyarugwe.

Dhinama dha vatakulu siisile dhinfuwiwa na Muthu, ninga entonya nladdaniyo nili muciddo.



Nladdaniyo 2: Dhinama dha vatakulu



Wakule mavuzo ali muciddo

1. Makuru meeli manddimuwa a dhinama dhinfwanyeya mwilaboni baavi?
2. Dhinama dha vatakulu siivi? Kavaha mitonyo minayi (4).

Dhinama dha mutakwani

Dhinama dha mutakwani siisile dhahinfuwiwa na Muthu, dhinama dhinkala mwini, ninga enlagiya nladdaniyo nili muciddo.

Dhinama dha mutakwani dhinkalawo dhitotaga, dhisapaga obe dhijaga mani, vano dhinama dhiina ninga nyarugwe, poddogoma na munyinga dhinoja dhinama dhinaguwa.



Nladdaniyo 3: Dhinama dha mutakwani



Wakule mavuzo ali muciddo

1. Dhinama dha mutakwani ciini. Kavaha mitonyo miraru.

Thima ena dhinama dha vatakulu

Athu enjene mmuruddani anofuwa dhinama dhinji, esi dhinowalabela anamudhi na athu a mmawani.

Athu anopura mwa dhinama, nyama, mazayi, mukaka, thebe, makuva na dhinaguwa.



Nladdaniyo 4:

Nyama, mazayi na mukaka dhinonipurela oja.

Thebe ya dinama enolabiwana mmfabirikani ninga etagano enkosiwana satho, zumbelra, sandaliya, puruselra, ng'oma viina mooba.

Mathenga a dhinama anolabiwana mmfabirika ninga etagano ensasanyiwana misago na makuluxawu.



Nladdaniyo 5: Kuluxa, misago na kugulu

Makuva a dhinama anolabiwana mmfabirika ninga etagano enkosiwana miziyo, cavina, pilrizi na dhinaguwa.



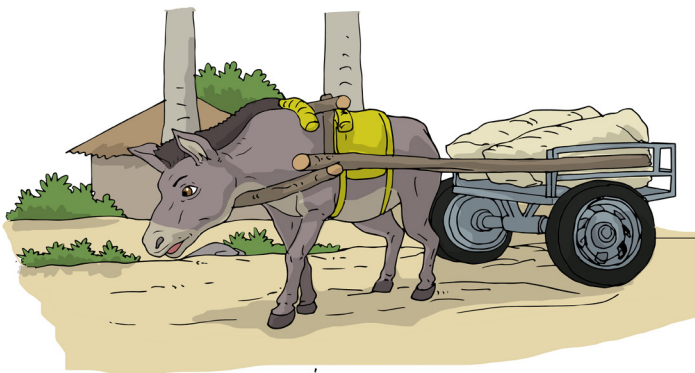
Nladdaniyo 6: miziyo, cavina na pilrizi



Mwanabwa malro wa muthu, onolabiyedhiwa wang'anela vatakulu na otota.

Nladdaniyo 7 : miziyo, cavina na pilrizi

Ng'ombe, buru na kavalo dhinama dhinlabiyedhiwa ninga dhipano dhineddana athu, dhinthukuliwana malrondda viina dhinlimiwana omundda.



Nladdaniyo 8: Ng'ombe omundda



Nladdaniyo 9: Buru ethukule malrondda.

Mari a ng'ombe, a guluwe, a mwanaku na a namarogolo anolabiyedhiwa omundda ninga exiturumi.



Nladdaniyo 10:



Wakule mavuzo ali muciddo

1. Dhinama gani dhinfuwiwa mmuruddani mwawo?
2. Olebe mukaderinoni mwawo thima ena dhinama dha vatakulu mwa muthu, ovahe mitonyo miraru.

Thima ena dhinama dha mutakwani

Mutakwani ninofwanyamo dhinama dha mwini. Dhinamadha sa makamaka mmawani viina mwa anamakalawo oteene.

Dhinama dha mwini dhigaweddaga mutakwani dhinokosa dhila viina dhinowunda dhirasi dha miri wi muvirelege pevo paamene.

Dhinama dha mutakwani dhinovaha nyama enjiwa na muthu, thebe, manyaga, mwila viina makuva anlabiwana mmfabirika ninga dhitagano dhoosasanyana satho, makazako, mapuruselra, miziyo na dhinaguwa.

Dhinama dhinaguwa dhinovaha nyama enjiwa na muthu, ninga baala, teji, na mujili (guluwe ya mwini).

Mudhidhi onkoddiyiwa otota

Dhinama dha mutakwani viina dhinama dha mmanjeni (mukamba, kala na dhinaguwa) wila dhisapiwe enofuneya oriya mudhidhi onkoddiyiwani otota.

Mudhidhi onkoddiyiwa ototiwa dhinama, anamasapa anokoddiyiwa otota dhinama obe omedha oba, wi dhinamadha dhirelena viina dhiwuunuwe.

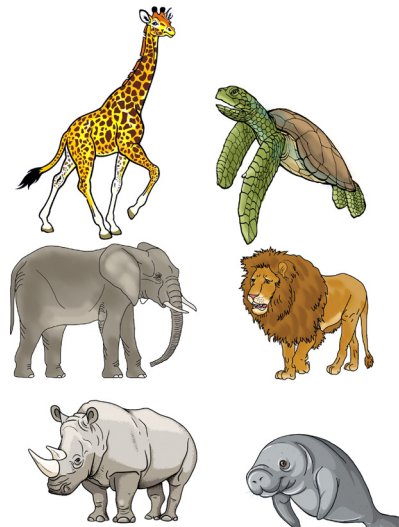


Wakule mavuzo ali muciddo

1. Olebe mukaderinoni mwawo mazina mararu a dhinama dha mutakwani.
2. Olebe thima ena dhinama dha mutakwani mwa muthu ovahaga mitonyo miraru.
3. Mudhidhi onkoddiyiwa otota dhinama entapulela nni?

Obareliwa wa dhinama dhinfuna otolowa

Dhinama dhinfuna otolowa siisile dhinfuna otolociwa okalawo mwilaboni. mMusambiki mukala dhinama dhinfuna otolowa ninga, kwete woocena, palavi, thebo, fule ya mbara, dugondo, golifinyu na poddogoma.



Nladdaniyo 11 :

Dhinama dhinveda ototowa mwilaboni

Athu oteene anofwanyela obarela dhinama dhinfuna otolowa. Dhinama esi sa thima enddimuwa enlabela oliganiya murudda wa takwa munkalani.

Dhinama dhinfuna otolowa masiku menji dhinkoyiwa muddebe obe mutakwani dhinddimuwa mumbareliwani mwa anamasapa antota dhinamadha na onyulu.

Oddumeya takwa, osapa, otota, ogwadda miri na dhifoyo (yumwi) dhilobo dhintoloca dhinama.

Ja makamaka obarela viina ovaha nriyo dhinama, kinfwanyela otabuca dhinama dha vatakulu, nirabele opa dhinama dha mutakwani ebewene.

Osapa viina otota woonyulu, wa dhinama dhinfuna otolowa onofugeliwa mukambura ninga munlogela nlamulo.



Wakule mavuzo ali muciddo

1. Olebe mazina meeli a dhinama dhinfuna otolowa.
2. Thima ya obarela dhinama dhinfuna otolowa jiivi?



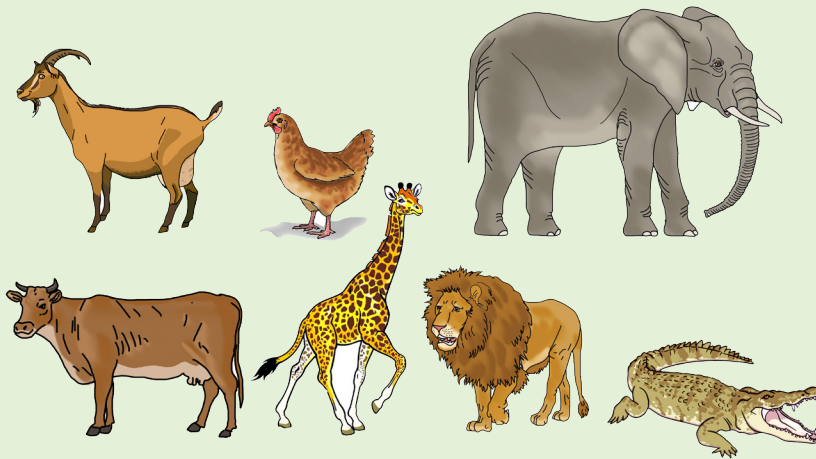
Wuubucedha

- Maningo a enama angaweya dhipaddi tharu, musolro, nthuku na dhaano.
- Musolro onlabela okosa dhootene dhinfuna wira enama.
- Nthuku ninlabela okoya viina obarela dhaano dhili mbani.
- Dhaano dhinlabela weddiya.
- Dhinama dha vatakulu siisile dhinfuwiwa na muthu ninga, mwanabwa, ng'ombe na mwanaku.
- Dhinama dha mutakwani siisile dhahinfuwiwa na muthu ninga, poddogoma, baala na thebo.
- Dhinama sa makamaka sabwa wi dhinonivaha nyama, mukaka, thebe na dhinaguwa. Dhinama dhinaguwa dhinolabiyedhiwa ninga dhipano dhooweddana dhathukulaga athu, malrondda na wathukulela athu omundda.
- Ja makamaka obarela dhinama dhinfuna otolowa.

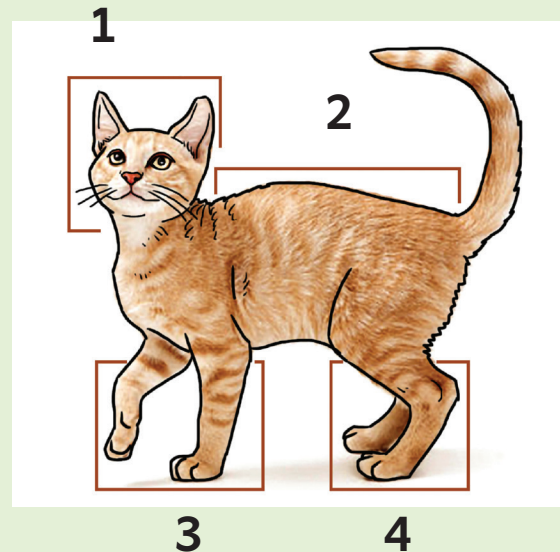


Mabingiyo ononelamo

1. Wang'ane nladdaniyo vali dhinama dhoothiyana (mbuzi, mwanaku, thebo, palavi, ng'ombe, poddogoma, nyakoko)
 - a) Olebe mukaderinoni mwawo mazina mararu a dhinama dha vatakulu.
 - b) Olebe mukaderinoni mwawo mazina mararu a dhinama dha mutakwani.



2. Wang'ane nladdaniyo
 - a) olebe mazina anzinddiyela epaddi modha modha.
 - b) Nladdaniyo na numuru [x] ninlabela nni?



3. Olebe mukaderinoni mwawo thima tharu (3) ena dhinama dha vatakulu
4. Thima gani ena mudhidhi onkoddijiwa ototiwa dhinama?

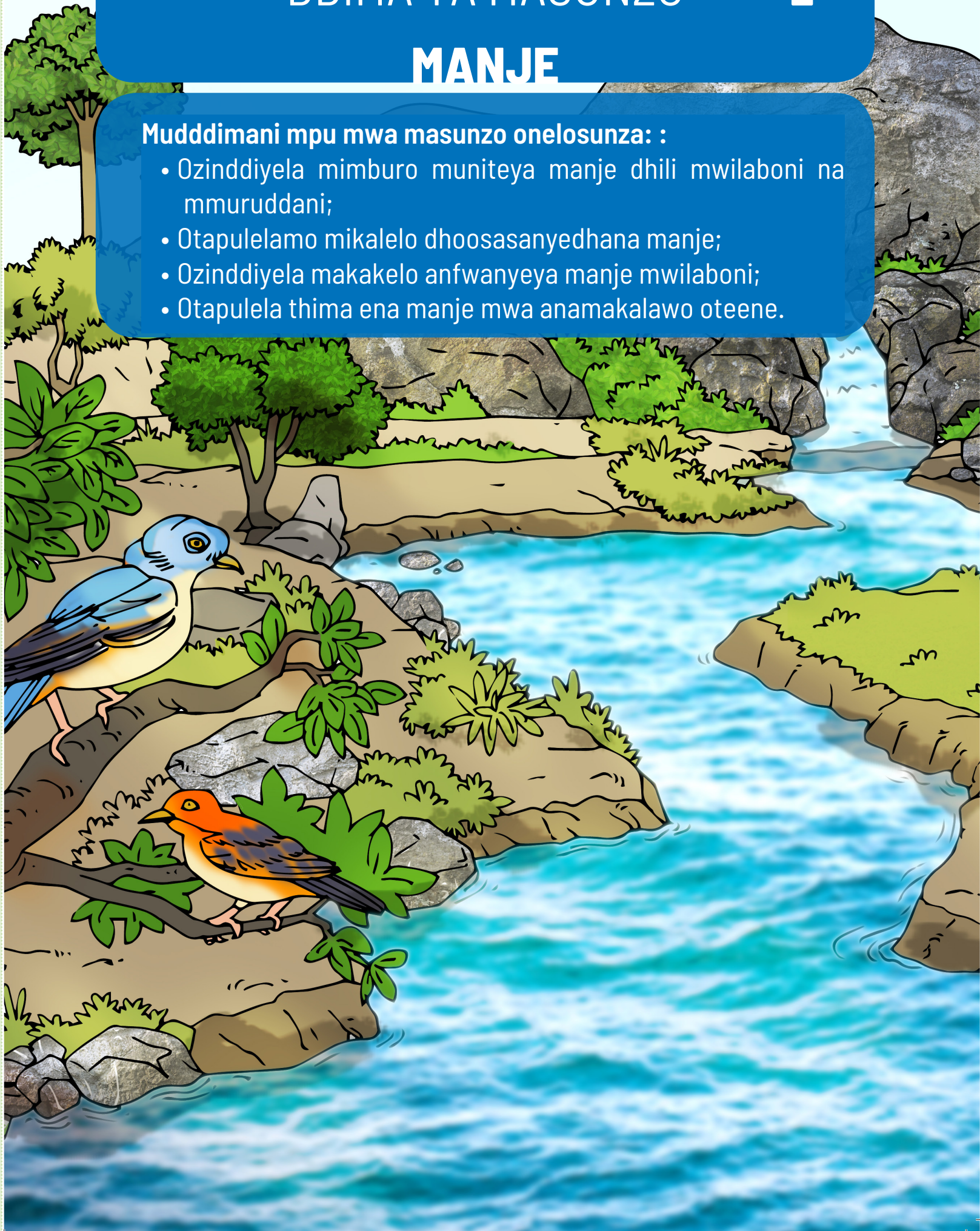
DDIMA YA MASUNZO

4

MANJE

Muddimani mpu mwa masunzo onelosunza: :

- Ozinddiyela mimbuo muniteya manje dhili mwilaboni na mmuruddani;
- Otapulelamo mikalelo dhoosasanyedhana manje;
- Ozinddiyela makakelo anfwanyeya manje mwilaboni;
- Otapulela thima ena manje mwa anamakalawo oteene.

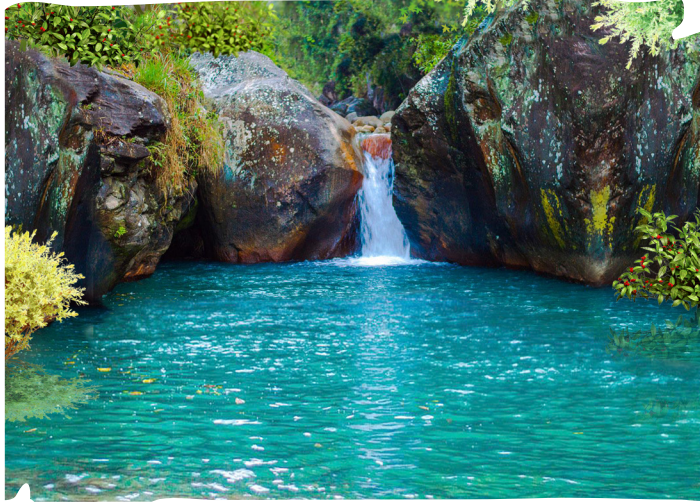


Mwego munfwanyeya manje mwilaboni

Mwilaboni manje anfwanyeya mminjeni, mmathaddani, mbara, vati vamathaka, mmiraboni na mwego mwinaguwa.

