

Kenajeiyetatsiri anta

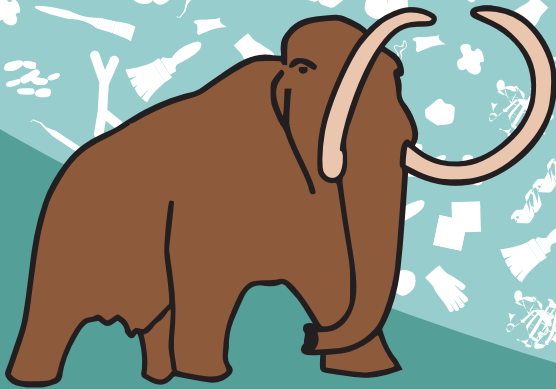
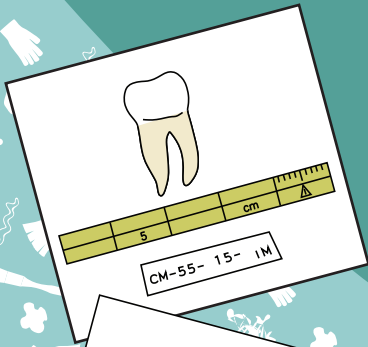
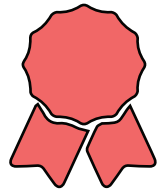
# IYOTAKANTA YETIRORI PESATOPEE



Oka sankenarentsi  
ashitarori irointi

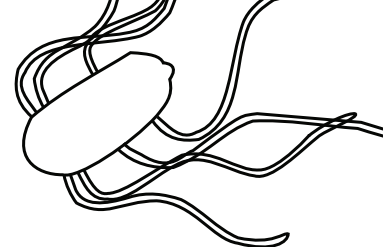
bajirontsi

Pianaintsane koraka  
iyotakoterone jaoka  
akantari, perani



Potsoyetakotirori sankenarentsi  
Yotantsipanko Max Planck,  
iyosanotakotirori perani jaoka akanta atiripe





# Kenajeiyetatsiri anta **TYOTAKANTA YETIRORI** **PESATOPEE**

**Oka sankenarentsi  
ashitarori irointi**

bajrontsi

**Pianaintsane koraka  
iyotakoterone jaoka  
akantari, perani**



**Potsoyetakotirori sankenarentsi.**

Yotantsipanko Max Planck,  
iyosanotakotirori perani jaoka akanta atiripe



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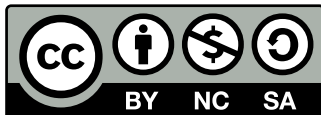
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Ke Wang

Christina Warinner

Translated into Ashaninka by Blanca Yessica Sanchez Comanti

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2022



# JANIKA AROJEI

Yoka meeka ikantetiri bioarqueologos, arojei amenakoyetirori pesatope, amayejeitake iroperori, obametantsipe, jaokani ikantarini perani atiripee ashaninkajei.



Paletin (ishiyakantaro eramientate antakantayetirori pankotsi)

## Anta saiterikinta, obantsiki...

Yokameka bioarqueologos, itsamejeiti intsiptiyari, arqueologos tsametatsiri saiteriki obantsiki, kijekayerori maroni yayeteri yoka ifayetakeri, yanakeri raboratorioki, iyotanyariri, paita jitachari ifayejeitakeri.

Oka tsamerentsi irointi iyoshiyaka amenakoyetiriri kaminkari, kamaintsiri perani, kempe atiri, piratsipe, iyojeitanyarikia irotake yantakojeitri iyotinkari, ikijekayetiri, pesatipee, pankirentsipe pesatope.

## Yantakantayetantarori iroperori anta ikantiri raboratorio

Aririka yantakotero oka ikantakotiri ADN irjantsi shiyakantakoteri, yokameka iyotakotiri, eiro yantashiyetarotsi onati, yantakotero kametsa inkitsayetanakia iroperori, irantakoyetero kametsaiteriki, ipashikabakoyetya, ibotashiyetanakia, yantantejeitanyarori otsipa ADN irobakerari.

Yokameka te intsametashijeitya yayeti osheki, ifajeitiri irinti iyotakoyetanyarori, pesato irajantsipe.



Pipetatatsiri, shiyakantarori tobo sankanari)




# OKA KIJEKANTSI

Yokameeka ikantetiri bioarqueologos, ijayeti otsipape nampitsiki, yamenakojeitanyarori, oka jaoka okantayetanakari perani, saikayetanaintsiri, perani, aririka ijajeitake areji osheki yayetanake maroni, yayetiri ikiyakotanyarori paitarika irinayetake, ikempetakero himalayaki, yokameka iyotinkari arqueologos, onati inkanteri, inkamanteri yamayetake eramientatepe.

Department of Immigration  
**TREKKING PERMIT**  
 accordance with the rule 33 of  
 1994 the permission is for  
 in the area of Mustang  
 District (except  
 to 19

**NATIONAL TRUST FOR NATURE CONSERVATION**  
**Entry Permit**  
 (ACAMCA/GCA)  
 Schedule - 2 (Relating to Sub-Rule (1) of Rule 19)  
 Receipt No. **0281630**  
 Entry Permit No.  
 Full Name:  
 Date of Birth:  
 Passport No.  
 Nationality:  
 Purpose of Visit:

  
 Data:  
 Entry Permit Issuing Authority  
 Signature  
 Full Name:  
 Designation:

**NATIONAL TRUST FOR NATURE CONSERVATION**  
**NTNC-ACA**  
**ENTRY FEE RECEIPT**  
 Ticket No. **0281630**  
 Date  
 Nationality  
 Authorized Signatory  
**SHERPA SHAIKUN-LA**

TOURIST COPY

Immigration Officer  
 No

## Kempe meeka Nepalki





## Monkarayetirori ajitsiki

Iyotakoyetirori, jaoka okanta ajipee amenakojeitirori ajipe irointi apinto iyotakotirori jaoka okanta añatsirika, oka meeka monkarayetirori aayetabajiro, abajeititari, iyojeitanyari jaoka akantakota, maroni atiripe.

