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**CNFA**  
Cultivating New Frontiers  
in Agriculture



# Ukufuya Inkukhu

MODULE 1: Inkukhu Zesintwini

UGWALO OLULEZIBONISELO OLWABAFUNDISA EZIGABENI





# Kungani kugcinwa inkukhu?

inyama



umquba



amaqanda



imali



# Imicijo

## 1 Inyama lamaqanda

- Inkukhu zipha imuli ukudla okuhle okutholakala lula. Lokhu kudla ngokulomsoco wokwakha imizimba lokuvikela imikhuhlane
- Ukugcina inkukhu kuyengezelela ukudla emuzini. Ukuthola ukudla okuthile okutshiyeneyo kubisa impilakahle ikakhulu ebantwaneni lakubomama abamunyisayo labazithweleyo.
- Amaqanda enkukhu alakho okuqakathekileyo okukhulisa kahle umzimba okubisa impilakahle ikakhulu ebantwaneni, omama abamunyisayo labazithweleyo, labantu abagulayo.

## 2 Umquba

- Umquba wenkukhu uyavundisa umhlabathi kuhle ukuze izilimo ikakhulu ezingadini zikhule kuhle njalo uma ugcina inkukhu umquba lo awuwuthengi.

## 3 Imali

- Inkukhu zingathengiswa ukuze umuzi uthole imali njalo umuzi olenkukhu ungaphanga uthole imali ngezikhathi zengozi kumbe ezokuswela.
- Nxa siqathanisa lokunye okungenziwa emakhaya, inkukhu zilenzuzo engcono ngoba azidingimali ukuze uzifuye. Lanxa ungasebenzisa imali, ngeke ibeyimali enengi.



# Okudingakalayo ukuze ufuye inkukhu?

- ❑ Kumele wakhe isilugu senkukhu, ubelendawo enkulu ukuze inkukhu zenelise ukuzidingela ukudla, njalo uziphe ukudla lamanzi.



isilugu



indawo yokuziqhwandela ukudla



amanzi ahlanzekileyo



ukudla kokuholelwa



# Imicijo

## 1 Ukudla kwenkukhu

- Ukudla okunengi kwenkukhu zesintu ngezikuthola ngokuqhwanda okugogela izibungu lenhlanyelo ethile.
- Abafuyileyo bazipha ukudla lapha lalapha. Lokhu kudla kugogela okuthengwayo lensalelo ekudleni kwangekhaya.
- Ukupha inkukhu ukudla okuthengwayo kuzipha ukudla okuqakathekileyo okungekho kulokho ezikuthola nxa ziziqhwandela. Lokhu kudla kulomsoco njalo kuzikhulisa kuhle.

## 2 Amanzi

- Kuqakathekile ukuthi inkukhu zithole amanzi ahlanzekileyo ilanga lonke.

## 3 Izilugu Zenkukhu

- Indawo zokugcinela inkukhu kumele zihlanzeke ukwenzela ukuthi ziphefumule kuhle njalo kubethe umoya ziphinde zivikeleke elangeni. Kumele lapho ezihlala khona kuzivumele ukuphila kuhle njengokwenza kwenkukhu, zibelakho ukuphuma phandle imizimba yeluleke ziqhwande njalo zithole ilanga .
- Akukhuthazwa ukuba inkukhu zihlale zivalelwe ezilugwini ezincane. Lokhu kwenza inkukhu zehluleke ukuzidingela ukudla njalo kuzifake engozini yokubamba imikhuhlane lula.
- Izilugu zenkukhu zivikela inkukhu enyamazaneni lasemkhathini omubi.

# Okunye okufunakalayo kugoqela...



- ❑ Ukwendlalela phansi ukuze inkukhu zingabambi imikhuhlane lula njalo kufudumale.
- ❑ Utshani benza izidleke zigcine kuhle amaqanda.

*utshani obomileyo*



- ❑ Izidleke zipha inkukhu indawo engelangozi, emnyama, njalo engelamanzi ezingabekela khona.
- ❑ Yendlala utshani phakathi kwezidleke ukuze inkukhu zihlale kuhle.