Manje meenjene ali mwilaboni ba mwinyu aba anfwanyeya mbara.

Epaddi eng'ono a manje ali mwilaboni ba ong'wa anfwanyeya mwiko, muthaddani na mathadda manddimuwa.



Nladdaniyo 1: Manje anfukuwa muniteyani



Osunzevi:

Manje a mwinyu anosadduliwa ba kala manje ong'wa na nikamiyedho na merelo anvapa mwinyu oli mmanjeni. Manjeya ansadduliwe bafwanyela ong'iwa, mwirelo obu onithaniwa desalinizaxawu..

Muniteya manje mwego munfwanya athu na dhinama manje.

Muniteya manje mwego munfwanya athu na dhinama manje. Mmuruddani ninofwanya mwego moothiya muniteya manje ninga, munfukuwa manje, minje, mathadda, macela, puuxu na manje a muturunera.

Manje kangaweya na ekalelolo moodhene mmuruddani, noona akalawo athu aneddelo uddayi wi afwanye manje.



Nladdaniyo 2: Manje andela muniteyani



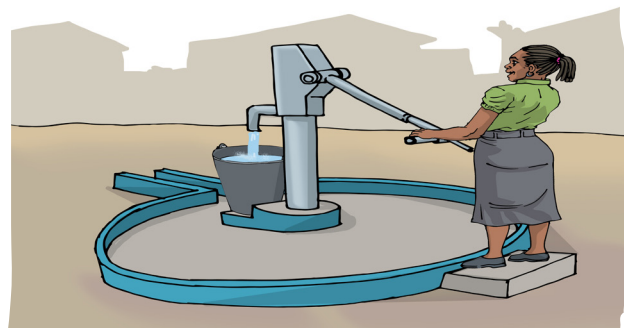
Nladdaniyo 3: Athu alabiyedhaga manje a mwiko

Ncela na puxu

Manje anothamaga vati vamathaka. Mmuruddani muli manje vakuvi vamathaka athu anotiba macela viina anokosa puxu wila ahitoweliwe manje.



Nladdaniyo 4: Ncela



Nladdaniyo 5: Puxu

Manje a muturunerani

Mirudda dha muthethe na mirudda dhinaguwa dha muthemba manjeya ba muturunera. Manjeya avenyana mwiko mpaka munsasanyedhiwani anvira mumpebeni dhoolapa.

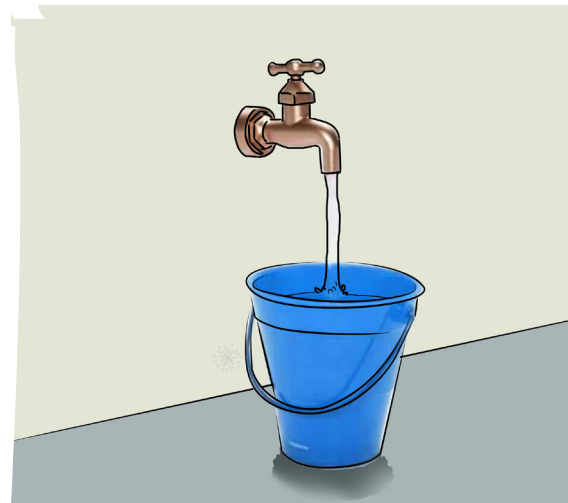
Majeya agafiya munsasanyedhiwani, anowikiwa mirobwe wi mitipa dhinkala mmanjeni dhikwe, agamala osasanyedhiwa anogaweliwa mirudda.

Manjeya agamala osasanyedhiwa, anofwanyela ong'wa.

Mutipa: anamakalawo ang'ining'ini vaddiddi ahinooneya na meento.

Muhago: dhinama dhina maningo oyeviyana viina olapa. Dhikalawo mihago dhinkala mmaningoni mwa muthu viina dhintota mareda, ninga muhago onkala mbani.

Manje ong'wa: manje anfwanyela athu ong'wa.



Nladdaniyo 6: Manje a muturunerani



Wanziwa wi:

Manje ong'wa mwilaboni ayevamo, noona ja makamaka winalema manje.

Kayiyo manje ong'wa oteene anfwanyela muthu ong'wa, sabwani masiku menji manjeya botakala viina bonuka. Muthu dhintakaliyeca manje mwilaboni.



Wakule mavuzo ali muciddo

1. Manje meniji ali mwilaboni anfwanyeya uvi?
2. Mburo gani muniteya manje dhili mmuruddani mwawo?
3. Mumburo gani oli vatakulu wawo muniteya manje?

Mikalelo dhoosanyedhana manje

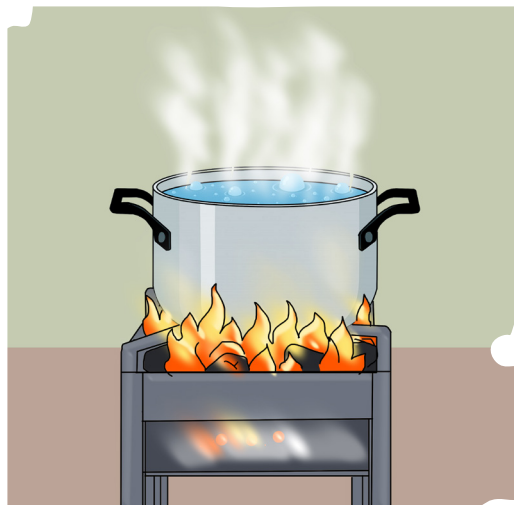
Mimburu muniteya manje ong'wa mwilaboni soyeviyana, noona enofwanyela osasanyedha manjeya ahinathi ong'wiwa.

Dhikalawo mikalelo dhootiyana dhoosanyedhana manje dhili, owiliya, ocolrolriya, wika mirobwe na okoddeliya.

Wi manje akale ong'wa anowiliyiwa obe anowikiwa mirobwe.

1. Owiliya

Mwirelo wa vatakulu woowiliya manje mpaka mitala 5 wi afwanyele ong'wiwa.



Nladdaniyo 7: Manje awilaga mbiyani.

2. Wika murobwe

Mwilaboni mwehu, mwirelo wa wika murobwe mmanjeni bunkosiweca. Mmanjeni munowikiwa koloro eziwiweca na nzina na seriteza:

1. Odhaliye ponddo ya garafwa na seriteza;
2. Wike seriteza muyoboni nina manituro 20;
3. Ofuge yooboya ogamala okurukuse wila murobweya otaganyiyedhe;
4. Ojedhele mpaka mitala 30 wi murobweya othidde mpilra
5. Mudhidhi obu ogavira manjeya anofwanyela ong'wiwa;
6. Ogaruga mangeya muyooboni, kudduwale ofuga na ponddoya.



Nladdaniyo 8:
ginkoddeliya manje

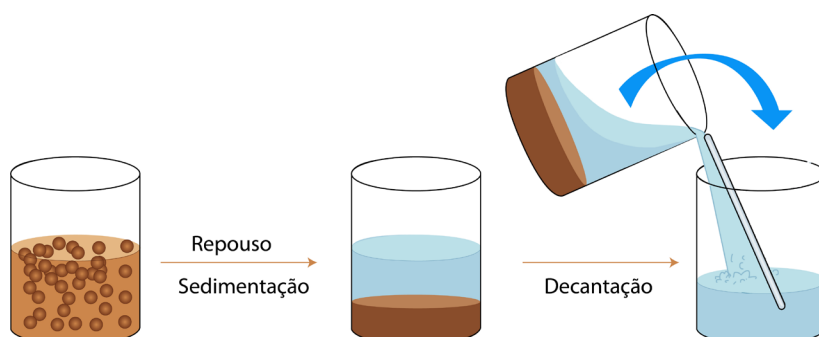
Mirobwe

3. Ocolrolriya

Ocolorriya mwirelo ovapana dhilobolobo dhili mmanjeni.

Mmavapeloni mwa, dhilobolodha dhinakala vati manje ankala odhulu.

Manje ankala vadhulu, kanfwanyela ong'wiwa sabwa wi atakala, noona, dhilobolobodha dhigavapiwa manjeya anowikiwa koloro wi akale ong'wa.



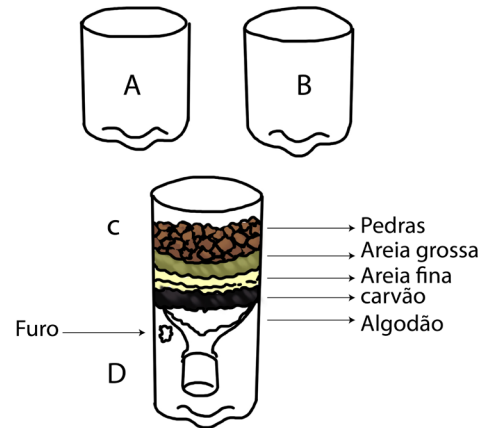
Nladdaniyo 9:

4. Okoddeliya

Okoddeliya mwirelo woovapana dhootakala dhili mmanjeni na nikamiyedho na dhoobo.

Manjeya agaviraga muyooboni dhootaka dhinoparamelamo manjeya bakala okoddela.

Manjeya agamala okoddeliyiwa, enofwanyela wika koloro wi akale ong'wa



Nladdaniyo 10: Manje akoddeliyiwaga.



Wakule mavuzo ali muciddo

- Muciddo munkala mikalelo dhoosasanyedhana manje. Osaziye mukaderinoni mwawo mikalelo dhoosasanyedhana manje ong'wa.
 - Ocolrorliya
 - Wiliya
 - Wika koloro
 - Okoddeliya
- Wakwaniye ddima dha mazu na mazu aba: wiliya na koloro.
 - Enofwanyela wika _____ nigamala okoddeliya manje wi akale ong'wa.
 - Nahinathi ong'wa manje a mwiko enofwanyela _____ obe wika _____

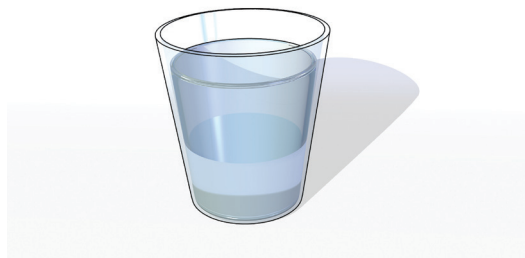
Makalelo anfwanyeya manje

Manje mwilaboni akaana mikalelo miraru, na mudhidhiya obe na nsakana anokala, ancolrorowa, anthiddeya na othuwela.

Zungo: dhootakala

Makalelo anfwanyeya manje

Manje mwilaboni akaana mikalelo miraru, na mudhidhiya obe na nsakana anokala, ancolrorowa, anthiddeya na othuwela.



Nladdaniyo 11: Manje mmukaleloni ocolrolrowaocolrolrowa

Mukalelo woocolrolrowa – mmukaleloni obu manje anokala ocolrolrowa, ninga manje anbuduwa muturunera, manje ali mucelani, manje ali mpuxuni, manje a mudhogwe, manje ambara, manje a mwiko na manje ali vati vamathaka.

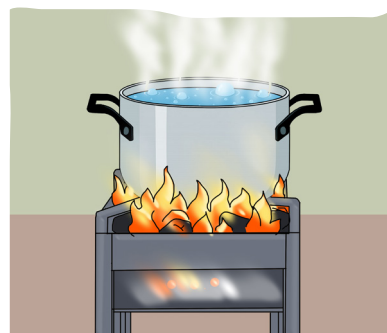


Nladdaniyo 12 Manje na ekalelo ya gelu



Nladdaniyo 13: Manje elabo yooridha.

Mukelo woothiddeya – mmukaleloni obu manje anothiddeya, ninga gelu na mararara. Masiku menji, dhilabo dhinridha vaddiddi manje anofwanyeya na mukalelo wa gelu



Nladdaniyo 14: Manje athuwelaga mbiyani.

Manje a vati vamathaka – manje ankala vati vamathaka



Wanziwa wi:

Manje yoorela ya mwilaboni ena thima enddimuwa mwa okalawo wa dhootene, noona manje agahikalewo kawuli okalawo. Manje oteene ali mwilaboni epaddi eng'onoya ja manje ong'wa. Epaddi enddimuwa ya maningo a anamakalawo oteene manje.

Thima ena manje mwa namakalawo

Manje ba makamaka mwa anamakalawo oteene viina epaddi ya maningo a anamakalawo oteene.

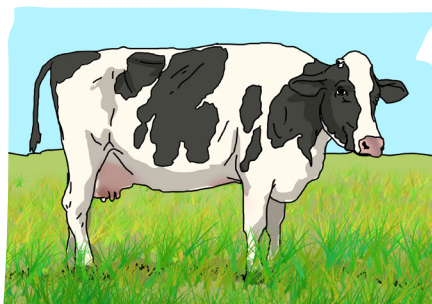
Nikami na dhinama viina sumu dha milima dhikana manje.

Manje ba makamaka sabwa wi anolabela dhilobo dhinjidhene mmaningoni mwehu ninga opa mitipa dhinkathamiya egumi viina ovugula oviyedhiwa wa maningo.

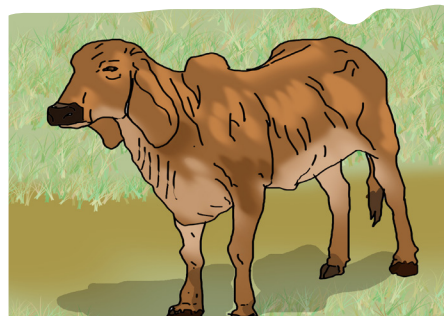
Epaddi modha ya manje ang'wa iyo anonongeya na miriddo, na mari viina nigaburucaga karuma. Noona, nigahing'we manje ninokana nthona, viina nindaga okwa.

Masiku anviya vaddiddi maningo a muthu anononga manje menje, noona, enofwanyela ong'wa manje mudhi oteene.

Maladdaniyo ali muciddo anolagiya othiyana wa manje mmaningoni mwa dhinama viina mwa muthu.



Nladdaniyo 15: ng'ombe yookuma vali maani apaama



Nladdaniyo 16: ng'ombe yoowodda mwaha wa nthona

Nthona: otoweliwa manje mmaningoni

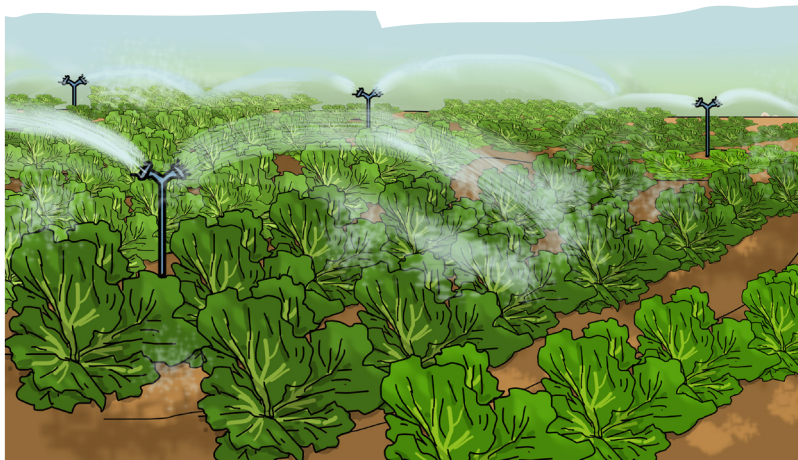


Nladdaniyo 17:
maningo a muthu
ong'wa manje



Nladdaniyo 18:
maningo a muthu
ohing'wa manje

Miri dhigatoweliwa manje kadhinuunuwa, noona, dhinonyala viina dhinokwa. Ja paama owadhela manje miri.



Nladdaniyo 19: nladdaniyo na mundda onwaddeliwa manje

Manje ba makamaka sabwa wi athu anoviramo na malrondda viina anosapamo.



Manje ba makamaka sabwa wi athu anoviramo na malrondda viina anosapamo.