## Tonkitsi impoiiji ajitsiki

Oka tonkitsi impoiiji ajipe irointi ikanteti DNA ayotakosanotanyarori jaoka itimiri nampitsiki isaikajeitiri, ayojeitanyarikia arori, jaokani ikantari yoka kamayetaintsiri, peerani, kisariika iroki jaoka okantani ishipeeni irotakekia ikantakoyetiri shiyakantayetakoteeni kempe meeka kamayetanaintsiri peerani, ADN , irointi patogenopee ojenkapee.

## Itonkipee piratsipe

Aririka ayosanotakero oka ashitoriatakero, jaoka okantani perani oka itonki piratsipe, kametsatake ari amitakotake obetsikayetanakia asaikantakarika, kempe aisati oka ikantetiri, ari ayotakotakeri irariocarbono aisati amitakotake jaoka okantani perani saikantsipe.

## Kari kantayetanajantsi

Pesatopee kari kantayetatsi, kametsayetaintsiri, chora oproteinatope ashí pankirentsi pesato aisati piratsipe, maroni abajeitari, oka meeka maroni kari kantayetatsi oinijake jaoka okantayetarini perani, otsipapeki nampitsiki ikoyejeitini.

## PAITA AYOTIRI

Yoka meeka bioarquelogos, iyotinkari, yayetake, iyosanotiri, jaokarika ikantiro irinti, yakajeitanyarori jaoka okantani perani.

Oka meeka eramienta, ari amatabakero ayosanotanake akarorika kapitsaji oinijakerika kapitsaji tonkitsi, ajitsiki, paitarikapee.

## PIYOTAKEMPA

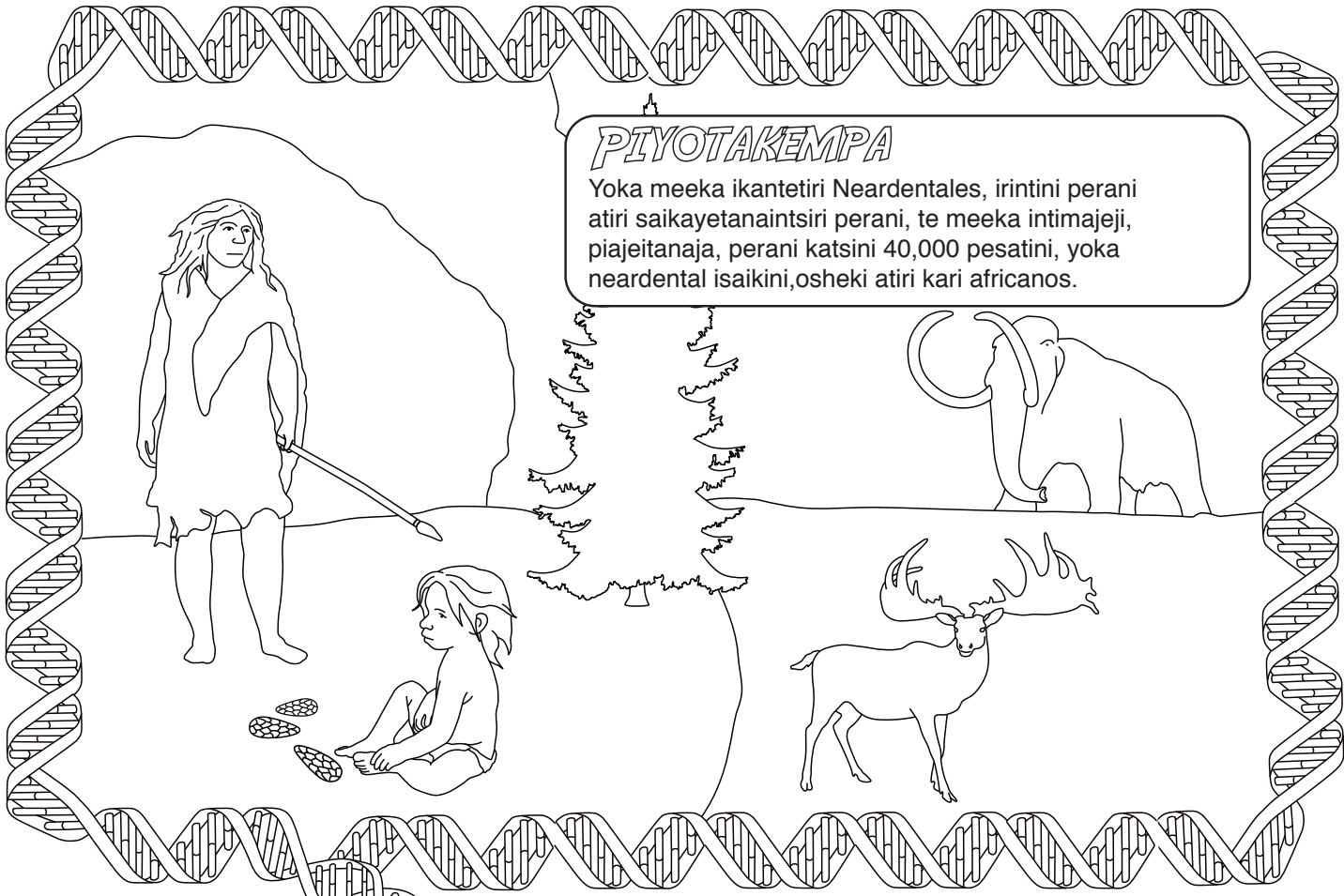
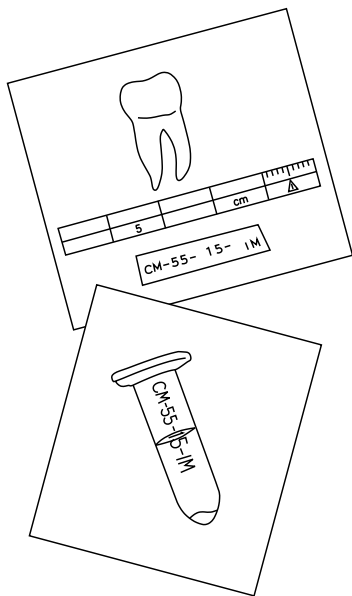
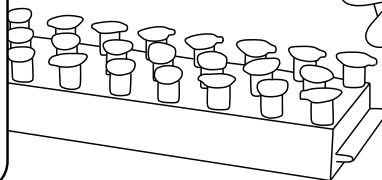
Yoka meeka ikantetiri Neardentales, irintini perani atiri saikayetanaintsiri perani, te meeka intimajeji, piajeitanaja, perani katsini 40,000 pesatini, yoka neardental isaikini, osheki atiri kari africanos.