*izidleke zokubekela*



*izitsha zokudla lezamanzi*

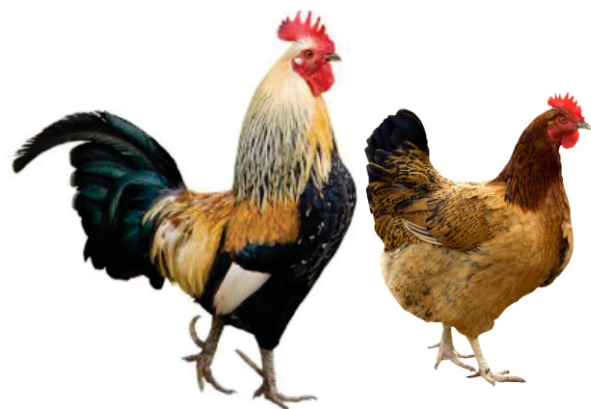
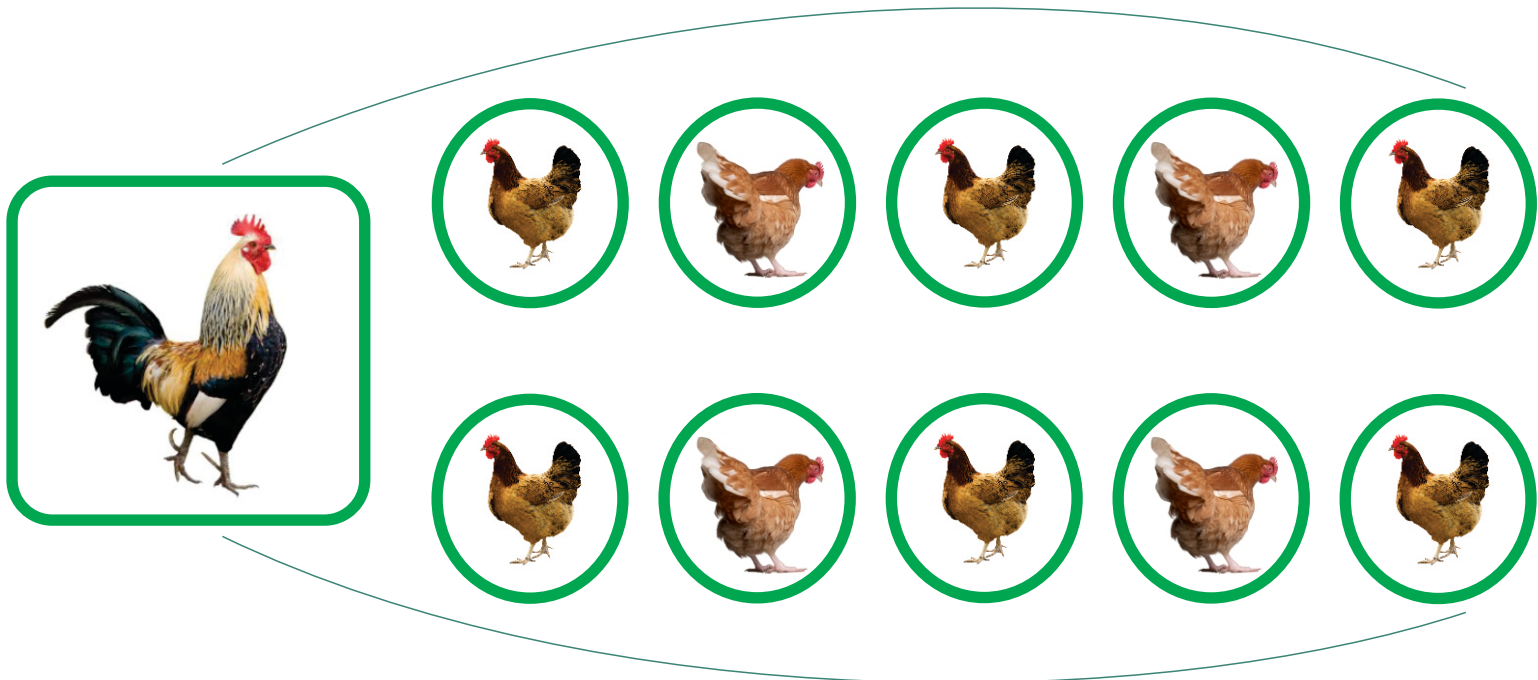
- ❑ Izitsha zenza ukudla kungadlaliseki njalo kuyavimbela amagundwane lezinye inyamazana ekudleni ukudla kwenkukhu.
- ❑ Izitsha zenza ukudla kungonakali ngensiba langu doti yenkukhu. Nxa ulomhlobo wezitsha ezinje awusoke uhlale ugezisile.