Nladdaniyo 20: osuwa dhoobo



Nladdaniyo 21: mwana onowaba



Nladdaniyo 22: osasanyiwa wa mirobwe, faraxiku na mirobwe

Manje anolabiyedhiwa osuwana dhoobo, wabana, okosana ceeza, osasanyana mirobwe na dhinaguwa.



Nladdaniyo 23: Kabarabasa



Wuubucedha

Manje otholrolra banfwanyela ong'wiwa, wila manjeya atholrolre enofuneya wiliya, okoddeliya, wika murobwe viina ocolrolriya.

Wiliya na wika murobwe onopa mitipa dhili manjeni.

Manje ba makamaka sabwa wi anong'wiwa, anowathukulela athu na dhoobo mimburo dhinaguwa, munosapiwamo, anokosiwana ceeza viina osasanyiwana mirobwe.

Ja makamaka okoya viina winanela manje ali mwilaboni.



Mabingiyo ononelamo

1. Muciddo munolagiyiwa mikalelo minayi (4) dhoosasanyedhana manje. Osaziye mukaderinoni mwawo mikalelo dhoosasanyedhana manje wi afwanyeke ong'wiwa.
 - a. Ocolrolriya
 - b. Owika murobwe wa koloro
 - c. Owiliya
 - d. Okoddeliya
2. Otonyiyedhe mikalelo miraru (3) dhinlabiyedha muthu manje
3. Maningo a muthu annonga manje na mikalelo gaani?

DDIMA YA MASUNZO

5

MATHAKA

Muddimani mpu mwa masunzo onelosunza:

- Otapulelamo makalelo a mathaka;;
- Onona thima ena mathaka mwa anamakalawo anvuma othiyana;



MATHAKA

Makathaka epaddi ya vati vanfwanyiwa anamakalawo oteene a mwilaboni.

Mathaka elobo yoopadduwa ena thima enddimuwa mwa anamakalawo anvuma (muthu, miri na anamalawo ang'ining'ini).

1. Makalelo a mathaka

Mathaka akana makalelo aba: mathaka a mucesa, mathaka a ddongo na mathaka a murethe.

Mathaka a mucesa:

Mathaka ana ekalelo eji akana mucesa mwinjene. Mathakaya kanruca onyetha sabwa wi anong'wela manje na waguva. Mathaka a mucesa kanfwanyela olimiwa.



Nladdaniyo 1: Mathaka a mucesa.

Mathaka a ddongo:

Mathaka ana ekalelo eji akana ddongo vaddiddi. Mathakaya anoruca vaddiddi onyetha sabwa anogonela ong'wela manje. Mathakaya anoruca olabana sabwa akana ddongo yinjine.

Mathaka a ddongo agawuuma anovadda vaddiddi viina anokana munyaza.



Nladdaniyo 2: Mathaka a muceza.

Mathaka a murethe mathaka ovuganyeya vang'ono na muceza viina vang'ono na ddongo. Mathaka ang'wela manje paamene.

Mathaka a murethe mathaka orela vaddiddi na minerale viina banfwanyela olimiwa.



Nladdaniyo 3: Mathaka ovuganyeya (murethe)

Thima ena mathakwa mwa anamakalawo

- Mmathakani punda dhooja dha miri;
- Mathaka anolabela wimeca micici dha miri;
- Mathaka anolabela onkoya manje na minerale dha mmathaka dhili oja wa miri;
- Mmathakani mwegu munuunuwa anamakalawo ang'ini-ng'ini;
- Mmathakani mwegu munkala dhinama ninga ng'ambo;
- Muthu onolabiyedha mathaka dhilobo dhinjidhene ninga, omagana nyumba, xikoola, xipitale viina rampa.



Wuubucedha

Mathaka epaddi ya vati ya elabo.

Mathaka akana makalelo aba: mathaka a muceza, mathaka a ddongo na mathaka a murethe, modha-modha akana makalelo awa-awa.

Mathaka a muceza kanruca ong'wela manje.

Mathaka a ddongo anoruca vaddidi ong'wela manje.

Mathaka a murethe anong'wela manje paamene.



Mabingiyo ononelamo

1. Mathaka ciini?
2. Oromole makalelo mararu a mathaka asunzile weyo.
3. Mathaka a murethe ciini?
4. Mathaka epaddi ya vati ya elabo

miraru (3).



Mabingiyo ononelamo

1. Oliganiye na mukwereto muddonddo A na muddonddo B

Mathaka	Makalelo
1. Mathaka a muceesa	A. Kanruca ong'wela
2. Mathaka a ddongo	B. Anoruca ong'wela
3. Mathaka a murethe	C. Anong'wela paamene

3. Mathaka gani anfwanyela olimiwa?
4. Thima gani ena mathaka mwa namakalawo? Kavaha mitonyo

DDIMA YA MASUNZO

6

OYESA NA MUNKALIWA

Muddimani mpu mwa masunzo onelosunzo:

- Oromola merelo a oyesa wa muthu viina wa muthithi onkoseliwa vatakulu na mmuruddani;
- Oromola mikalelo dhoobarelana munkaliwa;
- Otapulelamo mikalelo dhoosasanyedhana zungu.



Olebe mukaderinoni mwawo merelo mararu a oyesa ankosa weyo ogavenya.

Maningo ehu anofwanyela okana egumi wila nikalewo paamene. Wi ejiya epadduwe, ja makamaka osoriya merelo a oyesa.

Merelo a oyesa marelo oteene ansoriyiwa wi maningo akane egumi ya paama, mereloya aba ba muthu-muthu obe anamwinji.

Merelo a oyesa a muthu-muthu

Merelo a oyesa a muthu-muthu – merelo ankosa iyo masiku oteene wi nikane egumi ya paama mmaningoni viina mwegogoni.

Merelo a oyesa a muthu-muthu baaba:

- Okweca meeno masiku oteene ogamala oja obe okweca meeno dila biili vasiku;
- Waba na sabawu masiku oteene;
- Onawa mada na sabawu ohinathi othidda dhooja viina ogamala obudduwa musintina;
- Okotomolela moonu viina wachemulela valensoni nili gwilro;
- Ogonu ngafuna wene midhidhi mitanu na miraru (8);
- Woogola maningo;
- Ofula guwo;
- Osamula nthithi.



Nladdaniyo 1: Merelo a oyesa a muthu-muthu.



Osunzevi

Ja paama okana dhinyala dhookoddelene viina ogwadda wi muciddomwa munatakale na dhilobolobo.

Dhootakala dhinkala muciddo mwa dhinyala dhinotota mareda andela mmathakani, mmaroveni obe mmavegoni.



Wakule mavuzo ali muciddo

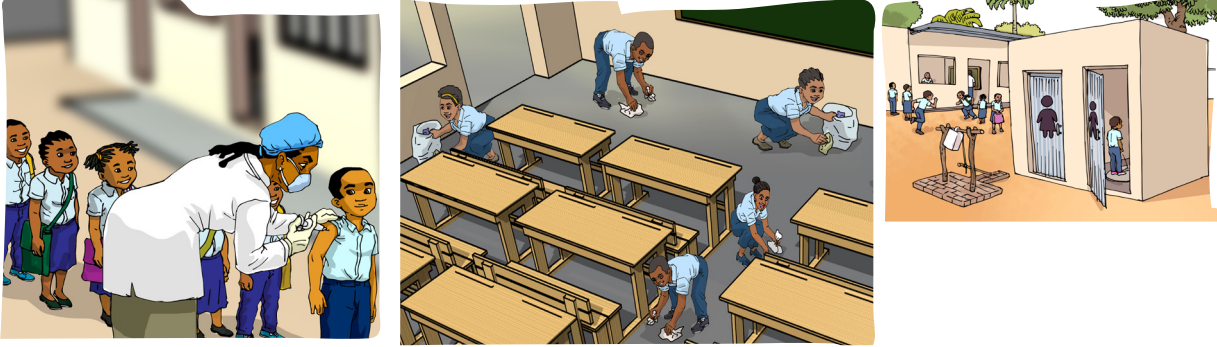
1. Wike X ddima dha mazu dha paama mwaha wa merelo a oyesa:
 - a) Wachemula ohikunele mulomo na puno_____
 - b) Waba masiku oteene_____
 - c) Ogona na guwo dhoopigidheya vakuguluni_____
 - d) Olupa kabala_____
 - e) Okweca meeno_____
 - F) Onawa mada na sabawu_____

Merelo a oyesa a anamwinji

Merelo a oyesa a namwiji merelo ansoriyiwa wila anamudhi a mmuruddani akane egumi ya paama.

Merelo a oyesa a anamwinji baaba:

- Oseela vatakulu masiku oteene;
- Oseela nyumba ya masunzo;
- Okuruba maani anrugunuwela nyumba obe xikoola;
- Okoddeliya thaddo ya xikoola na nyumba dha masunzo;
- Okoddeliya omahabelo na musintina ogabudduwagamo;
- Ohinyele vayovi viina ohiruddele miri.



Nladdaniyo 2: Merelo a oyesa wa anamwinji.

Mikalelo dhoobarelana munkaliwa

Munkaliwa na dhootene dhinirugunuwela dhinofwanyela obareliwa. Ninofwanyela obarela nyumba yehu, xikoola viina murudda.

Vatakulu ninofwanyela osoriya merelo aba:

- Okoddeliya vatakulu, omahabelo viina osintina;
- Okoddeliya mimbuo dhinrugunuwela nyumba;
- Othuthela mburo onkaleca manje vathaddo;
- Osasanyedha zungu nili vatakulu obe vathaddo.

Vaxikoola ninofwanyela osoriya merelo aba:

- Okoddeliya nyumba dha masunzo viina thaddo ya xikoola;
- Olabiyedha mahabelo na nyumba ya sintina paamene;
- Ohiwunda dhirasi dha miri;
- Ovokela zungu mburo woofwanyelela;
- Onawa manda ohinathi oja;
- Okunela sintina.

Mmuruddani ninofwanyela osoriya merelo aba:

- Oceya miri viina obarela;
- Ohivokela zungu mbolriyoni muntamaga manje;
- Okamiyedha okuruba na okuputha dila;



Nladdaniyo 3: Mikalelo dhoosasanyedhana munkaliwa

Mikalelo dhoosasanyedhana zungu



Nladdaniyo 4: Zungu mmuruddani

Munkaliwa na dhootene dhinirugunuwela munotakala na zungu.

Zungu dhilobo dhootene dhinvokiwa sabwa wi kadhinlabela elo ninga, oja onwala munziyoni, magariwawa na miliyado.

Zungu ninothakaliya dila, ninonuka viina nonotota cence, mabarata na macilu, dhilobo dhintota mareda.

Wi nikale munkaliwa muli egumi, ninofwanyela wira:

- Wika zungu mmiliyaddoni dhoomageya nigamala nivokele mwerudduni ya zungu enddimuwa;
- Otibela zungu obe ovokela mburo woofwanyelela;
- Orabela okoya zungu vatakulu;
- Orabela ovokela zungu mudila.



Nladdaniyo 5: Merelo osasanyedhana zungu



Osunzevi:

Ninofwanyela ovapa zungu noothiyana ninga, makarita, maviduru, malanta na miliyado dhinlabiyedhiwa wiilimo wi dhisasanyiwena dhilobo dhinaguwa.



Wakule mavuzo ali muciddo

1. Olebe nladdaniyo mukaderinoni mwawo nintonya mukalelo osunzile weyo woobarelana munkaliwa.

Wuubucedha:

Merelo a oyesa merelo oteene ansoriyiwa wi nikane egumi ya paama.

Merelo a oyesa anokala a muthu-muthu viina anamwinji.

Munkaliwa na dhootene dhinirugunuwela dhinofwanyela obareliwa. Ninofwanyela osasanyedha nyumba yehu, xikoola viina mmuruddani.



Mabingiyo ononelamo

Wakwaniye mimburo dhinjomba dha mazu aba: muthu-muthu na anamwiji:

Okweca meeno mwirelo wa _____
Okoddeliya nyumba ya masunzo mwirelo
wa _____

Onawa mada mwirelo wa _____

Ohiruddela miri mwirelo wa _____

Olebe mikalelo miili dhoosasanyedhana zungu.

Olebe mikalelo miili dha mmuruddani dhoobarelana munkaliwa.



Mabingiyo ononelamo

1. Wakwaniye mimburo dhinjomba dha mazu aba: muthu-muthu na anamwiji:

a) Okweca meeno mwirelo wa _____

b) Okoddeliya nyumba ya masunzo mwirelo
wa _____

c) Onawa mada mwirelo
wa _____

d) Ohiruddela miri mwirelo
wa _____

2. Olebe mikalelo miili dhoosasanyedhana zungu.

3. Olebe mikalelo miili dha mmuruddani dhoobarelana munkaliwa.

1. Dhooja dha mmuruddani

Dhooja siisile dhootene dhinja viina dhing'wa muthu wila akalewo.

Mmuruddani ninofwanyamo dhooja dhoothiyana-thiyana:

Dhooja dhindela mwa dhinama ninga, oba, mukamba, nyama, mazayi keju na mukaka.



Nladdaniyo 1: Dhooja dhoothiyana

Dhooja dhindela mmunddani ninga, koove, alifasi, bambaya, cibamba, mandduwi, rapulyu na milima.



Nladdaniyo 2: Dhooja dhindela vati vamathaka (manje na mwinyu)

Dhooja dhindela vati vamathaka ninga, mwinyu na manje.



Nladdaniyo 3: Dhooja dhindela vati vamathaka (manje na mwinyu)



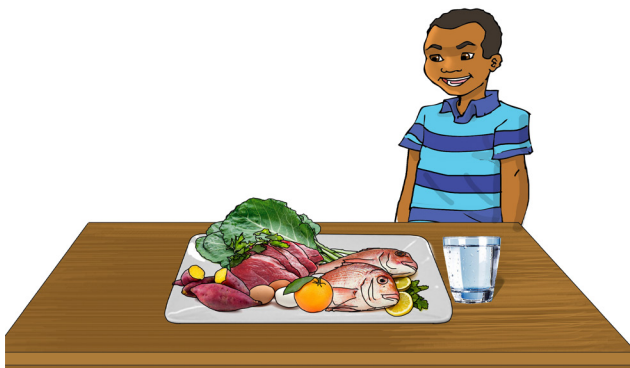
Wanziwa wi:

Manje anokosa epaddi enddimuwa ya maningo a namakalawo anvuma, noona oja wamakamaka wohinjomba mukalani mwehu.

2. Mujelo wa paama

Wi nikane egumi ya paama, ja makamaka okana mujelo wa paama. Mujelo wa paama buubule onthiyaniya athu dhooja, ajaga vang'ono mwa dhootene.

Kuli yooja modhene ena manutiriyenti oteene anfuneya mmaningoni mwehu. Noona, ja makamaka othiyaniya dhooja dhinja iyo.



Nladdaniyo 4: mikalelo wa dhooja dhindela mudhimani (oba), mmathakani (bambaya, mukwani wa kove na malaranja) na dhooja dhindela vati va mathaka (manje).

Wi okane maningo na egumi yooliba ja makamaka okana mujelo wa paama ona, milima, dhoowima, mikwani, mukaka na dhooja dhindela mmukakani, thaga (mbuga, cibamba, soja, nambedde, solroko) nyama, oba na mazayi.

Othiya esi, enofwanyela oja dila tharu vasiku, siyari ya membese (matabixu), siyari ya mutana (alrumoso) na siyalri ya mathiyu (jantari).

Makuru a dhooja

Nang'ananiyaga mabasa ana dhooja mmaningoni mwehu, dhooja dhinogumaniyiwa mmakuruni mararu ali: Dhooja dhinvaha guru, dhooja dhinlibiya maningo na dhooja dhimbarela egumi.

Dhooja dhinvaha guru – siisile dhinvaha guru wi nisunze, nithamage, noogole maningo, naredhe viina nilabe, esi dhinfwanyeya:

- muthagani ninga nambedde, mbuga obe nyavaka, mexowera na tirigu;
- mmucicini ninga fwalrinya na bambaya;
- mmakurani ninga, mantega na makura a koko;
- musokirini, mmuhaleni na wihi;
- Muthagani dha mandduwi na garoso.