## SAIKAYETANAINTSIRI ATIRI ITSIPAPE KEMPE ARO,

Oka DNA amitakote ayotajeri jaoka akantajeitarini perani, ajarirtsoripeni. Saikanaintsiri kempeji jitachari los neardentales.

## Okantakotanakari

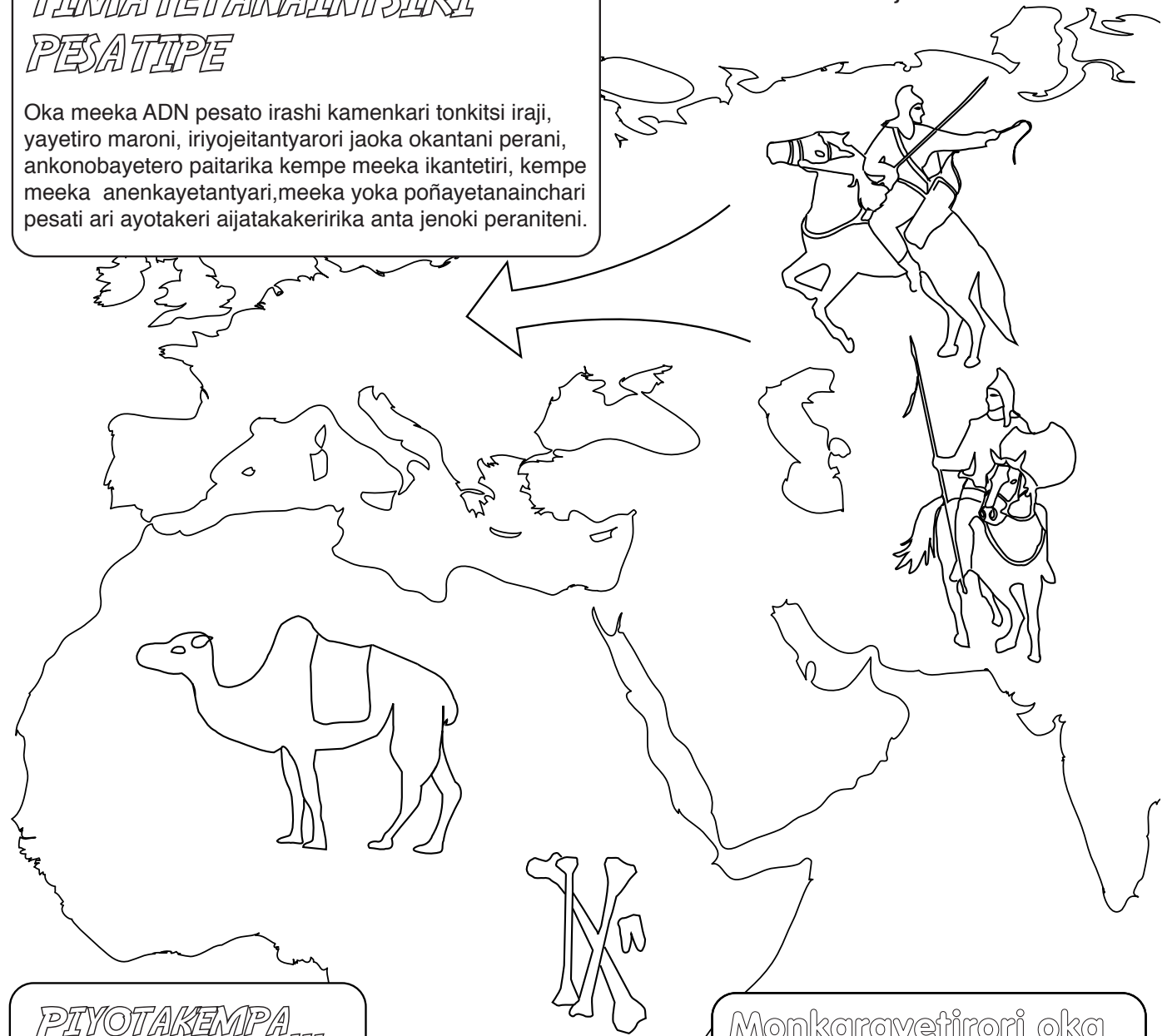
Ayosanotantaryari paita ajsanotatsiri tonkitachari pesatosanori, ari ayotakotakeri, jaokani ikanta perani ashaninkajei saikanaintsiri jaoka akantajeitanakari arori meeka akantakajarori asaikantakari meeka.