# Okokucina, kufunakala inkukhu.

- Inkukhu zokufuya ziyatholakala lula.
- Abanye bakhetha ukwenza amaqembu bathengelane inkukhu, ngokutshayelana kwabo.
- Lanxa uwedwa, ungabeka imali kancane kancane uthenge inkukhu zakho kancane kancane.

- Nxa uthenga inkukhu, dinga iqhude elilodwa kuzikhukhukazi ezilitshumi.

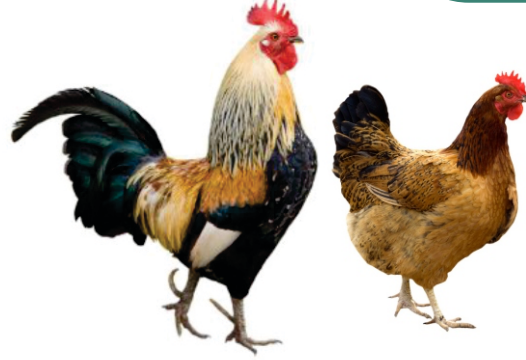


- Khetha inkukhu ezingela mikhuhlane.
- Hlola inkukhu ungakathengi.

# Indlela zokondla inkukhu.

## INDLELA

# 1



- Inengi labalimi lipha inkukhu ukudla njalo baziyekele inkukhu zizule ziqhwande zizidingele ukudla.

## INDLELA

# 2



*ukudla okuthengwayo*

*ukuzula ziqhwanda*



*ukudla okwenziwe ngekhhaya*

*insalelo ekudleni kwekhhaya*

- Indlela yesibili iyakhuthazwa ngoba yenza inkukhu zibekele ngcono njalo zibelenyama elesisindo esihle.



# Imicijo

## 1 Indlela 1

- Abalimi abanengi bafuya inkukhu ngalindlela.
- Lindlela yokufuya inkukhu ilula, kodwa inkukhu kazitholi kuhle ukudla okulomsoco okungenza zingakhuli kahle.
- Udubo ngalindlela yikuthi inkukhu ziqeda amandla zidinga ukudla okwehlisa inani lamaqanda lendlela ezikhula ngayo.

## 2 Indlela 2

- Inkukhu zidinga ukudla zodwa egumeni langaphandle kweguma, kodwa ukudla akutholakali ngendlela efanaya mihla yonke. Zithola okuncinyane ikakhulu ebusika.
- Nxa inkukhu zingatholi ukudla okunengi, kudingakala ukuba zithole okunye ukudla mhlawumbe okuthengwayo kumbe okwenziwa ngekhaya, ukuze zibelenyama njalo zibekele kuhle.
- Ukuze inkukhu zikhule kuhle njalo zingabanjwa yimikhuhlane lula, kumele zithole ukudla okwaneleyo.
- Abafuyileyo bakhuthazwa ukuba baphe inkukhu ukudla lamanzi ahlanzekileyo ekuseni lantambama nxa inkukhu sezibuyela esilugwini.
- Kuqakathekile ukuba izitsha zokudla lezamanzi zihlale zingelangcekeza ukuze inkukhu zingaguli.
- Nanzelela ukuba inkukhu ziyathola amanzi ahlanzekileyo ilanga lonke.

# Ukudla okokwengezelela

- ❑ Kusiya ngesikhathi somnyaka, inkukhu zingathola ukudla okwaneleyo ziziqhwandela (njengesikhathi sezulu lokuvuna) kumbe zithole okuncinyane kakhulu ngokuziqhwandela (njengasebusika kumbe ezikhathini okubelezulu elilutshwana).
- ❑ Ezikhathini lapho inkukhu eziswela khona kuqakathekile ukupha ukudla kokwengezelela ukuze zondleke kuhle.

## ❑ Indlela eqondileyo yokupha inkukhu ukudla

<b>Ubudala benkukhu</b>	<b>Ubunengi bokudla bokupha inkukhu (ngenkukhu ngelanga)</b>
<p><b>Amatsiyane</b> 1 - 3 weeks</p> 	<p>Ingxenye yesandla engaphansi kwehafu</p> 
<p><b>Amatsiyane asekhulile</b> 4 - 8 weeks</p> 	<p>Isandla esigcweleyo</p> 
<p><b>Inkukhu</b> 9 - 28 weeks</p> 	<p>Isandla esigcweleyo lehafu yesandla</p> 