Nladdaniyo 5: Dhooja dhinvaha guru

Okalawo – okalawene

Dhooja dhinlibiya maningo – siisile dhinlibiya maningo ehu na waguva. Dhooja esi dhinokamiyedha maningo ehu wuunuwa. Dhooja esi dhinfwanyiwa mucibambani, mmandduwini, mmuthagani, mmavilani, musorokoni, munyamani ya ng’ombe, nyamani ya mbuzi, nyamani ya mwanaku, nyamani ya guluwe, mwesavini, moobani dha mbara, mmazayini, mmukakani na dhinaguwa.



Nladdaniyo 6: Dhooja dhinlibiya maningo

Dhooja dhimbarela egumi – siisile dhimbarela maningo na egumi yehu mwa mareda. Dhooje esi dhikana minerale na mavitamina. Mitonyiyedho wa dhooja dhimbarela egumi siisi: milima, mapapaya, malaranja, mafugi, engolrozi, manga, mutheme, mikwani ninga mukwani wa fwalrinya, mukwnai wa koove, alifasi, dhoowima ninga senora, mathimathi, sabolra, beteraba, nathanddo, pimentu na manje.



Nladdaniyo 7: Dhooja dhimbarela maningo



Mabingiyo

1. Dhooja dhinja iyo dhindela mudhinamani, mmunddani na vati va mathaka. Wang'ane maladdaniyo ali muciddo ogamala olebe mukaderinoni mwawo puvi mundela ojawa:



Nladdaniyo 8: nladdaniyo nintonya mazayi, oba, manje, mafugi.

2. Wakwaniye tabela eli muciddo olebaga puvi mundela ojawa:



Nladdaniyo 9: nladdaniyo nintonya mukaka, mwinyu, keju, mazayi, manje, senora, uva, mwanaku, bolu, mathimathi, piddula ya nyama ya ng'ombe, batata-renu.

Endela mmunddan	Endela vati vamathaka	Endela mmudhinamani

3. Wang'ane oja oli vanladdaniyoni ogamala wakule mukaderinoni mwawo:

- Dhooja gani dhindela mmunddani dhinoonana weyo vanladdaniyoni?
- Dhooja gani dhindela mmudhinamani dhinoona weyo vanladdanivoni?



Thima ena dhooja

Dhooja sa thima wi maningo ehu alabe noofwanyelela noona, ja makamaka okana mujelo wa paama. Mujelo wa paama onosokela maningo ehu okana egumi viina ofwanyelela wa maningo.

Dhooja dhinonivaha guru, dhinobarela maningo ehu mwa mareda viina dhinowunuwiya maningo.

Enofuneya osuwa paamene dhooja, makamaka esile dhinjiwa dhiiti.



Wakule mavuzo ali muciddo

1. Mujelo wa paama ciini?
2. Ninjela sabwa nni?
3. Ovahedhelana mukalelo wooja na enlabani mmaningoni.

Muddonddo 1ma Mukalelo wooja	Muddonddo 2li Enlabani
a) Dhooja dhinlibiya maningo b) Dhooja dhinvaha guru c) Dhooja dhimbarela egumi	1. () Dhinovaha guru 2. () Dhinobarela mareda 3. () Dhinowuunuwiya maningo ehu.

4. Mwa dhooja dhili muciddo olebe B vali yooja embarela egumi, olebe M vali yooja enuunuwiya maningo viina olebe G vali yooja envaha guru.

- | | | |
|------------|-------------|--------------|
| () Senora | () oba | () nlaranja |
| () mukaka | () nyama | () mwanaku |
| () makura | () cibamba | () nipapaya |
| () nifugi | () alifasi | () manga |



Wuubucedha

Dhooja dhinogumaniyiwa mmakuruni mundelani, dhikalaga dhooja dhindela mudhinamani, dhooja dhindela mmunddani na dhooja dhindela vati vamathaka.

Nang'aniyaga nibasa ninthiddani dhooja mmaningoni, dhooja dhinogumaniyiwa mmakuruni aba: dhooja dhinvaha guru, dhooja dhimbarela na dhooja dhinuunuwiya.

Ja makamaka okana mujelo wa paama wila maningo ehu alabe noofwanyelela.



Mabingiyo ononelamo

- Osaziye mazina a dhooja mmuddondoni woofwanyelela:
Mukaka – oba yoowuma – fwalrinya – mazayi – engolrozi
– karapawu – mathimathi – musawa – nyama ya mbuzi –
nyama ya mwanaku – malambe – mexowera

Dhindela mudhinamani	Dhindela mmunddani

- Olebe mazina meeli a dhooja dha mmuruddani mwawo:
a) Dhinama: b) Mikwani:

- Wakwaniye tabela

Nikuru na dhooja:	Mazina a yooja
Dhinvaha guru	
Dhimbarela mareda	

- Katha ngasi dha manje dhing'wa weyo vasiku?
 kadding'weca manje menji;
 kadhifiya katha nayi (4);
 opitha katha tanu (5).

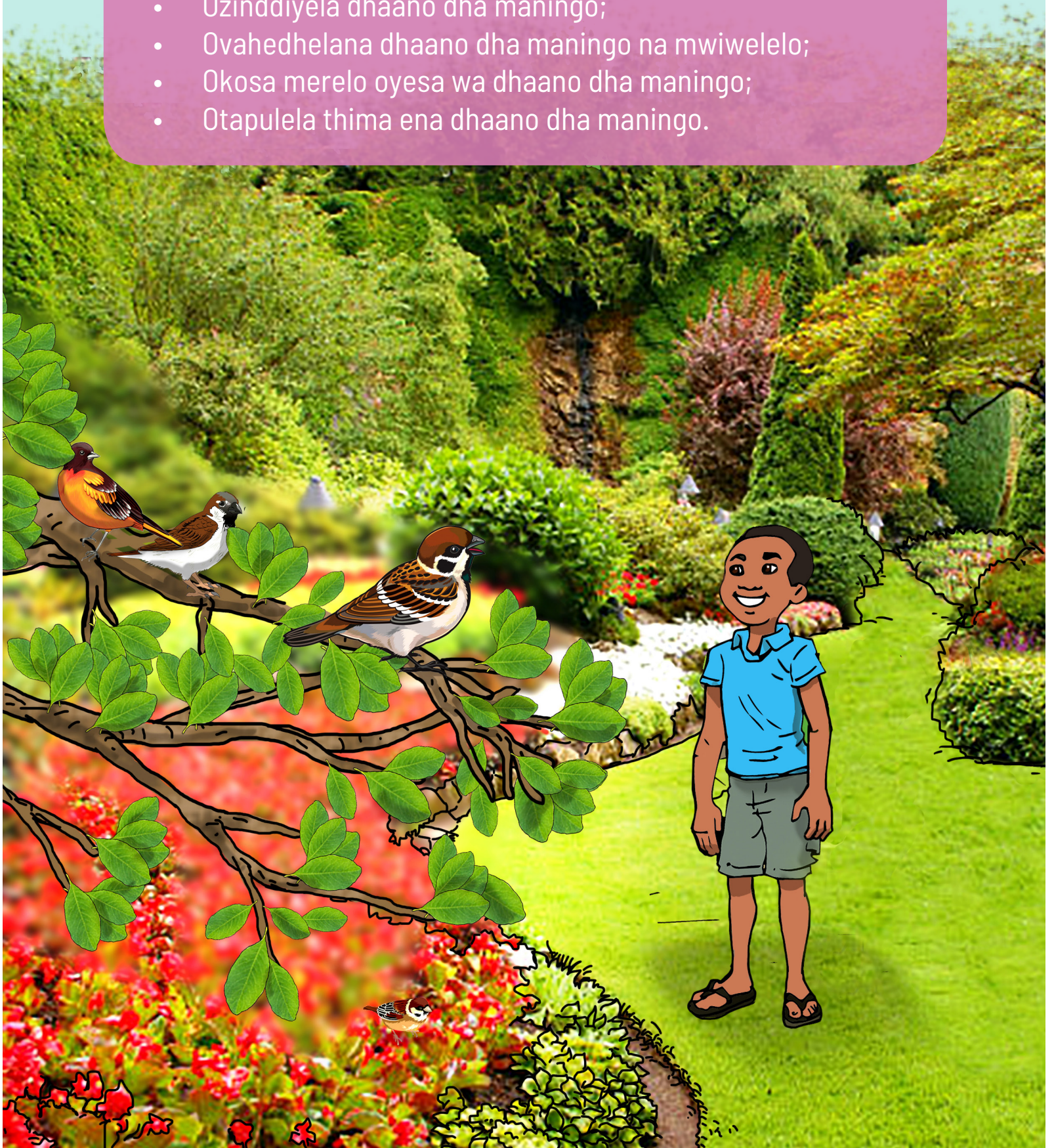
DDIMA YA MASUNZO

8

MWIWELELO NA DHAANO DHA MANINGO

Muddimani mpu mwa mansunzo onelosunza:

- Ozinddiyela dhaano dha maningo;
- Ovahedhelana dhaano dha maningo na mwiwelelo;
- Okosa mereho oyesa wa dhaano dha maningo;
- Otapulela thima ena dhaano dha maningo.



Oromole epaddi ya maningo awo enukamiyedha ovuruwana oruma wa dhinurugunuwela.

Maningo ehu anologa na dhootene dhinirugunuwela na nikamiyedho na dhaano dha maningo.

Na dhaano dha maningo ninovuruwana jibo, ninowiwa eridho na munukelo, ninotatanya manje akala aviya obe aridha.

1.Dhaano dha maningo

Maningo wehu ona dhaano tanu dha maningo dhili: meento, mayaru, puno, thebe na nlumi. .

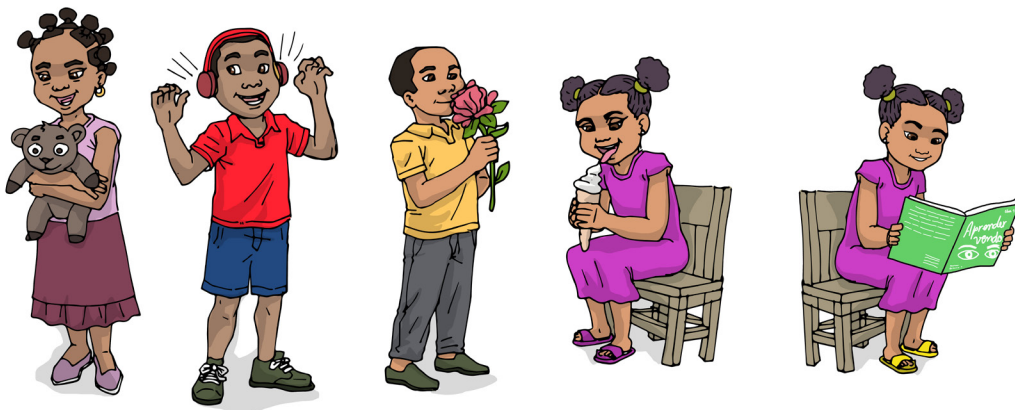
Meento anonikamiyedha **woona**.

Maru anonikamiyedha **ovuruwana**.

Puno enonikamiyedha **onuka**.

Thebe enonikamiyedha **wabasa**.

Nlumi ninonikamiyedha **onona muzivelo**.



Nladdaniyo 1

2. Nibasa na dhaano dha maningo

Meento yano enikamiyedha woona dhootene dhinirugunuwela ninga, balame dhinvava odhulu, malremba a malruwa, mukalelo wa dhilobo viina milima dhoowitiwa

Maru yano enikamiyedha ovuruwana dhootene dhinirugunuwela ninga, oruma wa muthitho, wuuwa wa mwanabwa viina mukuwo wa paka.

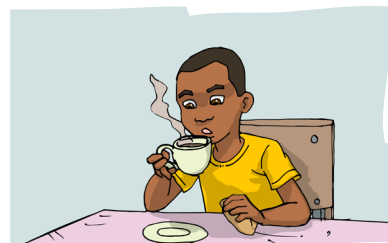
Puno yano enikamiyedha onuka dhootenedhiniruguniwelaningamunukelo wa malruwa, munukelo wa perefumi viina munukelo wa dhooja.

Thebe yano enikamiyedha ononelamo nsaka akala eridho obe oviya, akala yoobo ekana makunyari obe kina makunyari viina akala yooboya ja ovadda obe ya oluluva.

Nlumi yano enikamiyedha onona muzivelowadhooja, akala oja onothapilra, akala oja onowawa, akala oja ononyunya obe akala ojawa bwa munyu

Makunyari: mafunyelo mang'ono

Oluluva: yahinlemela



Nladdaniyo 2 : Mabasa a dhaano dha mmaningoni



Osunzevi!

Nigakana febiri, masiku meenji kaniniwa muzivelo na munukelo wa dhooja sabwa wi yano ya munukelo (puno) enonikamiyedha ozinddiyela dhooziva.



Wakule mavuzo ali muciddo

Wike X ddima ya mazo ya paama.

1. Mwiwelelo wa dhaano tanu dha maningo dhisunzile weyo siisi:
 - a) manje, ceza, oviya, oridha _____
 - b) wona, ovuruwana, wabasa, muzivelo na munukelo _____
 - c) othapilra, owawa, onyunya, mwinyu, ososa _____
 - d) meento, maru, puno, thebe, nlumi _____

2. Yano gani ennikamiyedha wiwa oviya wa mburo oli iyo?
 - a) Meento _____
 - b) Nlumi _____
 - c) Thebe _____
 - d) Puno _____

3. Yano ya munukelo enonikamiyedha onona:
 - a) Munukelo wa dhilobo _____
 - b) Muzivelo wa dhilobo _____
 - c) Muviyelo wa dhilobo _____
 - d) Oruma wa dhilobo _____

3. Makalelo owinanelana dhaano dha mmaningoni

Enofunyeya winanela dhaano dha maningo wi dhilabe paamene. Noona, ja makamaka osoriya merelo aba:

Meento



Nladdaniyo 3

- Wengesela wali ceza ya paama;
- Wona televizori obe mavego a mutevizori vali ceza ya paama;
- Ohithikithe meento na mada otakala;
- Ohiwang'anece nzuwa;
- Ohiwoone televizori vakukuvi vaddiddi viina kukalege mudhidhi mwinjene osongolro wa komputadori.

Maru



Nladdaniyo 4: Winanela maru.

- okuputha mmaruni na manje viina sabawu ogawabaga;
- Kuwike thethe dha foxikoro omaruni, ponddo ya caneta, miri na dhilobo dhinaguwa omaruni.
- Ohiwoone televizori na vulumi enddimuwa;
- Ohivuruwane jibo na vulumi enddimuwa.

Puno

- Ominele lenso nili ngwilro;
- Osuwa puno na manje ali gwilro ogamala omina;
- Onawa mada ogamala omina.



Nladdaniyo 5: Winanela puno.

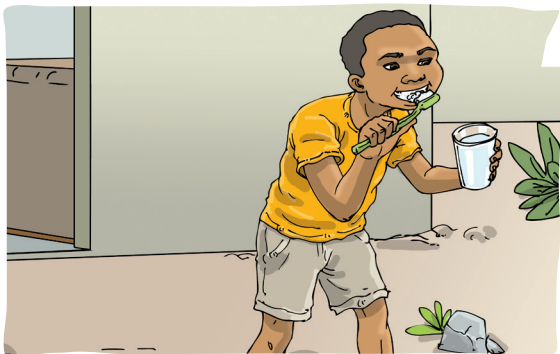
Thebe

- Waba malabo oteene na sabawu;
- winanela okala vanzuwani mudhidhi mwinjene;
- Ofula viina ocinja dhaabalo dhootakala.



Nladdaniyo 6: Winanela thebe

Nlumi



Nladdaniyo 7: Winanela nlumi

- Osuwa mulomo, okweca meeno na nlumi malabo oteene;
- Otakuna dhooja vang'ono vang'ono wi onalume nlumi.

4. Thima ena dhaano dha mmaningoni mwa Muthu na dhinama

Dhaano dha maningo dhinomukamiyedha muthu na dhinama ononelamo dhootene dhinarugunuwela, akala elabo enoviya obe enoridha, akala munukelo bwa paama obe bwa bure, akala oja onothapilra obe akala ononyunya.

Dhaano dha maningo dhinokamiyedha viina onona akala vego vakala ngovi obe akala kavali ngovi.