Niyanki asaikantari. Omonkarari pesatoni kisoyetatsiri, 7000 te intimejikera tasorentsi

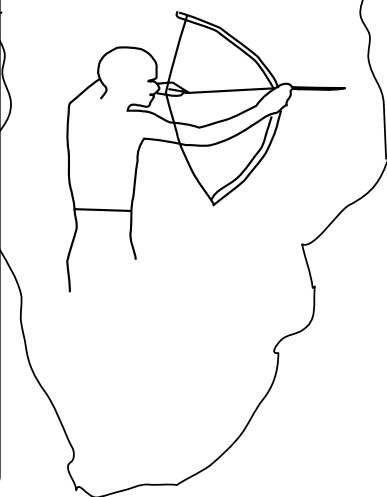
**PERANIPE  
TIMAYETANAINTSIRI  
PESATIPE**

Oka meeka ADN pesato irashi kamenkari tonkitsi iraji, yayetiro maroni, iriyojeitanyarori jaoka okantani perani, ankonobayetero paitarika kempe meeka ikantetiri, kempe meeka anenkayetanyari, meeka yoka poñayetanainchari pesati ari ayotakeri aijatakakeririka anta jenoki peraniteni.

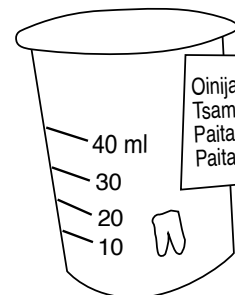


**PIYOTAKEMPA...**

Oka rariocarbono ikantetiri, 0 C, irointi isotopo kari akametsatirori, oka karibono ankanteri tsimenkito, atsimikiro tampya ashí pakirentsi, ara meeka aisati piratsipeeki, okei meeka oka ikantetiri irariocaribono antsitakotaka obaro pankirentsi, oka meeka rariocarbono, ari ompariake korajikata, abisakotake omonkaraka C oinijakotaka pesatopee oinijanterikia, janika ashisanotarori jaoka omonkaraka yañabetaka.



**Monkarayetirori oka meeka rariocarbono pesato**



Oinijanyari aakoyetakeri. Tsameyetatsiri. Paita nijantayetachari. Paita kitaiteritatsine.

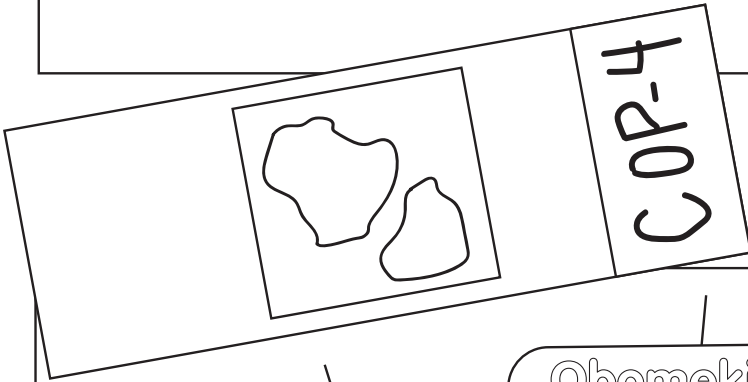
Oka onkarayetirori rariocarbono irotake kantatsine jaoka okaratake opesatotake oka pankirentsi okamantakari aisati piratsipee 40,000 pesato katsinibee.

# PESATIPE

## KAMA YETANAINTSIRI

Yokameeka ikantetiri shentifico yayetake yamenakotantyariri kempeji iñanteparikia paita irijanikiyetatsipe kempe ari irñake pankirentsipee pesatopee iraji kaminkari aisati, amitakojeitake paita ashiyetakarori oka ikantetiri microfósiles, yoka yobayetakaro perani mayasati mesoamerika pajiyetachari, 2000 pesato katsini.

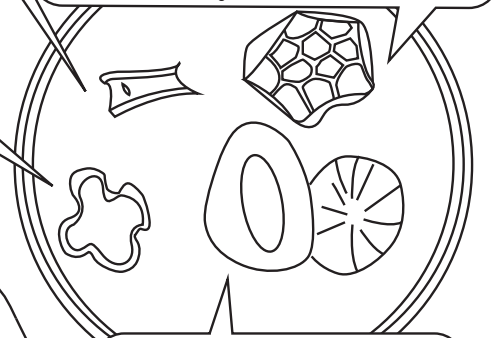
Copan, Honduras otsipa nampitsi  
Mayaki iriprotatsiri perani katsini  
300