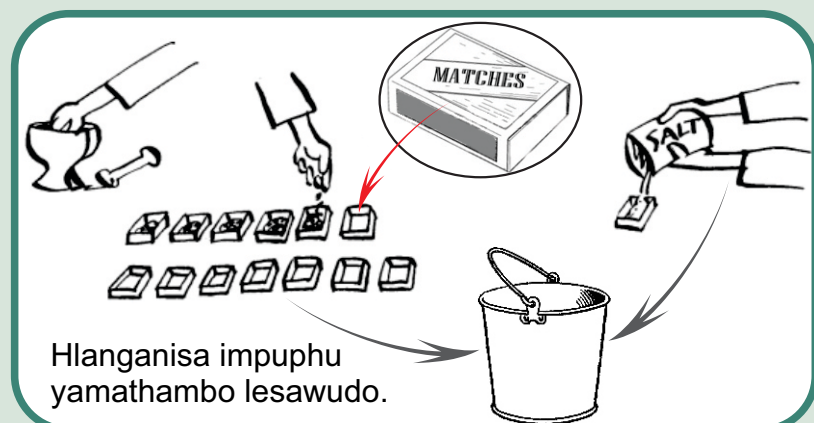
# Okunye ukudla okudingwa zinkukhu

- ❑ Lokhu kudla ngokuphathisa entweni ezinjengokuvikela imikhuhlane lokwenza amathambo.
- ❑ Kuyaphathisa lasekwenzeni amakhasi amaqanda aqinileyo, ngakho ke kuqakathekile ukuthi izikhukhukazi zithole lokhu kudla. Lokhu kudla kugoqela i-*limestone grit* ethengwayo lamathambo acholiweyo.
- ❑ Indlela elula yokupha inkukhu ukudla okunje yikuzipha imputshana yamathambo.

## Impuphu yamathambo



- ❑ Dinga ubuthanise amathambo lamakhasi amaqanda.
- ❑ Basa umlilo utshise amathambo.
- ❑ Dobha amathambo asetshile uwachole abeyimpuphu engacholekanga.



- ❑ Linganisa ibhokisi lomentshisi elilodwa lesawudo uhlanganise lamabhokisi alitshumi lantathu empuphu yamathambo.

# Izilugu Zenkukhu

## Isilugu sodaka



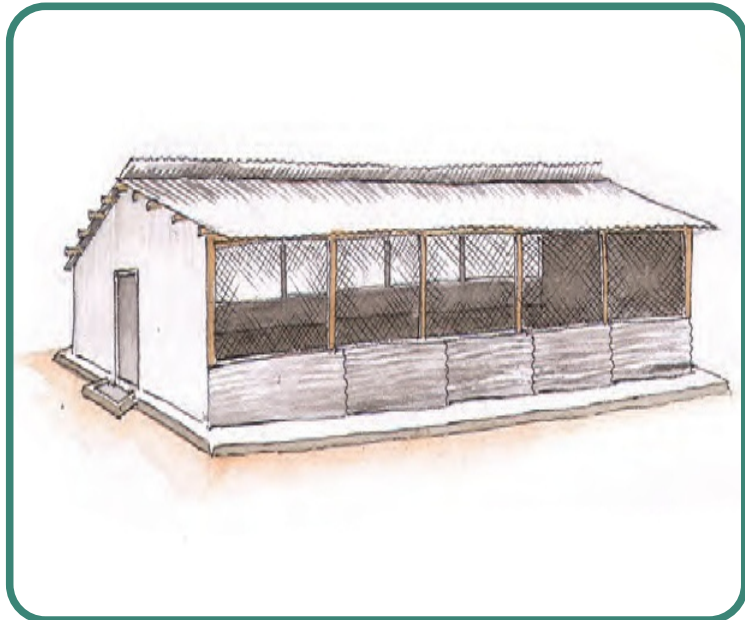
- Kusetshenziswa izinto ezitholakala lula esigabeni.

## Isilugu esingathinti phansi



- Kudingakala ukuba kuthengwe inethi.

## Isilugu senkukhu ezinengi



- Kudingakala ukuthengwa kwezinto zokwakha.
- Kumele kwakhiwe ngabalolwazi ngezokwakha.

## Isilugu senethi esiphezulu



- Kumele kuthengwe inethi.
- Okunye okufunakalayo kuyatholakala esigabeni. Kulula ukwakha lesi isilugu.