Dhinama dhinaguwa, dhinolabiyedha dhaano dha maningo wi dhiziwe muneddani na munkalani, ologa na dhinama dhinaguwa, onona mburo onfwanyeyani, oziwa dhooja na ovibarela mungovini wi dhikalewo.

Nooteene ninofwanyela wariya aragali.



Osunzevi!

Thebe yano enddimuwa ya maningo oteene.



Wuubucedha

- Dhaano dha maningo dhinokamiyedha ononelamo dhootene dhinirugunuwela;
- Muthu ona dhaano tanu dha maningo dhili: meento, maru, thebe, puno na nlumi. Dhaano esi dhinonikamiyedha woona, ovuruwana, wabasa, onuka na onoona muzivelo.
- Wi dhaano dha mmaningoni dhilabe paamene ja makamaka winaneliwa nisoriyaga merelo aba: ohiika thethe mmaruni, wengesela vali ceza ya paama, waba malabo oteene, okweca meeno na nlumi malabo oteene viina ohiwoona televisori vakukuvi na mavego a mutelevisori mudhidhi mwinjene.
- Dhaano dha mmaningoni dhinomukamiyedha Muthu na dhinama ononelamo dhootene dhinarugunuwela.



Mabingiyo onenelamo

Mabingiyo ononelamo.

1. Oliganiye dhaano dha muddonddo A na enlabani mmuddonddoni B

Muddonddo A

Dhaano dha maningo

1. Puno
2. Nlumi
3. Meento
4. Thebe
5. Maru

Muddonddo B

Enlabani

- A. Wiwa nsaka
- B. Wiwa muzivelo
- C. Wiwa munukelo
- D. Woonaa dhilobo
- E. Ovuruvana jibo

2. Oromole mikalelo miili dhoowinanelana meento.

3. Olebemukaderinoni mwawothima ena dhaano dhammaningoni mwa dhinama.

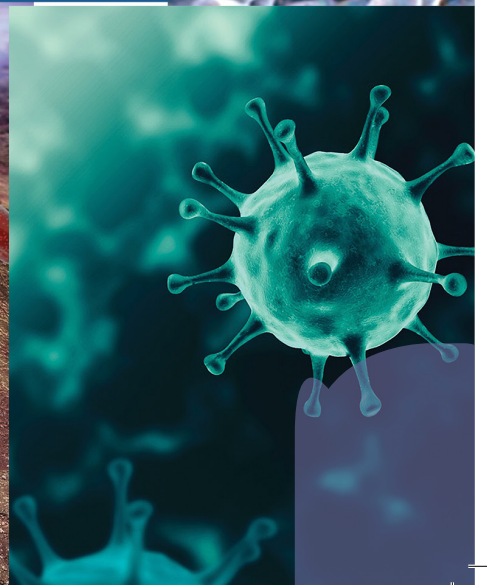
DDIMA YA MASUNZO

9

EGUMI

Muddimani mpu mwa masunzo onelosunza:

- Otapulela ciini mitipa;
- Oromola mazina a mareda antotiwa na mitipa;
- Ozinddiyela merelo a paama a mikorobiyu.



1. MITIPA

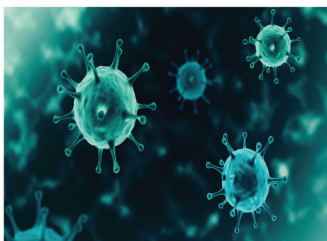
Ohisunza wi mwilaboni mukala anamakalawo anvuma na anamakalawo ahinvuma. Mitipa anamakalawo ang'ini-ng'ini vaddiddi ahinooneya na meento. Anamakalawo aba anooneya na nikamiyedho na epano enithaniwa mukoruxikopiyu obe na epano yinaguwa enithaniwa lupa. lupa.



Nladdaniyo 1: Muthu alabiyedhaga mukoruxikopiyu

Mukoruxikopiyu epano enuunuwiya maladdaniyo a anamakalawo viina maladdaniyo a dhilobo dhahinooneya na meento.

Mitipa dhikana mikalelo na muunuwelo woothiyana. Mitipa dhingumaniyiwa mmakuruni manayi, ninga entonya enladdaniyo nili muciddo.



Nladdaniyo 2: viru, mitipa, porotozowariyu na fungu

Mitipa dhinkala mwego mweteemwene mmanjeni, mpevoni, vamathakani viina mmaningoni mwa anamakalawo (muthu, dhinama na miri).

Mwilaboni mukala nikuru nimodha na mitipa dhintota mareda ninithaniwa mitipa dha mareda ninga, viru otota eredda ya KOVIDI-19, porotozowariyu ontota eredda ya malariya, bakiteriya ontota eredda ya othapika na ovaluwa.

Mitipa dhinaguwa sa makamaka mwa okalawo wa muthu na anamakalawo enaguwa, esi dhinithaniwa mitipa dhihintota mareda ninga, fungu dhinsasanyiwana mukathe, yoguriti na keju.



Mabingiyo: Mabasa a fungu

Dhilobo

Mulima modha (nlaranja, manga, nddimwi)

Pusulrana nimodha na palaxitiku nina ponddo

Wike mulima modha mpusulranani na palaxitiku ogamala okunele na ponddo. Osongolro wa, othiye mwenemo mpaka ovira sumana modha, woonege ciini enapadduwe.

Ciini esunzile weyo na tagiya eji?

Esunziwemo

Sumana modha egavira, mulima onoroma okana moya woocena onithaniwa fungu.



2. Maredda antotiwa na mitipa

Muthu agakana mitipa mmaningoni onokala muredda. Masiku menjene ereddaya enothabwa, muthuya agahisasanyiwe paamene onokwa.

Mitipa dhinvolowa mmaningoni mwa muthu dhigakala mmanjeni obe muujani, mada otakala anthukulela iyo omulomoni viina na thebe.

Mwilaboni wehu, maredda antotiweca na mitipa baaba: othapika na ovaluwa, tuberikulosi, febiri, malaariya, , SIDA, nihanya, pele na KOVIDI-19.

Malaariya,

Muthu ona malariya maningo aye anokana dhizinddiyelo esi:

- Oviyedhiwa wa maningo na eridho na febiri;
- Maningo oteene anopa;
- Opa wa musolro
- Olema
- Otoweliwa efunelo yooja

Mikalelo dhoobarelana eredda ya malaariya,

- Ogona mmuxikiterani;
- Othuthela na mathaka vego vankala manje vathaddo;
- Okuruba mani anrugunuwela vatakulu;
- Ofuga musuwo na majanela mudhidhi wa ciguwo;
- Osasanyedha zungu na magarafwa, malanta na maroda wila munakale manje mudhogwe agarubwa.



Osunzevi

Malariya, eredda ya woopiya. Muthu ombulela malariya agahisasanyiwe onokwa. Noona, enofwanyela omuthukulela muthuya ona malariya oxipitale wi اساسanyiwe.

Nihanya

Nahanya eredda entapulra muthu. Eredda eji onkaneca ba ayima, entotiwa na fungu.

Nihanya ninokala mudhibunoni mwa mwanyalo, mudhinyalani, mmusolroni na dhipaddi dhinaguwa dha mmaningoni.

Muthu ona nihanya onokana dhizinddiyelo esi:

- Ofiyiwa vaddiddi vali nihanya;
- Nihanya nigakala mmusolroni (nanlibela) nthithi ninomotha vegova vanocena;
- Nihanya nigakala vathebene ninotota elodda;
- Nihanya nigakala mudhinyalani dhinyala dhinoriba viina dhinofinyeya;

Mikalelo dhoobarelana nihanya

- Okalana dhinyala na nthithi nookoddelene;
- Waba malabo oteene na sabawu;
- Ogwadda dhinyala wila munatakale;
- Kusamule na esamulo, kugonele magono viina kuwabele guwu dha muthu ona nihanya;
- Onamukubathe muthu ona nihanya.



Wakule mavuzo ali muciddo

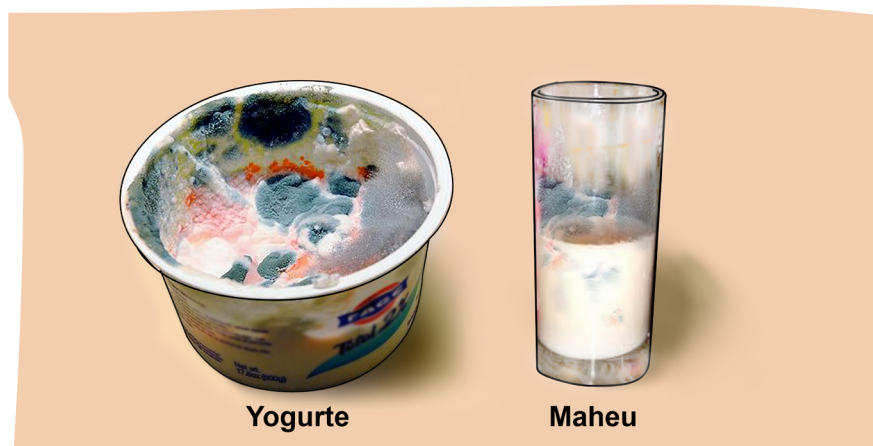
1. Mitipa dhinooniwa na epano gani?
2. Mitipa dha mareda ciini?
3. Kavaha mutonyo miinli dha mareda antotiwa na mitipa.
4. Mukalelo gani dhiliwo dhoobarelana mitipa?

3. Merelo a paama a mitipa

Kahiyo wi mitipa dhootene dhili mwilaboni dhinimutotela muthu mareda.

Dhikalawo mitipa dha makamaka mwigumini mwa Muthu.

- Fungu dhijiidhene dhinolabiyedhiwa okosana pawu (mukathe) bolu, saraveja, vinyu, mahewu na dhoong'wa dhinaguwa.



Nladdaniyo 3: Ayima agonaga mmuxikiterani



Wanziwa wi:

Pawu egakosiwaga munowikiwa livirina (fungu) onvenyiya pawuya viina enkaliya yoorofowa.

Pawu egavenya ehinathi woociwa, eniliwa wi pawuya erukuwa, enfuna ologa, oruwa.

- Mitipa dhinaguwa dhinosaddula mukaka bu kala mantega, keju na yuguriti.
- Dhikalawo mitipa dhinkamiyedha osasanyedha mathaka.
- Mitipa dhinaguwa dhinolabiyedhiwa okosana mirobwe.



Osunzevi

Masasanyedho a mukathe

Dhilobo dhinvedeya:

Kilu 1 ya tirigu

Kulyeri 1 ya mwinyu

Kulyeri 2 dha livirina

Manje

Otaganyiye othu wa tirigu na manje, mwinyu viina livirina ogamala omunye deretu. Othiye tirigu muyoboni, livirina enelowuunuwiya tiriguya sabwa wi mukala mukwiti onruwiya.

Ogamala okose bola dhing'ono, othiye ovenya wiilimo.

Foronu egaviya deretu, wikemo bola dha mukathe wi dhihitwe.

Yoorofowa: yooluluva

Orukuwa: oruwa



Wuubucedha

Mitipa anamakalawo ang'ining'ini vaddiddi ahinooneya na meento.

Dhikalawo mikalelo minayi dha mitipa: viru, bakiteriya, porotowario na fungu.

Mitipa dhinofwanyiwa mpevoni, mmanjeni, mmathakani viina mmaningoni mwa namakalawo anvuma na mmaningo mwa namakalawo ahinvuma.

Mitipa dhinaguwa dhinotota mareda mwigumini mwa Muthu vano dhiina sa thima.

Livirina: otho onruwiya mukathe



Mabingiyo ononelamo

Mabingiyo ononelamo

1. Mitipa ciini?
2. Oromole mareda manayi antotiwa na mitipa.
3. Ozinddiyela merelo meeli a paama a mitipa.
4. Wike E ddima ya mazu muli ebaribari viina wike O muddimani ya mazu muli othambi:

- a) Mitipa anamakalawo anooneya na meento_____
- b) Mitipa dhootene sabure mwigumini mwa Muthu_____
- c) Mitipa dhinaguwa dhinokosiwana dhooja_____

Oliganiye na mukwereto mikalelo dha mitipa mmuddonddoni
A na ereda entotani mmuddonddoni **B**

Muddonddo a (mitipa)

1. Viru
2. Bakiteriya
3. Bakiteriya

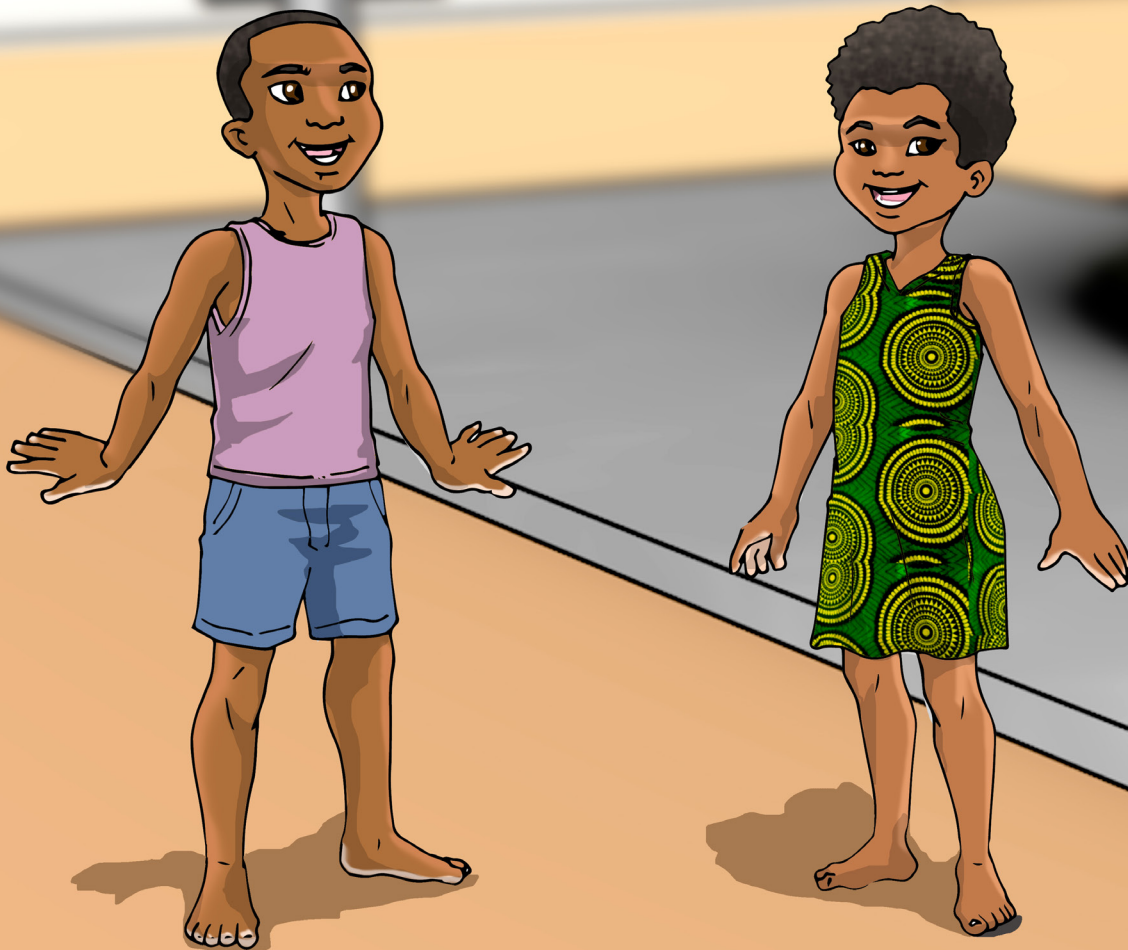
Muddonddo B (eredda)

- A. Tuberikulosi
- B. KOVIDI-19
- C. Malaariya,

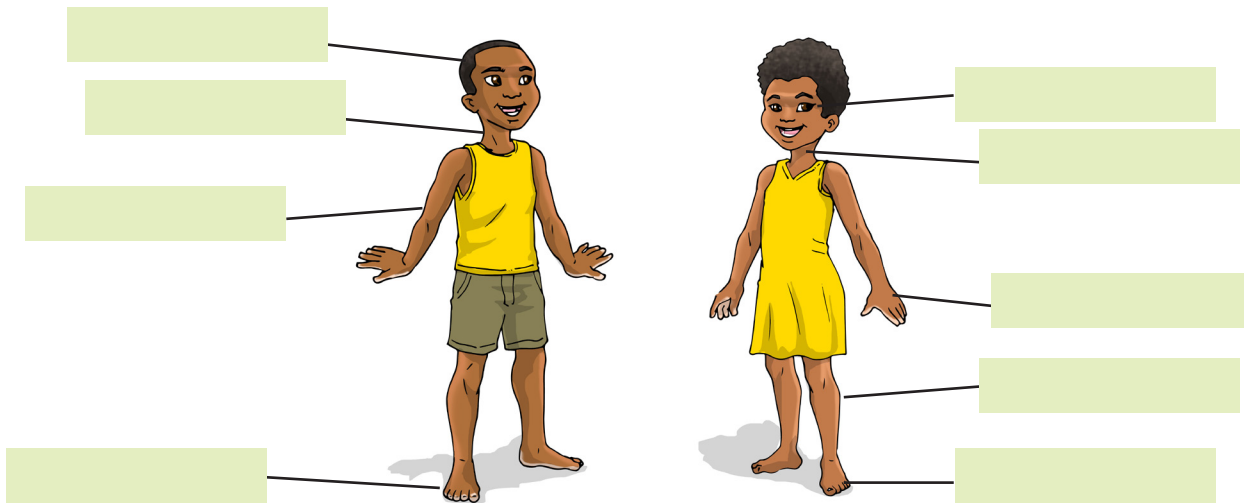
MANINGO A MUTHU

Muddimani mpu mwa masunzo onelosunza:

- Ozinddiyela dhipaddi dha maningo a muthu;
- Oromola ciini enlabela dhipaddi dha maningo a muthu;
- Oziwa vankala dhaano dhinkosa epaddi ya muribo woocila oja na muribo woovumana;
- Otapulela enlabela muribo woocila oja na muribo woovumana;
- Oromola mazina a mareda ankala mmuriboni woocilana oja na mmuriboni woovumana;
- Owira wa oyesa wa maningo mmasiku oteene, munamudhini viina mmuruddani.