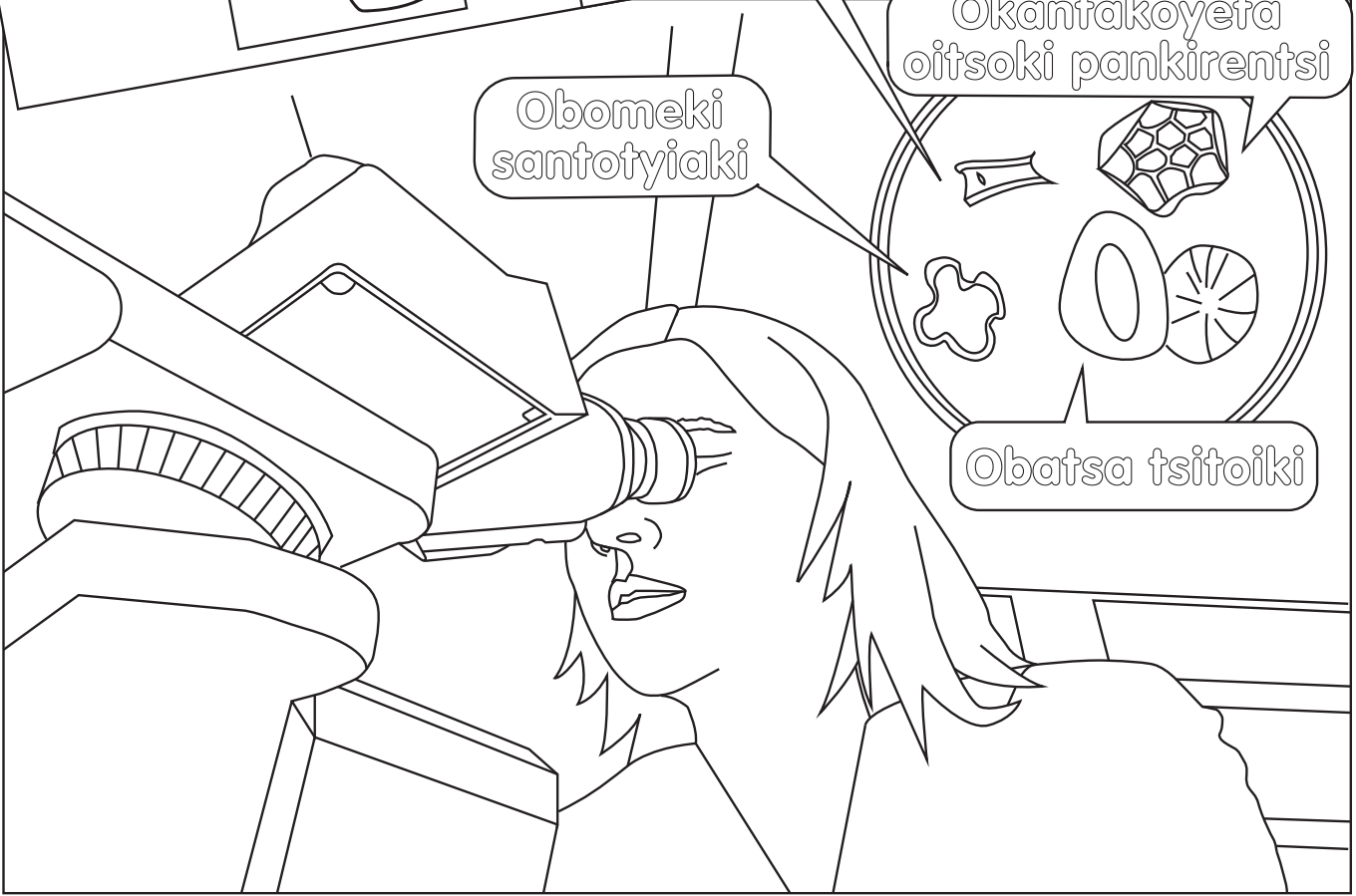
Ikantetiri fitolito kempe obayetarori pakirentsi sankanari

Okantakoyeta oitsoki pankirentsi

Obomeki santotyaki



Obatsa tsitoiki



# JAOKA OKANTAKOTAKARI AINLJA YETAKE ABAMEYETAKERI OTSITYPE

Perani katsini kempe 10,000 yoka atiripe ipankiyetanake, aisati ikebiayetake piratsipe ikoyajeitakeri yokame ganadopee vacaape iritake intajeitakaro yakeri atiri ikiriyayetakeri, yantayetantakarori ibatsa impoji irechetepee impoji imeshinape.

## PIYOTAKEMPA

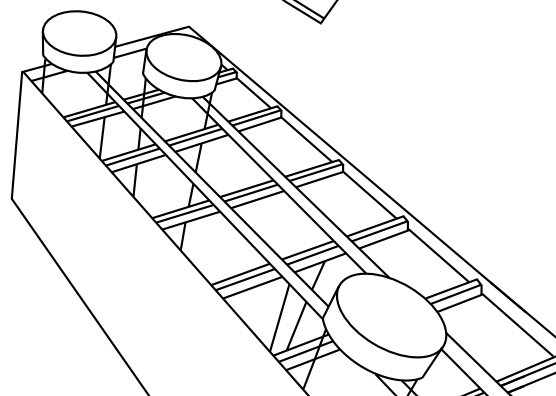
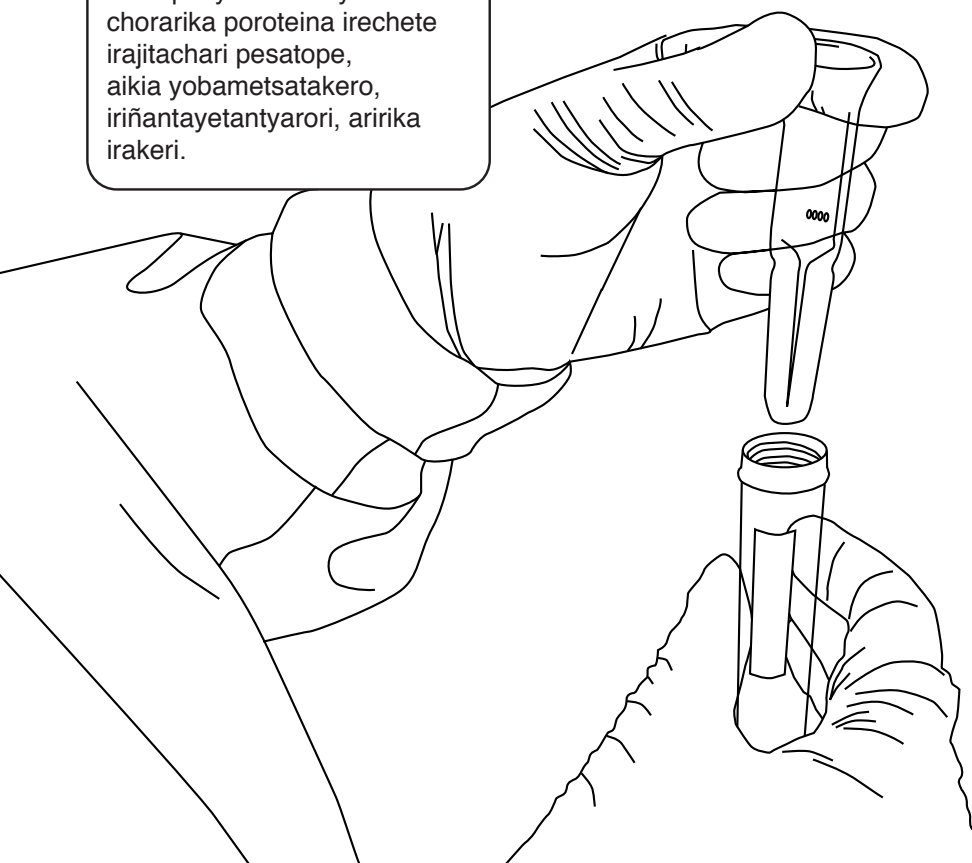
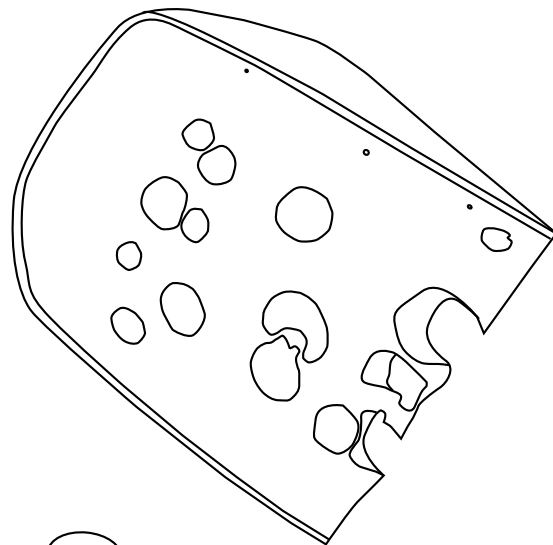
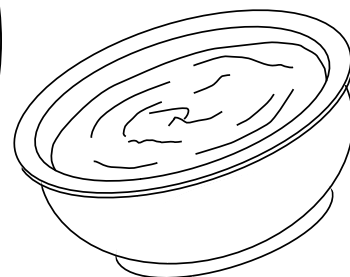
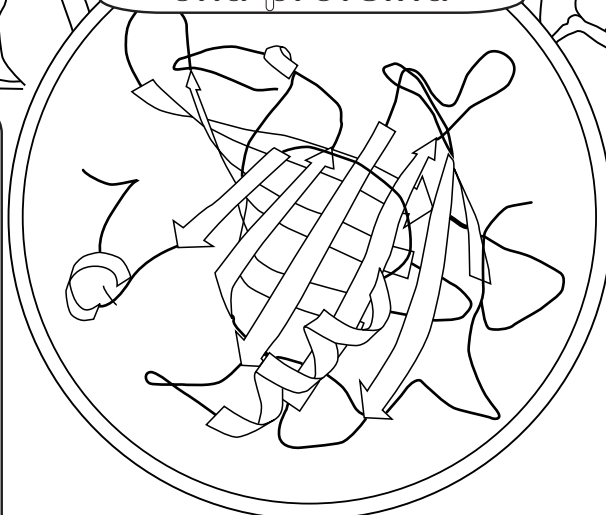
Yoka meeka ganado ikantetiri bacaniro, yoinijakeneri ipayetakeri irobari, peranitake itimantakeri bishontepe otsipa nampitsi ipoña areji pajitachari europeosati), yoka meeka bacaniro antyarite meeka te intimanaje irinti katsimarini, te añajeriji, ipoñakota peninsoraki anatolia, toquiasati.