# Nanzelela ukuba isilugu silokulandelayo:

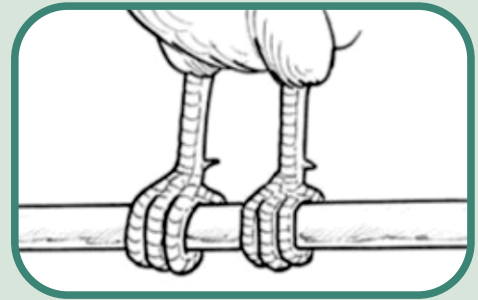
1

Yakha izidleke lapho inkukhu ezizabekelela khona njalo zifukamele.



2

Lungisa izigodo lapho inkukhu ezingalala khona. Nanzelela ukuba ububanzi bezigodo lezo buhambelane lenyawo zenkukhu.



Inkukhu ezilala phansi zihlaselwa yimikhuhlane lezinakazana lula.

3

Nanzelela ukuba isamende asidabuki usuqedile ukwakha.

Isamende esidabukileyo singagcina izinakazana ezingabuya lemikhuhlane enkukhwini.



4

Isilugu kumele singahlali phansi, simele sibephezulu ukuze inkukhu zivikeleke engozini yenyamazana.

Kumele isilugu singenise umoya owaneleyo kuhle.



5

Khiphani amaxolo ezigodweni zokwakha.

Amaxolo apha izinakazana indawo yokuhlala.



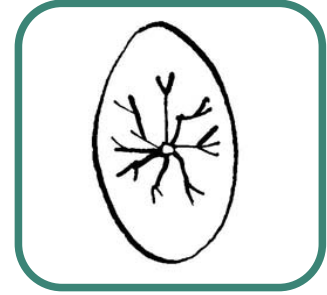


# Mayelana ngamaqanda lokufukamela



- Isikhukhukazi sinye ngasinye kumele sibelesidleke saso sodwa.
- Nanzelela ukuba ezidlekeni kuthule njalo kumnyama.
- Nanzelela njalo ubeleqiniso ukuba inkukhu azibekeli esidlekeni esisodwa.

- Hlala ukhangela ukuba amaqanda awabolanga.
- Ungabamba iqanda ulikhanyisele, iqanda eliletsiyane liyakhanya ngemithambo yegazi.



■ **Khipha amaqanda angamagula kumbe iwimila udle.**



- Nxa inkukhu zifukamela nanzelela ukuba akulantwala, ubunyonyo, ubutata lokunye.
- Kumele ukudla lamanzi kuhlale kuseduze lezidleke.

■ **Izinakazana ezisesidlekeni zingenza inkukhu efukamelayo ikhalale amaqanda.**



**amalanga angu-21**



# Ukuvikela Imikhuhlane



- ❑ Ukugcina inkukhu endaweni ehlanzekileyo yindlela elula yokuvikela imikhuhlane lezinanakazana.
- ❑ Ngakho ke, kuqakathekile ukuba izilugu zihlale zihlanzekile.
- ❑ Kumele izilugu zibe lobukhulu lobude obuvumela umuntu omdala ukuba asebenze kuhle.



- ❑ Dinga ulwazi ngemithi yokwelapha inkukhu kwabe *Veterinary* abaseduze lawe.
- ❑ Dinga ulwazi ngendlela zokufuya kuhle inkukhu.