1. Dhipaddi dha maningo a muthu



Nladdaniyo 1: Maningo a muthu

Maningo a muthu angaweya dhipaddi tharu dhili: musolro, nthuku na dhaano.

Mosolro

Mosolro onfwanyeya epaddi ya odhulu wa maningo a muthu viina mburo vankala meento, mulomo, puno na maru.

Mmusolroni mukala ogoogo onikamiyedha wuubuwela.

Nthuku

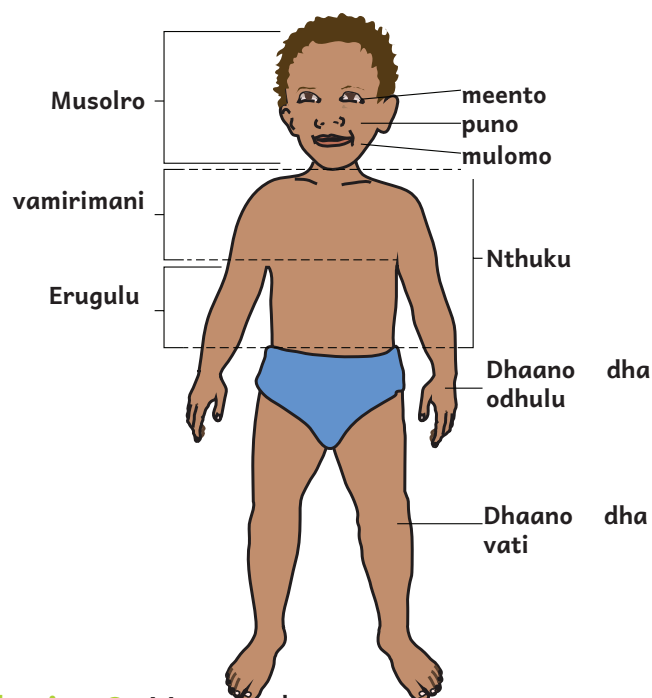
Nthuku epaddi ya maningo vankala nikothi, erugulu na vamirimani.

Vamirimani na erugulu dhinobarela dhaano dha maningo dthinkala mbani ninga, murima, madhadu na miribo.

Dhaano

ODhaano dhingaweya epaddi biili dhili: dhaano dha odhulu dhili nyoono na mada na dhaano dha vati dhili nyeddo na manyalo.

Dhaano dha odhulu dhinonikamiyedha othidda dhilobo vano dhaano dha vati dhinonikamiyedha wedda.



Nladdaniyo 2: Magawelo a maningo



Wakule mavuzo ali muciddo

1. Osaziye ddima dha mazu mukaderinoni mwawo ogamala wakwaniye mimburo dhinjomba na mazu anfwarelana: erugulu, musolro, dhaano dha odhulu, dhaano dha vati, vamirimani, meento.

- Yaano _____ wona enfwanyeya _____.
- Vanthukuni ninofwanya nikothi, _____ na _____.
- Nlada ninfwanyeya _____.
- Nyeedho dhinfwanyeya _____.

2. Miribo dha maningo a muthu

Maningo ehu akana miribo dhoothiyana dhinlabela dhilobo dhinjidhene.

Miribo dha mmaningoni mwehu siisi: Muribo woocilana

oja, muribo woovumana, muribo munvira nikami, muribo wooruddana na muribo woobalana. Muddimani mpu mwa mazunzo ninelosunza mwaha wa muribo woofilana oja na muribo woovumana.

muribo woofilana oja

Muribo woofilana oja onokamiyedha ocila dhooja dhinvolowa mwano mpaka mbani.

Dhipaddi dha muribo woocilana oja

Dhipapaddi dha muribo woocilana oja siisi: mwano, farinji, ezofagu, nipu, muribo wookweya, muribo woonya, munyeelo na ntumu.

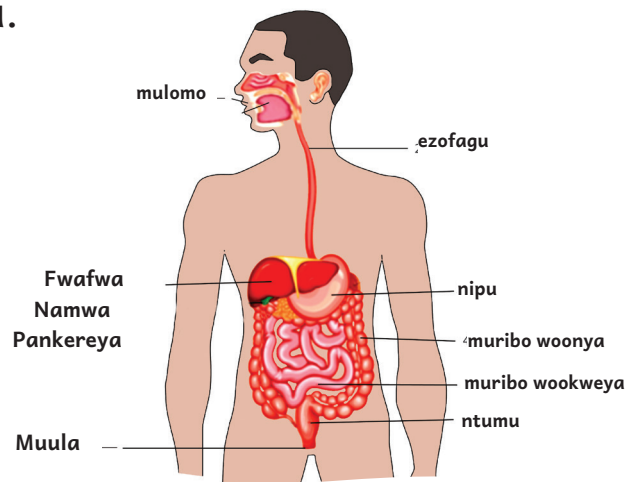
Ocila: omunya dhooja dhinvolowa mwano mpaka mbani.

Ociliwa wa dhooja

Ociliwawadhooja onroma ogavolociwa mwano muntakuniwani na meeno viina munyethiyiwani na maara. Dhooja dhigamala otakuniwa na onyethiyiwa dhindowa munipuni, osongolrowa dhindowa mmuriboni mokweya dhigamala dhindowa mmuriboni woonya mumburuciwani manje na manutiriyenti.

Maningo ehu anoburuca muujani manutiriyenti anvedeya wi maningoya alaba paame.

Dhooja dhahinburuciwamo manutiriyenti na maningo ehu, dhinokala mari anyiwa na ntumu.



Nladdaniyo 3: Dhipaddi dha muribo woocilana oja



Wakule mavuzo ali muciddo

1. Dhipaddi dha muribo woocilana oja siivi?
2. Ciini empadduwa na dhooja dhimburuciwa manutiriyenti mmaningoni mwehu?

Oyesa wa muribo woocilana oja

Wi muribo woocilana oja olabe paamene enofuneya:

- Okweca meeno engafuna wene dila biili vasiku na membese viina vahinathi ogona;
- Otakuna paamene dhooja;
- Ohije vaddiddi maddosi;
- Onaje dhooja dhooridha obe dhooviya vaddiddi;
- Onawaguvele owoogola maningo ogamala oja;
- Siku na siku ong'we ngafuna wene nituru nimodha na meya na manje;
- Onawa mada na **sabawu vahinathi viina ogamala oja.**



Osunzevi!

Okwece meeno na kologati orugunucaga muxuwaki oromaga okomoni wa meeno, ogamala osongolro, omagomelo okwece nlumi osongolro na mundduni, merelo aba anobarela othapula ereda ya kariye (ovudda wa meeno) viina anolibiya meeno.



Mabingiyo ononelamo

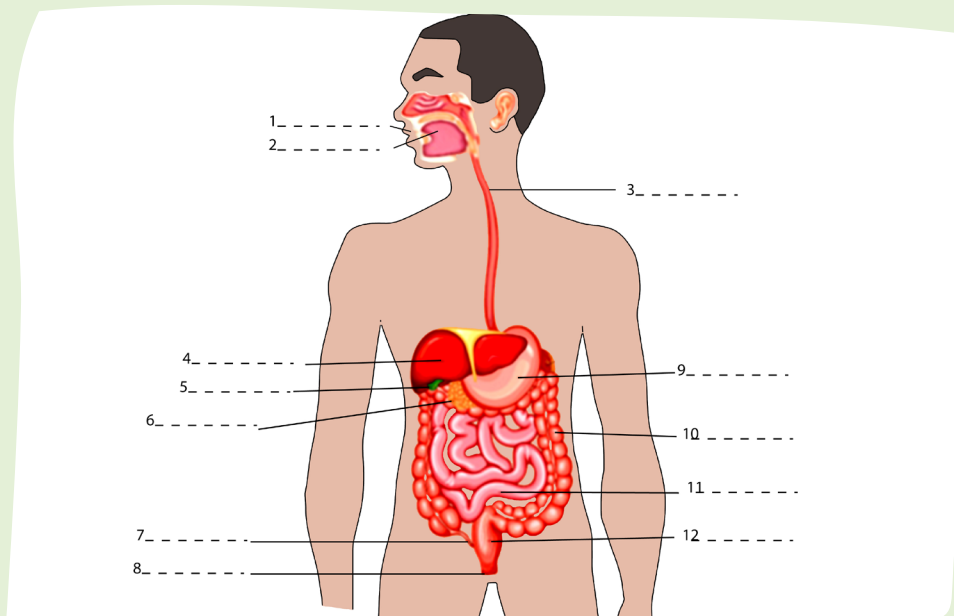
Maningo a muthu angaweya dhaavi?

1. Wakwaniye ddima ya mazu:

a. Dhaano dhinkosa epaddi ya mingo siisi _____,
 _____, _____ na
 _____.

2. Miribo gani dhinkosa epaddi ya maningo a muthu?

3. Wang'ane nladdaniyo 2.



a. Muribo gani wa mmaningoni oli vanladdaniyoni?

b. Olebe mazina a dhaano dhili vanladdaniyoni.

c. Muribo obu onlabela eni?

Maredda a mmuriboni woocilana oja

Muribo woocilana oja onobulela maredda menjene ninga, ovaluva na othapika, kolera, olumiwa mbani (gasitiriti) na mihago.



Nladdaniyo 4: Maredda a mmuriboni woocilana oja

Kolera eredda entapuliwa muujani, entotiwa na mada otakala obe manje abure.

Muredda ombulela eredda ya kolera onothapika viina ovaluwa vaddiddi.

Ovaluwa manyelo a mari ana ekalelo ya manje dila tharu obe dhinjidhene vasiku na opiwa wa mbani.

Mikalelo dhoobarelana kolera viina ovaluwa

- Onawa mada na sabawu obe munddulra, ogabudduwa osintina;
- Ong'wa manje a paama;
- Osuwa paamene dhooja, makamaka mikwani;
- Onya na orudda musintina;
- Otibela zungu.

Olumiwa mbani (gasitiriti) eredda eniweya na opa wa nipu.

Mihago dha mbani ereda entotiwa na anamakalawo ang'ini-ng'ini viina na mihago dhintota opa wa nipu, otoweliwa efunelo yooja, oluluwa wa maningo, ovaluwa mari na nikami.

Mikalelo dhoobarelana mihago

- kunye viina kurudde vayovi;
- Okalana mada na dhinyala dhookoddelene;
- Okunela dhooja mudhidhi weteene.



Wakule mavuzo ali muciddo

1. Olebe mukaderinoni mwawo mazina a mareda meeli a mmuriboni woocilana oja.
2. Oromole mikalelo miraru dhoobarelana ereda ya mihago.

Muribo woovumana

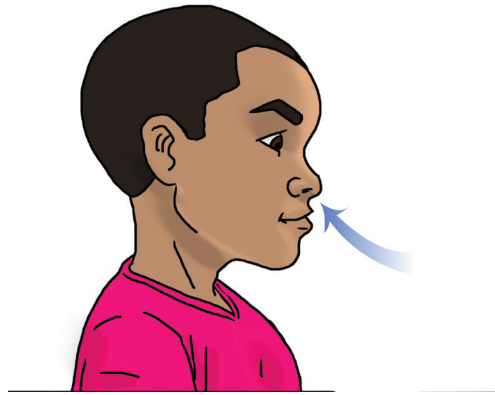
Muribo woovumana onomukamiyedha muthu ovuma muya. Muribo woovumana onlabela othukula muya woovumana (okixigeniyu) oli mpevoni mpaka mmadhadhuni viina oburucela diyokisido ya karibono otakulu wa madhadhu.

Dhipaddi dha muribo woovumana

Dhipaddi dha muribo woovumana siisi, puno, farinji, larinji, mmelo, boronkiyu na madhadhular.

Ovumela mwari na ovumela otakulu

Ovumela mwari ovolowa wa muya na okisigeniyu mmadhadhuni.



Nladdaniyo 5: Ovumela mwari

Ovumela otakulu obudduwa wa muya na dhiyokisidu ya karibono mmadhadhuni mpaka otakulu wa maningo.



Nladdaniyo 6: Ovumela otakulu



Wanziwa wi?

Mooya oli mpunani onlabela onovetha mbwebwe oli mmuyani.



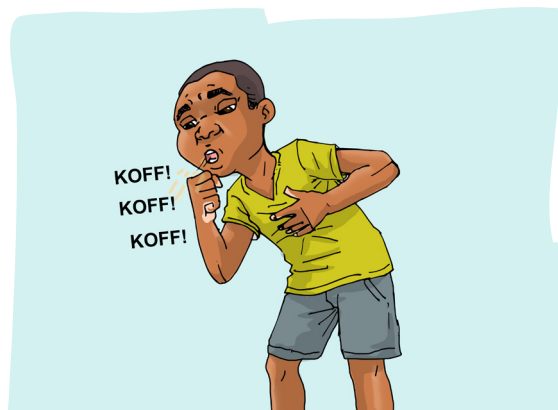
Responde o que aprendeste!

1. Dhipaddi dha muribo woovumana siivi?
2. Ovumela mwari ciini?
3. Ovumela otakulu ciini?

Oyesa wa muribo woovumana

Wi muribo woovumana olabe paamene enofuneya:

- Ovumela mpunani, wi muya onvolowa mmadhadhuni ovethiwe;
- Okuputha mbwewe oli mba;
- Winanela okala wali wiici;
- Othiya mba ovirela pevo;
- Woogola maningo vanvirela pevo



Nladdaniyo 7: Mwana bagakotomola

Maredda a mmuriboni woovumana

Masiku menji muribo woovumana onothapulra maredda othiyana ninga, boronkiti, makwiyo, febiri, alerigiya, sinuziti, tuberikulosi na dhinaguwa.

Boronkiti ovuma wagoyi ontotiwa na viru obe bakiteriya. Ovumawa wagoyi onotota ekotokoto.

Makwiyo ovuma wagoyi vaddiddi, ontotiwa na oviba wa misipe munvira muya.

Tuberikolosi eredda enraviwa, entotiwa na bakiteriya.

Makalelo obarelana eredda ya tuberikulosi:

- Winanela okala mburo woofugeya muli athu enjene;
- Ofugula majanela mmukukuthani wa anamwinji;
- Kulabiyedhe dhoobo dhakakene na muthu othapulre tuberikulosi.