Ashiyakantyarori  
oka proteina

## Jaoka opoasanotari oka abayetakeri irajeitakeri

Ayojeitero maroni jaoka opoñayetari oka irajeitakeri, yoka meekakia bioarqueologos, chora irinti yayetakeri iyotane ipajitiro espectrometría, kempe masape iyotakotantyarori chorarika poroteina irechete irajitachari pesatope, aikia yobametsatadero, iriñantayetantyarori, aririka irakeri.



# Mongolia otsipa nampitsi pajitachari

Aka meeka mongoriaki osheki piratsipee timayetatsiri yayetakeri saikayetapatsiri kempe kabayopee, obishshapee resess yaks, carinerope camellope miticharitatsiri, maroni timayetatsiri itsomipee, timakantayetirori irechete piratsipee.

cabayotepee

obisha

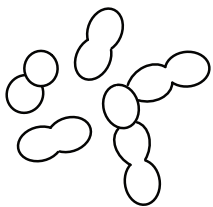
carinerope

yak

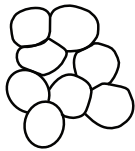
bakanirope

## TRAJELYETIRI IRECHETAKOYETATSIRI

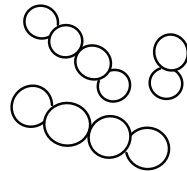
Oka meeka irayetiri rechetakoyetatsiri, osheki irasanojeitiro anta nampitsiki pajitachari mongoriaki, oinijayetanageriri, maroni irinti timayetanaintsiri pesatipe arqueologicope, 3500 pesati katsinipee.



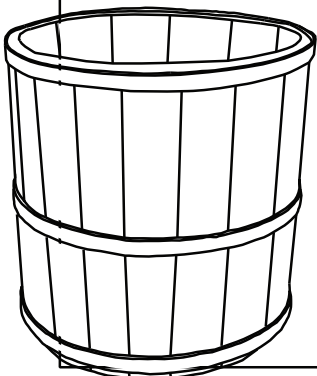
Ikantakoyetakeri Leuconostoc, aisati generope bakiteria shitsajanikipe



Ikantakoyetiri Staphylococcus, irinti generope bakiteria, saikayetatsiri imeshinaki atiripee