# Into ezivamileyo ongazinanzelela

Okungaphambaniseka	Imbangela	Ongakwenza
<ul style="list-style-type: none"> <li>Igazi engcekezeni yenkukhu, ukukhukhumala kwensiba, lokungadli.</li> </ul>	<ul style="list-style-type: none"> <li><i>Coccidiosis</i>. Isinanakazana esihlala emathunjini.</li> <li>Ukukhahlamezeka.</li> <li>Ukungahlanzeki kwesilugu lezitsha zamanzi lokudla.</li> </ul>	<ul style="list-style-type: none"> <li>Gcina isilugu lezitsha zokudla lamanzi zihlanzekile.</li> <li>Ungakhahlamezi inkukhu ngokuziminyanisa, kumbe ngokuzigcina okugodola khona, langokuzipha ukudla okuncinyane.</li> <li>Zelaphe ulandela izeluleko ozithole kwabe-<i>veterinary</i>.</li> </ul>
<ul style="list-style-type: none"> <li>Izinanakazana lezibungu - imikhaza, intwala, insikizi lezinye izibungu.</li> </ul>	<ul style="list-style-type: none"> <li>Ukungahlanzeki kwesilugu lezitsha zamanzi lokudla.</li> </ul>	<ul style="list-style-type: none"> <li>Gcina isilugu lezitsha zihlanzekile.</li> <li>Ungasebenzisi izigodo ezilamaxolo kumbe ezilemikenke.</li> <li>Vala imikenke emidulini leyesamendeni saphansi.</li> <li>Sebenzisani imithi egoqela <i>iDiatomaceous Earth</i>, <i>iCedarcide</i>, amanzi esepa ye<i>Borax</i>, amanzi ale-<i>garlic</i> lamakhambi.</li> </ul>
<ul style="list-style-type: none"> <li>Amawemusi.</li> </ul>	<ul style="list-style-type: none"> <li>Ukwesulelwa yinkukhu ephathekileyo ngomkhuhlane lo.</li> </ul>	<ul style="list-style-type: none"> <li>Khiphani amawemusi ngesikhathi sebusika, ekuqaleni kwezulu, lalapho inkukhu zikhanya zingelamandla.</li> </ul>
<ul style="list-style-type: none"> <li>Inkinga ngokuphefumula, amakhovula, ukwehla ekubekeleni, ukwenza amaqanda alamakhasi angaqinanga, ukwenza amaqanda agwegwileyo.</li> </ul>	<ul style="list-style-type: none"> <li>Yisifo se-<i>Newcastle</i> esiza ngamagcikwane.</li> <li>Ukungahlanzeki.</li> <li>Ukukhahlamezeka.</li> <li>Ubuya ngenkukhu ezizulayo langempahla zosebenza enkukhwini.</li> </ul>	<ul style="list-style-type: none"> <li>Lumkhuhlane awelapheki.</li> <li>Kuyakhuthazwa ukuhlaba inkukhu ukwenqabela lumkhuhlane. Buza kwabe-<i>Veterinary</i>.</li> <li>Ukugcina isilugu lezitsha zihlanzekile kuyenqabela lumkhuhlane.</li> </ul>
<ul style="list-style-type: none"> <li>Amatsiyane angakhuliyo njalo akhanya engelampilakahle.</li> </ul>	<ul style="list-style-type: none"> <li>Ukuzalelana kwenkukhu zegazi linye.</li> </ul>	<ul style="list-style-type: none"> <li>Sebenzisa iqhude elitsha mnyaka ngomnyaka.</li> </ul>
<ul style="list-style-type: none"> <li>Amaqhubu</li> </ul>	<ul style="list-style-type: none"> <li>Umkhuhlane we-<i>Fowl pox</i></li> <li>Ukungahlabisi</li> </ul>	<ul style="list-style-type: none"> <li>Hlabani inkukhu emgoqweni wophiko kumbe nxa lisizwa kuthiwa isifo sizahlasela ezigabeni.</li> </ul>
<ul style="list-style-type: none"> <li>Inkukhu ezidla amaqanda</li> <li>Ukuquntana insiba</li> <li>Ukulimazana</li> </ul>	<ul style="list-style-type: none"> <li>Ukuminyana</li> <li>Ukuswelakala kweminye imisoco yokudla ekudleni okutholwa zinkukhu</li> </ul>	<ul style="list-style-type: none"> <li>Zipheni i-<i>calcium grit</i> (iyathengwa)</li> <li>Zenzeleni impuphu yamathambo.</li> </ul>



# Ukubhala Lokugcina Amabhuku



- Ukugcina amabhuku kwenza abalimi banakekele ngcono inkukhu zabo.
- Imibhalo emabhukwini iyancedisa kakhulu nxa kulenkinga. Abalimisi bazakhangela amabhuku akho besebekweluleka kahle.

- Abafuyileyo bayakhuthazwa ukugcina amabhuku, babhale:
  - inkukhu ezifileyo, lokuba zibulewe yini kumbe bezilani
  - inani lamaqanda ngelanga
  - inkukhu ezifukameleyo ngomnyaka
  - inani lamatsiyane acacadiweyo
  - inani lamatsiyane akhule afika amaviki angu-8
  - inani lenkukhu ezithengisiweyo lamaqanda njalo
  - ukuhlatshiswa lokupha imithi (bhala isikhathi eziphiwe khona lokuba ziphiweni)