Febiri eredda enraviwa, entotiwa na viru.

Athu ankaneca febiri nsaka na eridho, ereddaya enraviwa na maara antomuwa mwano muthu agalogaga obe agakotomola.

Mikalelo dhoobarelana eredda ya febiri siisi:

- Winanela okala mburu woofugeya na athu enjene;
- Onawa deretu manda na manje viina sabawu obe munddulra;
- **Ong'wa sumu, chaya viina oja vaddiddi milima.**



Wuubucedha:

Maningo a muthu angaweya dhipaddi tharu, musorlo, nthuku na dhaano.

Dhipaddi dha muribo woocilana oja siisi, mwano, faringe, esofagu, nipu, muribo wookweya, muribo woonya, munyeelo na nthumu.

Muribo woocilana oja onovaha maningo manutiriyenti andela muujani.

Dhipaddi dha muribo woovumana siisi puno, faringe, laringe, mmelo, boronkiyu na madhadhu.

Muribo woovumana onovaha maningo muya (okisigeniyu) viina onoburuca diyokisidu ya karibono mmadhadhuni na mmaningoni.

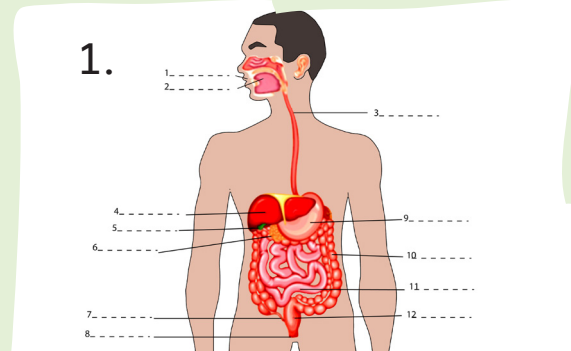
Wi muribo woocilana oja okane egumi, ja makamaka otakuna deretu dhooja, ohija dhooja dhooridha obe dhooviya vaddiddi viina ong'wa manje mudhidhi mudhidhi.

Wi muribo woovumana okane egumi enofwanyela ovuma na mpunani wi muya onvolowa mmaningoni ovethiwe.



Mabingiyo ononelamo:

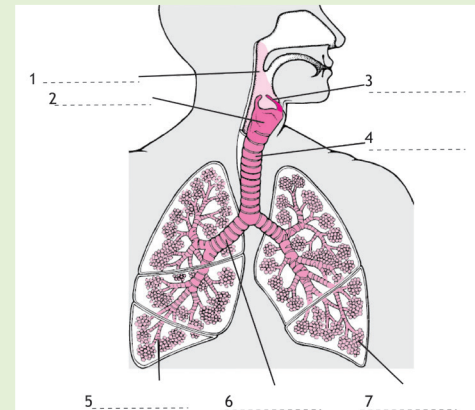
1. Wang'ane nladdaniyo
 - a. Okose mulebo onzinddiyela muribo woocilana oja.
 - b. Ciini empadduwa na oja mwano?
 - c. Epaddi gani ya muribo woocilana oja mumpuriwa manutiriyenti?



2. Oromole mazina mararu a mareda a mmuriboni woocilana oja.
3. Wang'ane noofwaseya nladdaniyo na muribo woovumana.
4. Okose mulebo onzinddiyela muribo woovumana.

5. Olebe mazina a dhipaddi dha m uribo woovumana.

- **Puno**
- **Mwano**
- **Mmelo**
- **Madhadhu**



- a. Puuvi mupadduwa ociinja wa muya onvolowa na ombudduwa mmaningoni?
- b. Ninfuneliwana nni ovumela na mpunani?
6. Oromole mikalelo miraru dhoobarelana eredda ya tuberikulosi.
7. Oliganiye na mukwereto mikalelo dhoovuma na mukalelo ompadduwani.

Mikalelo dhoovumana	Mukalelo ompadduwani
Ovumela mwari	A. Oburuciwa wa diyokisido ya karibono mmadhadhini
Ovumela otakulu	B. Ovolociyiwa wa muya (okisigeniyo) mmadhadhuni

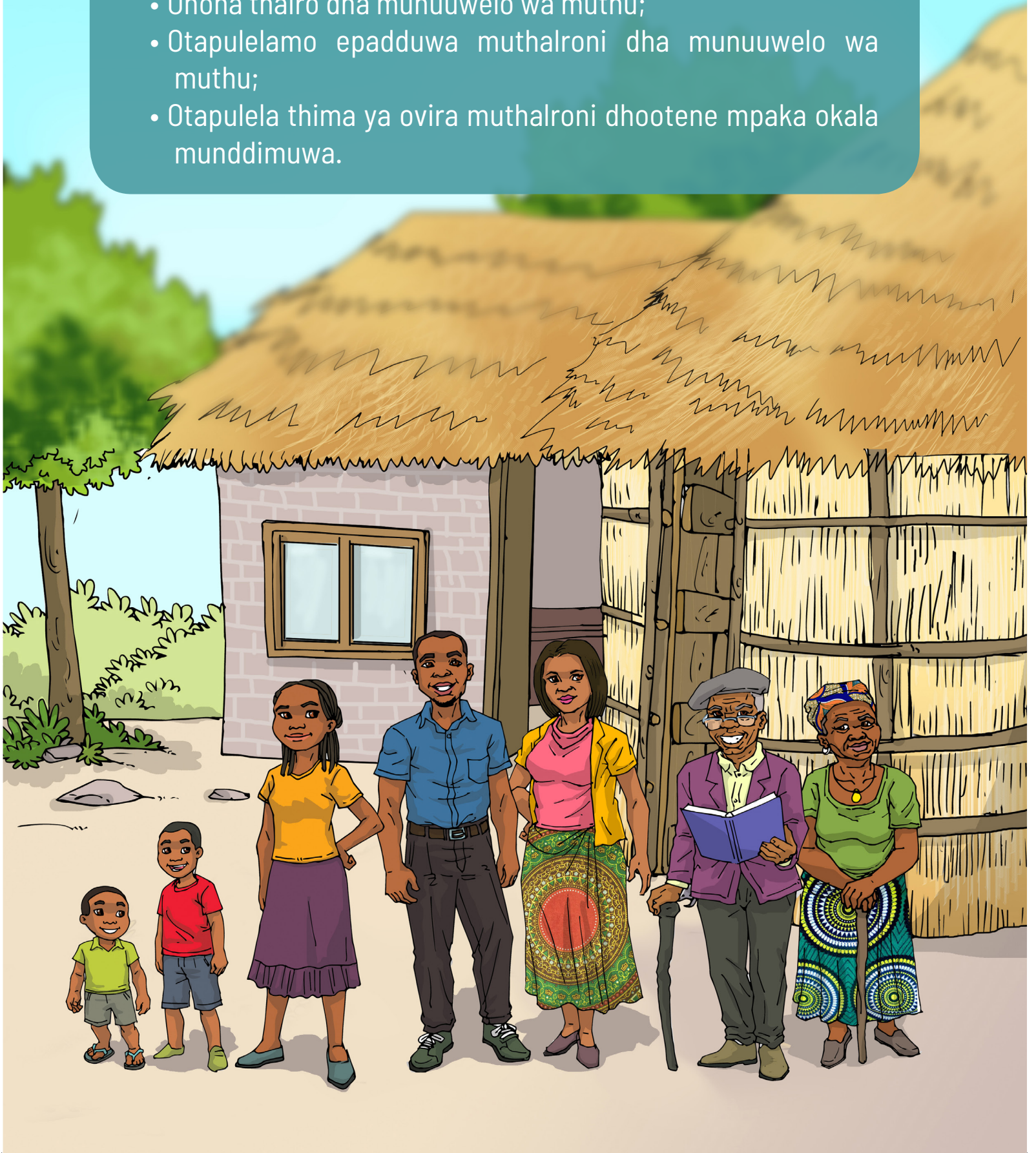
DDIMA YA MASUNZO

11

OVINONA

Muddimani mpu mwa masunzo onelosunza:

- Onona thalro dha munuwelo wa muthu;
- Otapulelamo epadduwa muthalroni dha munuwelo wa muthu;
- Otapulela thima ya ovira muthalroni dhootene mpaka okala munddimuwa.



Thalro dha munuuwelo wa muthu

Maningo ehu anosadduwa oromana siku nimbaliwa iyo mpaka okalawo wehu weteene.

Thalro dha munuuwelo wa muthu dhingaweya dhipaddi tharu dhili: oyima, ozombwe na onddimuwa.

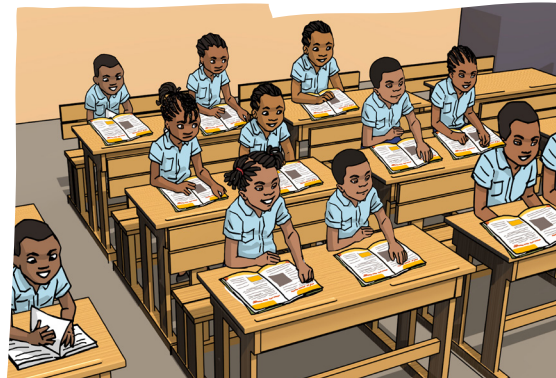
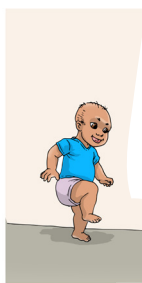
1.1 Oyima:

Thalro eji enromana mabaliwo mpaka yaka kumi na modha. Thalro ya munuuwelo munsunziwa vaddiddi viina munvinona muthu.

Thalro ya oyima punroma muthu ologa viina wedda, odhowa oxikoola, osunza makalelo oriyana, wariya athu na dhinaguwa.

Thalro ya oyima engaweya wiilimo: Thalro ya omwana na thalro ya oyima.

Muthalroni ya oyima mwana na miima anoveda nikamiyedho na athu anddimuwa (yaaya) wila aje, awabe, awabale, agone viina wawirela dhilobo dhinaguwa.



Nladdaniyo 1: Thalro dha muunuwelo wa mwana

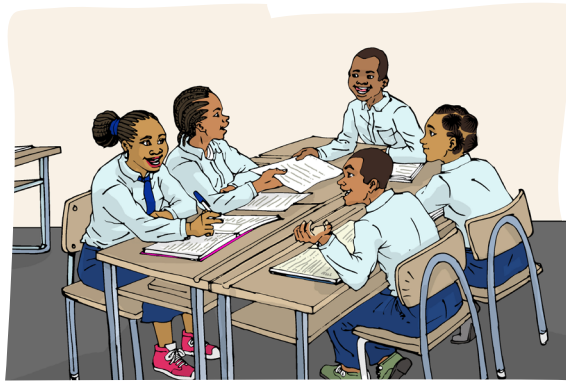
Nladdaniyo 2:

Yaaya: muthu onimuzuzumela mwana

Ozombwe thalro enroma ovenyana yaka kumi na biili mpaka yaka makumi meeli. Eji thalro embudduwa muthu muyimani avirelaga thalro ya onddimuwa. Muthalroni mpu, maningo na mweddelo a anayana viina a analobwana anosadduwa vaddiddi:

- Anayana, mabele anowuunuwa, marawo na takwi dhinowuunuwa, anokala anamwali na dhinaguwa.
- Analobwana, lizu ninosadduwa, anoroma okana nddevu, nyoono dhinotapuwa na dhinaguwa.

Muthalroni eji, maningo a anayana na a analobwana anowuunuwa, mawuzi onoroma omela mukapwani na omaso, maningo oteene viina mukapwani munoroma onuka nriba.



Nladdaniyo 3: Azombwe bagaloga makani

Onddimuwa: thalro enroma ovenyana yaka makumi meeli na nimodha mpaka osongolro.

Thalro ya onddimuwa engaweya wiilimo: thalro ya onddimuwa na thalro ya onakalaba.

Thalro ya onddimuwa:

Muthalroni eji maningo kanuunuwa viina, masiku menjene muthu oli muthalroni eji onolaba, onogumela muwaku wokosana enfuna iyene. Malabo menjene muthu oli muthalroni eji onoroma okana ayima.

Mukapwani epaddi enpatana moonyo na nthuku enkala muciddo.



Nladdaniyo 4: Muthu munddimuwa

Thalro ya onakalaba (muluvali) thalro eji eroma ovenyana yaka 65 mpaka osongolro.

Muthalroni eji, muthu onokana dhibwi (nthithi noocena), maningo anokana makunyari, masiku menjene muthuya onobulela dhinji ninga, ohiwoona deretu, ohewa deretu, ohiloga deretu, misipe na makuva anowoobana. Muthuya onozwiwa dhilobo dhinji dha okalawo.



Nladdaniyo 5: Muluvali bagaloga na azombwe

Thima ya oviramo muthalroni dhootene dha munuwelo

Muthu onovira muthalroni dhinji dha munuwelo.

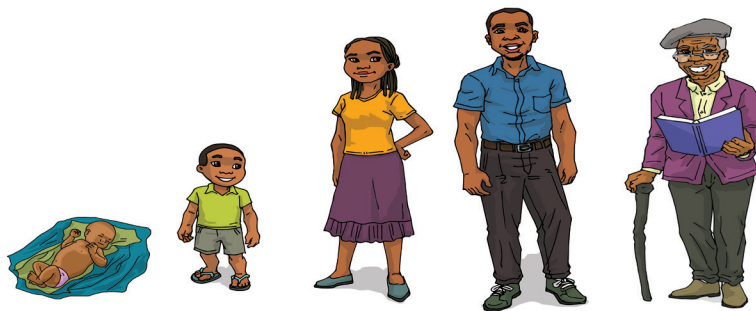
Muthalroni modhamodha (oyima, ozombwe na onddimuwa) maningo na mweddelo wa muthu anosadduwa. Noona, ja makamaka onoona ciini empadduwa muthalroni modhamodha ya munuwelo wi ninanele deretu egumi.

Muzombweni athu anotamela onoona mwaha wa maningo

awa osadduwa viina wuunuwa novaguva. Noona, ja makamaka orava malago na ababi, anamasunziya viina na anamudhi.

Anddimuwa na aragali anofwanyela okamiyedhiwa viina oriyiwa. Anddimuwa na anakalaba anona dhilobo dhinji dha okalawo dhinapangani azombwe.

Anayana, analobwana viina aragali anofwanyela oriyiwa na mukalelo modhene.



Nladdaniyo 6: Thalro dha muunuwelo wa muthu



Wuubucedha

Thalro dha munuuwelo wa muthu siisi: oyima, ozombwe na onddimuwa.

Muthalroni ya oyima, mwana na miima anoveda nikamiyedho na ababi viina yaaya.

Thalro ya oyima eromana mabaliwo mpaka yaka kumi na modha.

Ozombwe thalro embudduwa muthu muyimani avirelaga thalro ya onddimuwa.

Thalro ya ozombwe enromana ovenya yaka kumi na biili mpaka 20.

Thalro ya onddimuwa enromana ovenya yaka 21 na osongolro. Thalro eji engaweya wiilimo: Thalro ya onddimuwa na thalro ya onakalaba.

Athu anddimuwa na anakalaba anofwanyela oriyiwa.



Mabingiyo ononelamo

1. Thalro dha munuwelo wa muthu siivi?
2. Weyo oli thalro gani ya munuwelo?
3. Oromole mikalelo miili dha thalro ya munuwelo vali weyo?
4. Oliganiye na mukwereto () thalro ya munuwelo na mukalelo wawa wawa.

Thalro dha munuwelo wa muthu	makalelo
1. Oyima	A. thalro munsadduwa maningo na mweddelo wa muthu.
2. Ozombwe	B. Thalro munroma muthu ologa, wedda na odhowa oxikoola.
3. Onddimuwa	C. Thalro yahinuunuwa viina maningo a muthu.

DDIMA YA MASUNZO 12

DHITAGANO NA MIKALELO DHAWA

Muddimani mpu mwa masunzo onelosunza:

- Ozinddiyela ciini dhitagano;
- Oromola mikalelo wa dhoobo;
- Ozinddiyela mukalelo onfwanyeya dhitagano;
- Otapulelamo mukalelo onfwanyeya dhitagano;
- Otapulela mukalelo wa dhitagano na dhinkalamo.