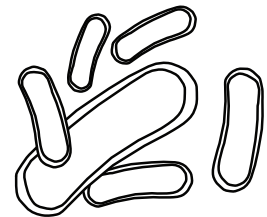


Oka ikantayetiri Lactococcusotsipa especietatsiri kempe bakiteriatatsiripe



## Maroni timantayetarori origanishimo irantariri ireche

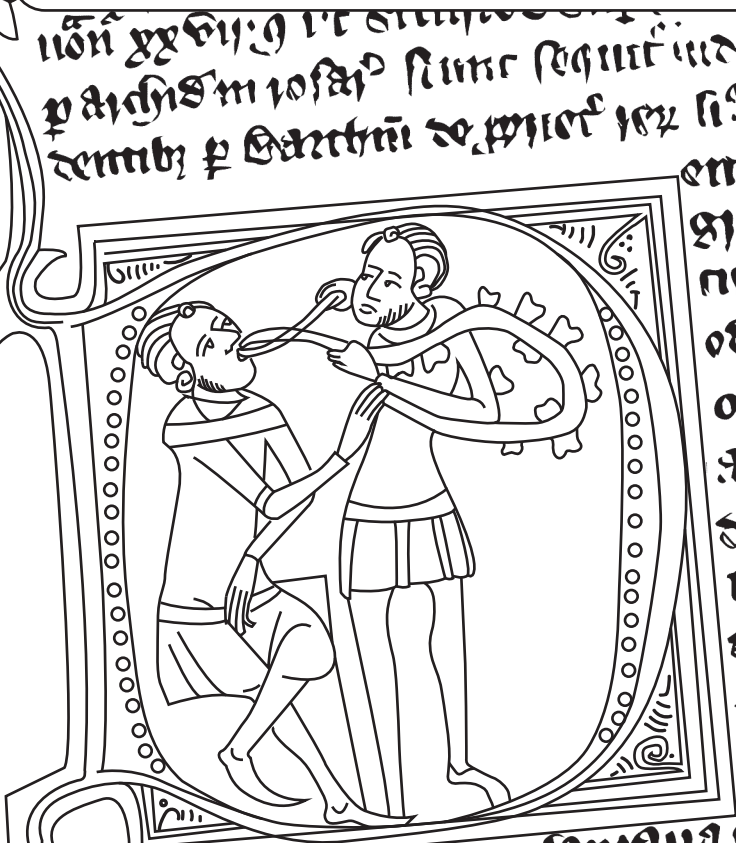
Yoka meeka origanishimotatsiri, chora ipantayetarori, yantajeitanyarioka meeka intsipatyari yantanyarori yogurpe, aisati irejitatsiri mantequilla aisati kesope, aisati kari añayetiri kempe rekeson pirijari)(ceribesa irechete cabayope) ashi mongoria.



Oka Lactobacillus ijitakotakantirori, bakiteriatatsiri eraborayetirori kachoja lactikoki

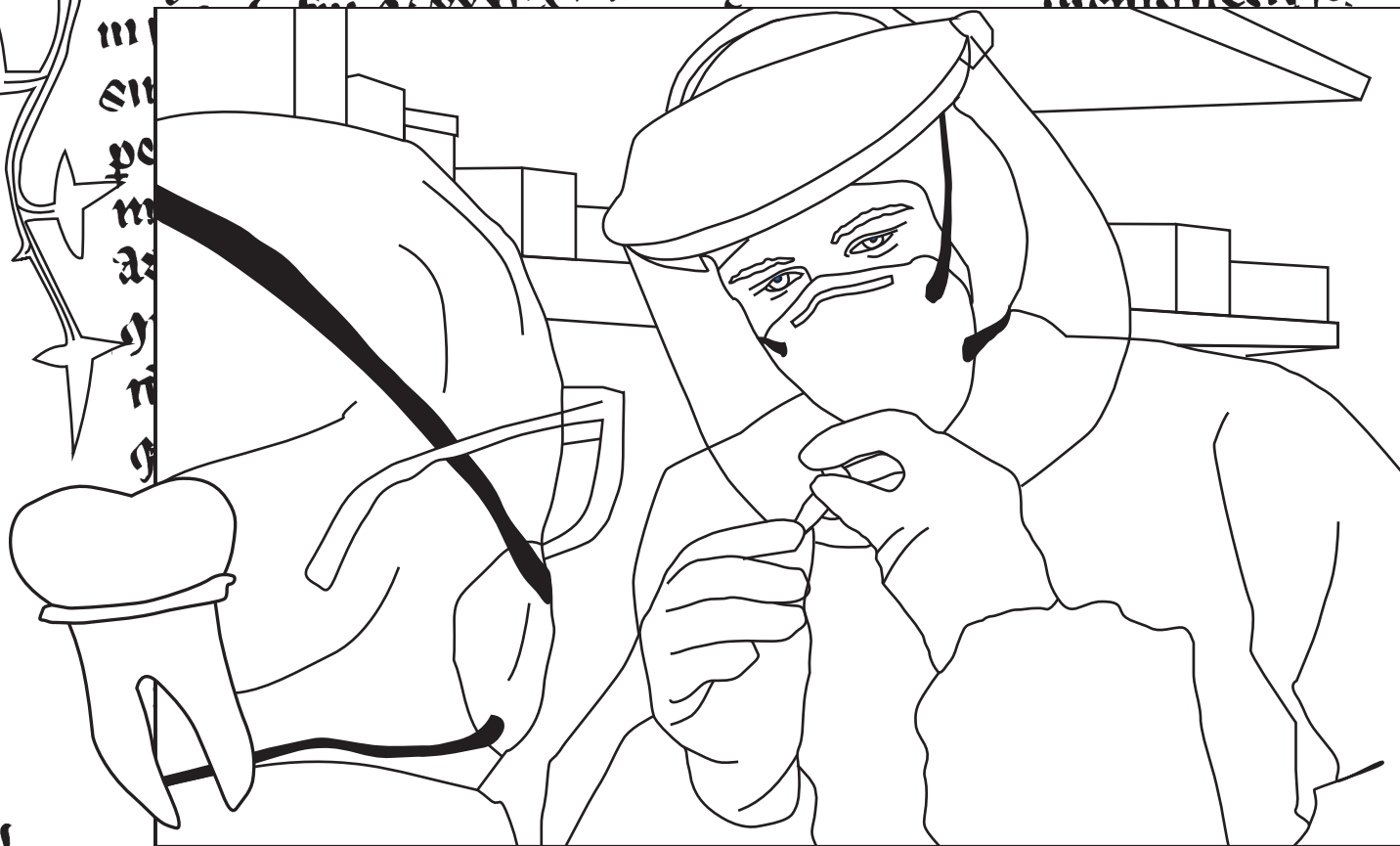
# JOKIRENTSIPEE, ABISANAINTSIRI PERANI

Oka meeka itonki impoiji irajipe atiri chora osheki oyotakairori, jaoka okantani perani abisanaintsiri, perani kempe, ADN irajantsi oka iraji chora iproteinante irajiki amitakoteriri iytinkari yakotantyarori iriyori irobameteri, itsipape jaoka okanari gingivitishi impoiji irajipe kaminkari.