# Indlela yokubhala emabhukwini

## Ibhuku Lokufuya Inkukhu

Ibizo lomlimi: \_\_\_\_\_

Ilanga: \_\_\_\_\_

Isihloko	Ilanga	Inani	Phawula imibono
1. Izikhukhukazi			Ziphilile? Ubudala? Ukubekela?
2. Amaqhude			Ziphilile? Ubudala?
3. Amatsiyane (amaviki angu-4 kusiya phansi)			
4. Amatsiyane (amaviki angu-5 kusiya phezulu)			
5. Inkukhu ezifileyo			Zibulewe yini?
6. Amaqanda			
7. Amaqanda afukamelwayo			
8. Amatsiyane acacadiweyo			
9. Inkukhu ezihlabisiweyo			Ziphiweni, njani?
10. Inkukhu eziphiwe umuthi			Ziphiweni, njani?

Isihloko	Ilanga	Inani	Intengo	Imibono
1. Amaqhude athengisiweyo				
2. Izikhukhukazi				
3. Amatsiyane (amaviki angu-4 kusiya phansi)				
4. Amatsiyane (amaviki angu-5 kusiya phezulu)				
5. Amaqanda				
6. Amaqanda adliwe ekhaya				
7. Inkukhu ezidliwe ekhaya				
8. Inkukhu ezibeyizipho				
9. Inkukhu ezithengiweyo				
10. Ukudla okuthengiweyo				

# Mayelana lezokudla lezokuthengisa

## Ukwehlukanisa kwezokuthengisa lezokudla:

- Thengisa kumbe udle inkukhu ezingabekeli kuhle. Ngalindlela ofuyileyo ngeke alahle isikhathi, amandla lokudla enkukhwini ezingalethi nzuzo. Ungakhipha inkukhu ezinje, inkukhu ezizalwa khonapho zizakuba lesisindo.
- Thengisa kumbe udle amaqhude asakhulayo. Gcina amaqhude alesisindo esihle kuphela.
- Thengisa kumbe udle izikhukhukazi zingaba leminyaka emibili. Kazibekeli kuhle zingedlula iminyaka emibili.

## Ukuthengiswa kwenkukhu:



- Inkukhu zesintu ziyafunakala kakhulu emadolobheni.
- Phezu kokufunakala ngabantu nje, abantu bezitolo abathengisa okuphekiweyo labo bayazifuna.

- Ngakho ke, zamani ukuhlanganisa inkukhu zenu liyethengisa emadolobheni njalo liqhubeke lithengisa lisezigabeni zenu.
- Zamani ukuba lenkukhu ezizwayo ngamakhefu, njengoba abantu bejayele ukuba lamadili ngalezizikhathi.
- Ngesikhathi sokuswelakala kwezulu, abafuyileyo bangathengisa kakhulu amaqanda besenzela ukungathwalinzima ngokudla kokondla inkukhu ezikhona lamatsiyane amatsha.



# Ongakwenza ngemali oyitholayo



*Imali Zesikolo*



*Imali Zabodokotela*

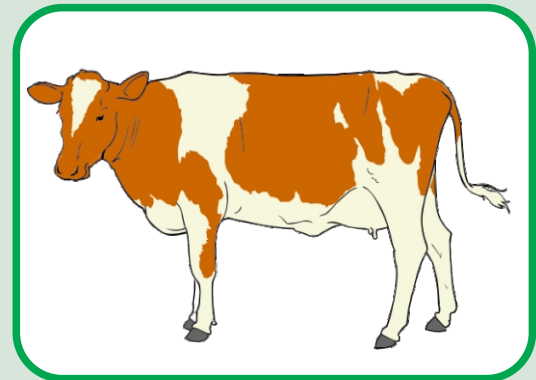


*Ukudla*

- Imali oyitholayo ingaphathisa ngemali lendleko zabantwana esikolo, imali zabodokotela lezibhedlela, langokudla kwemuli yakho.



*Impahla zekhaya*



*Ezinye izifuyo ezinkulu*

- Kumele uqakathekise ukukhulisa ibhizimusi yakho yenkukhu kuqala, ukuze uthole indleko ezingcono. Ungathenga ezinye inkukhu, ukudla kwenkukhu, kumbe wakhe isilugu esikhulu.
- Ungathenga impahla zekhaya ezigoqela amabhara, inqola, amalayithi e-*solar*, amakhuba, lemithi yezifuyo.
- Ungagcina imali uthenge izifuyo ezinkulu yinye ngayinye njengenkomo, imbuzi, lezimvu.