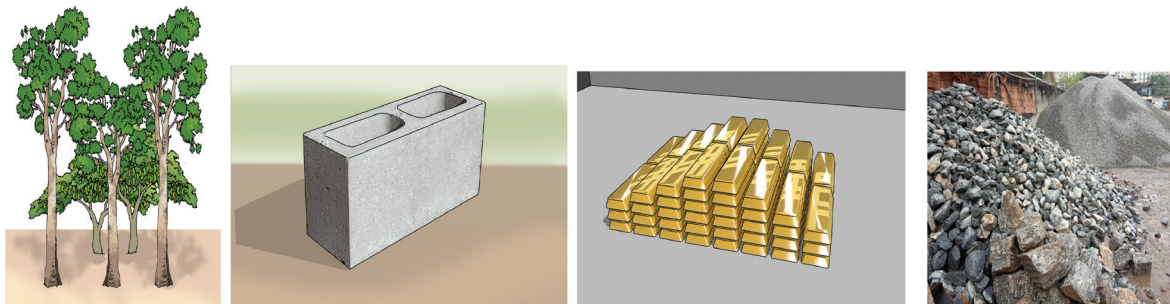


Dhitagano

Dhootene dhinirugunuwela ninga makaritera ankala munyumbani ya masunzo, manje ang'wa weyo malabo oteene na nyumba dhinkosiwa na etagano.

Dhitagano kahiyo esile dhinthiddeya bayi vano dhilobo dhahintiddeya ninga muya onvumana weyo viina etagano.

Noona, dhitagano siisile dhootene dhina elemelelo viina dhinkala vamburoni.



Nladdaniyo 1: Muri, boloki ya simenti, boloki ya nddalrama na nlugu.

Maningo

Manigo omodha wa etagano. Noona, muri omodha wa etagano. Nigagwadda muri ninokana dhirasi na nthuku dhinithaniwa maningo.

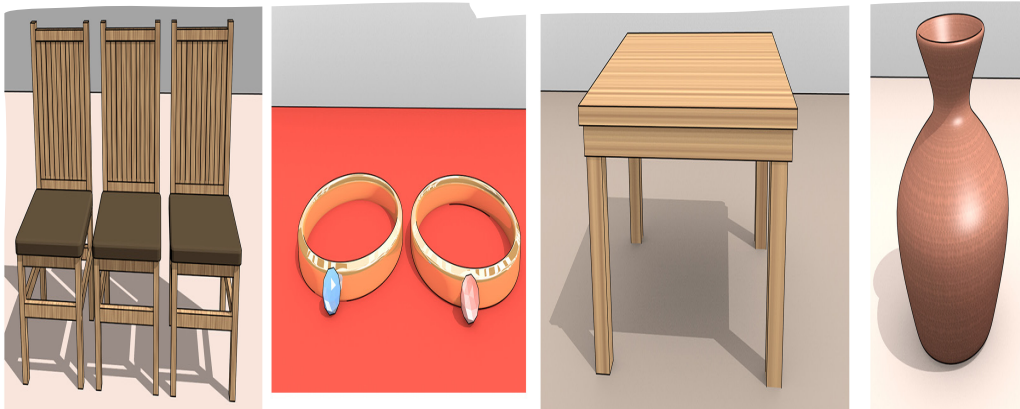
Omodha: epaddi obe epithikwa ya elobo.



Nladdaniyo 2: Maningo, nthuku na miri

Yoobo

Maningo a etagano agasadduliwa bakala elobo obe epano enlabana muthu enithaniwa yoobo.



Nladdaniyo 3: Mpaddo, pethe dha nddalrama, roda, kumpelro na biya



Wakule mavuzo ali muciddo

1. Dhitagano ciini?
2. Ovahe mitonyo miraru wa etagano.
3. Wakwaniye mimburo dhinjomba na mazu aba: etagano na yoobo

a. nthuku_____	d.kaderino_____
b. kumpelro_____	e. muri_____
c. nlugu_____	f. muya_____
4. Ovayedhelane paamene na mukwerto muddonddo oli wujani na muddonddo oli wemarani.

Mukalelo wa etagano

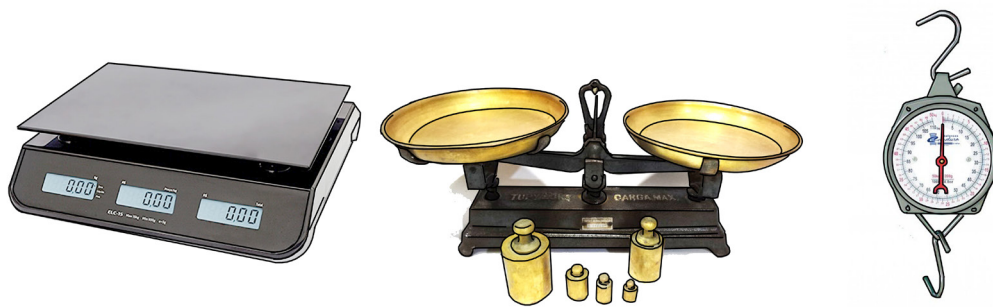
Mukalelo wa etagano buubule onkamiyedha onona nzina na etaganoya.

Makalelo a etagano baaba: **elemelelo na volume.**

Elemelelo mwinjivelo wa etagano. Maningo oteene akana elemelelo.

Elemelelo empimiwa na kilogarama.

Pizulra epano enlabiyedhiwa opima na elemelelo.



Nladdaniyo 4: Pizulra ya digitale, pizulra ya miziyo na pizulra ya enkaxe

Volume mburo onakwanela etagano.

Omodha onlabiyedhiweca opima na volume wa dhincolrolrowa bu nituru ninga, nigafunaga ogula makura, manje na mukaka nimpima na nituru.

Mukalelo onfwanyeya etagano

Etagano mwilaboni enfwanyeya na mikalelo miraru: mukalelo woothiddeya, mukalelo woocolrolrowa na mukalelo woothuwela.

Mukalelo woothiddeya

Mmukaleloni woothiddeya etagano enokana elemelelo na muwubelo wa muyooboni, obe yoobo ji yoobo munikiwa etagano, etaganoya enelowakwanela mburo modhene wa muyoboni mwa, vano mukaleloya kunasadduwe.



Nladdaniyo 5: Makalelo anfwanyeya manje mwilaboni



Nladdaniyo 6: Manje muyooboni dhoothiyana

Mukalelo woocolrolrowa

Mmukaleloni woocolrolrowa etagano enokana elemelelo modhene vano enokana mukalelo wa yoobo munikawani.

Ninga, ogeka encolrolrowa muyoboni yoorugunuwa, yoocolrolrowaya enokana mukalelo woorugunuwa, ogeka encolrolrowa muyoboni ya kwadirado, yoocolrolrowaya enokana mukalelo wa kwadiradu.

Mukalelo woothuwela

Mmukaleloni woothuwela etagano kina elemelelo viina mukalelo.



Nladdaniyo 7: Manje mmukaleloni othiddeya

Osadduwa wa mukalelo onfwanyeya etagano

Etagano enosadduwela mukalelo mwinaguwa na nsakana akala tha oviya obe oridha. Makalelo ansadduwela etagano baaba: Fusawu, solidifikasawu, vaporizasawu na kondesasawu

Woothiddeya \longrightarrow woocolrolrowa
(Fusawu)

Woocolrolrowa \longrightarrow woothiddeya
(Solidifikasawu)

Woocolrolrowa \longrightarrow woothuwela
(Vaporisasawu)

Woothuwela \longrightarrow woocolrolrowa
(Kondesasawu)



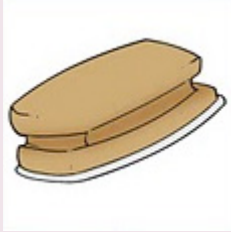
Nladdaniyo 8: Manje mmukaleloni ocolrolrowa

- Fusawu ocinjeya wa mukalelo woothiddeya odhowelaga mukalelo woocolrolrowa ompadduwa na oviya.
- Vaporizasawu ocinjeya wa mukalelo woocolrolrowa odhowelaga mukalelo woothuwela ompadduwa na oviya.
- Solidifikasawu ocinjeya wa mukalelo woocolrolrowa odhowelaga mukalelo woothiddeya ompadduwa na oridha.
- Kondesasawu ocinjeya wa mukalelo woothuwela odhowelaga mukalelo woocolrolrowa ompadduwa na oridha.



Wakule mavuzo ali muciddo

1. Wakwaniye mazu anjomba vamaaladdaniyoni anfwarelana, mwaha wa mukalelo onfwanyeya dhitagano mwilaboni:



Efudho entonya etagano enfwanyeya mmukaleloni



Manje ambudduwa mukadirinyu anotaganyiyeya na muya, manjeya anfwanyeya mmukaleloni



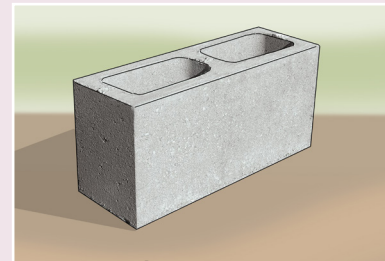
Alikoli etagano enfwanyeya mmukaleloni



Muya onvumana iyo etagano enfwanyeya mmukaleloni



Manje ambudduwa muturunera etagano enfwanyeya mmukaleloni



O Sumburoro entonya etagano enfwanyeya mmukaleloni

2. Wakwaniye ddima dha mazu na mazu anfwarelana: fusawu, vaporizasawu na solidifikasawu.

a) Ocinjeya wa mukelelo woothiddeya odhowelaga mukalelo woocolrolrowa onithaniwa _____

b) Ocinjeya wa mukalelo woocolrolrowa odhowelaga mukalelo woothiddeya onithaniwa _____

c) Ocinjeya wa mukalelo woothuwela odhowelaga mukalelo woocolrolrowa onithaniwa _____

d) Ocinjeya wa mukalelo woocolrolrowa odhowelaga mukalelo woothuwela onithaniwa _____

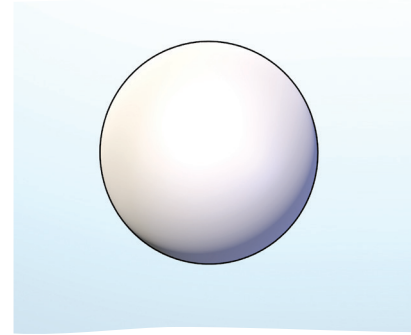
Dhinkala mwetaganoni

Etagano enkosiwa na dhipithikwa dhing'ining'ini vaddiddi, dhinithaniwa atomo.

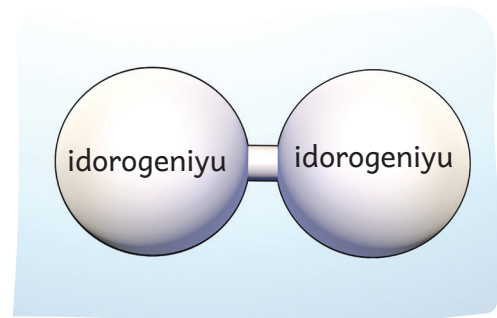
Atomo dhipithikwa dhig'ining'ini vaddiddi dhiringaweya.

Atomo dhinogumana na mikalelo dhinji sikala molekula.

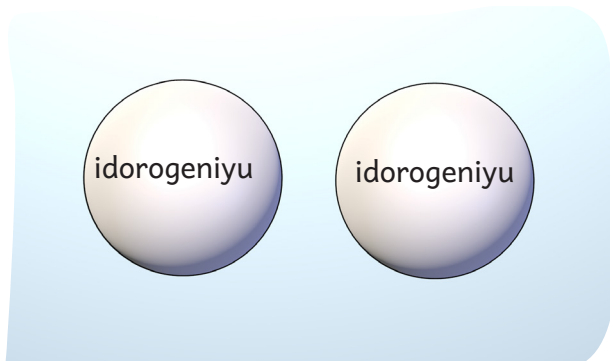
Molekula omodha wa atomo dhoopatana dhinladdana obe dhinthiyana. Ninga, molekula wa idorogeniyu okana atomo biili dhooladdana, vano molekula wa manjeokana atomo biili dhoothiyana.



Nladdaniyo 9: atomo



Nladdaniyo 10:



Nladdaniyo 11:

Elemento nikuru na matomo oligana.



Nladdaniyo 12:

Kompoxoto ekana dha malemento oothiyana ninga okisijeniyo na idorojeniyu vamodha dhinkala manje.

Otaganiya

Otaganyiya ovunddulriwa wa dhilobo biili obe dhiji dhinthiyana. Ninga mmutonyoni, otaganyiya nyavaka na cibamba, makura na manje, sokiri na manje, musuzi wa mandduwi, salada.



Nladdaniyo 13: Salada mupusulranani

Otaganiya onokala wa dhilobo dhina mukalelo modhene obe wa dhilobo dhina mukalelo woothiyana.

Otaganyiya wa dhilobo dhina ekalelo modhene buubule onkosiwa na dhilobo biili obe dhinji kuwooneyaga dhilimo.

Mutonyo:
otaganyiyiwa wa mwinyu na manje,
otaganyiyiwa wa sokiri na manje,
otaganyiyiwa wa mukaka na chaya.

Nladdaniyo 14 otaganyiyiwa wa dhitagano dhahinooneya, sokiri na manje, mwinyu na manje, chaya na mukaka, chaya na sokiri, sumu na Davita na dhincolrolrowa



Otaganyiyiwa wa dhilobo dhina mukalelo woothiyana buubule onkosiwa na dhilobo biili obe dhinji munooneya dhivolowilemo.

Mutonyo: otaganyiyiwa wa manje na makura, otaganyiyiwa wa manje na mathaka, salada.

Nladdaniyo 15: otaganyiyiwa wa dhitagano dhinooneya, salada, makura na manje, mathaka na manje



Wuubucedha

Dhitagano siisile dhootene dhina elemelelo viina dhinkala vamburoni.

Maningo epaddi ya etagano.

Yoobo elobo enkosiwa na muthu enlabela elo.

Mukalelo wa etagano buubule onikamiyedha onona maningo a etaganoya ninga mulemelelo viina volume.

Etagano enfwanyeya mmikaleloni esi: mukalelo woothiddeya, mukalelo woocolrolrowa na mukalelo woothuwela.

Etagano enosadduwela mikalelo esi: fusawu, solidifikasawu, vaporizasawu na kondesasawu.

Etagano enkosiwa na dhipithikwa dhing'ining'ini vaddiddi dhinithaniwa atomo dhumanela okala molekula.

Otaganyiya ovunddulriwa wa dhilobo biili obe dhinji. Dhootaganyiyadha onokala wa dhilobo dhina mukalelo modhene obe wa dhilobo dhina mukalelo woothiyana.



Mabingiyo ononelamo

1. Oliganiye na mukwereto mikalelo dhinfwanyeya dhitagano mwilaboni:

Muddonddo I	Muddonddo II
Etagano	Bara ya nddalrama
	Muri
Yoobo	Pethe ya nddalrama
	Nlugu
	Engamuthu ya Mondlani
	Npaddo wa muri

2. Oliganiye na mukwereto muddonddo A na muddonddo B.

Coluna A	Coluna B
A. Mukalelo	1. Mathaka
B. woocolrolrowa	2. Sumu na nlaranja
C. Mukalelo	3. Othuwela wa manje
D. woothiddeya	4. Muya
E. Mukalelo	5. Nlugu
F. woothuwela	6. Manje

2. Ovaheddelane muddonddo A na muddonddo B

muddonddo A	muddonddo B
Elemelero	() ogaweya wa dhitagano muddipaddini dhing'ono
Volume	() mwakwanelo ona maningo a etagano.
	() mburo onkala nningo.

- a) Vaporizasawu () ocinjeya wa mukalelo woocolrolrowa odhowelaga mulalelo woothiddeya
- b) Kondesasawu () ocinjeya wa mukalelo woothuwela odhowelaga mukalelo woocolrolrowa
- c) Solidifikasawu () ocinjeya wa mukalelo woocolrolrowa odhowelaga mukalelo woothiddeya
- d) Fusawu () ocinjeya wa mukalelo woocolrolrowa odhowelaga mukalelo woothuwela