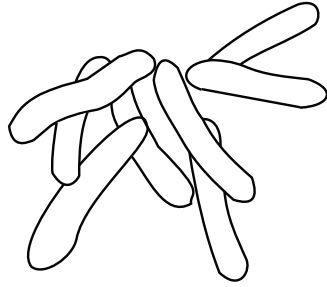
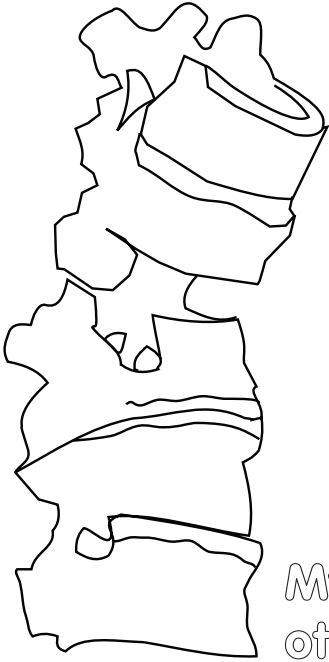
Omne bonum  
pajiyetapachari  
otsipape  
nampitsiki

Ora omne bonum irointi pesato  
ñantsi ikantiri latinki pesato katsini  
XIV yobayejitiro oshekitapaake  
ñantsipee opajita real británica,  
iyoshiyakero irajipee kaminkari,  
amenakotiteri yoka satayetiri  
amenakoyetiri ajokitakarika.

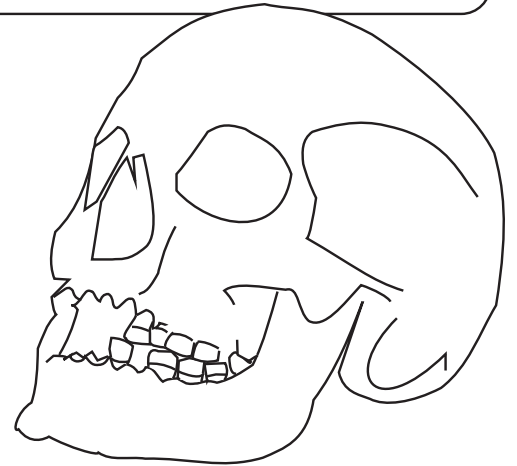


## OJENKA AMPATSA YETANAKE

Oka ojenka patsayetanaintsiri, kantakoyetanakerori irinti shitsajaniki bakteria shiyakantakarori mycobacterium leprae, otsipaki fiantsi, aitake ajokitanakia ari eretakee atonkipee otsipape irajantsi ADN, jokayetachari tonkitsi, irotake amitakoterine iyotinkari, yamitakotantyariri paita jokirentsitatsirini, perani.

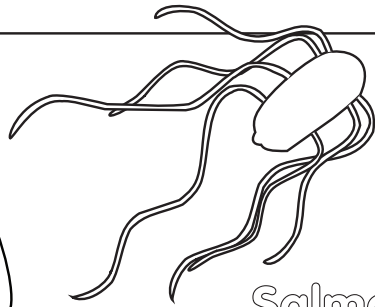
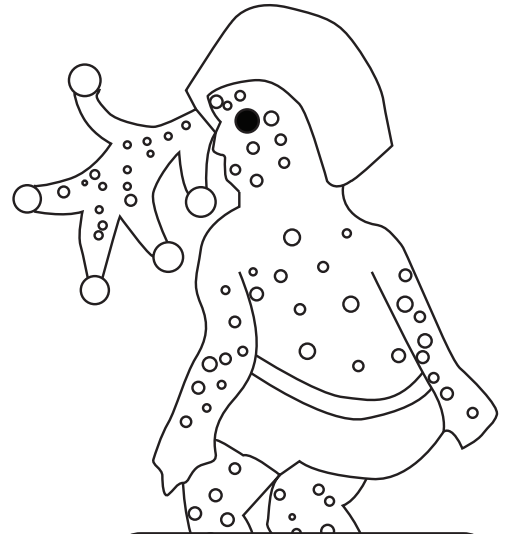


Mycobacterium leprae  
otsipaki antsi



## OKA KOKOLITSI OTSIPA JOKIRENTSITATSIRI

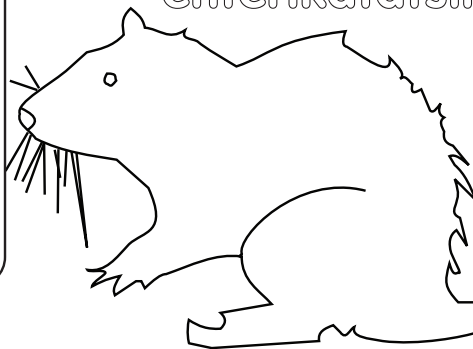
Otsipa ojenka, patsarontsiyetatsiri pajitachari kokoliztlitsiri, anta saikayetatsiri aztekasati obanake osheki atiripe, 60% aisati 90% obanake mexikoki 1545 impojji 1550, meeka ADN patogenotatsiri salmonella entericatatsiri paratiphytatsiri C iñajeytakeri iritake irajipe kaminkari, patsaintsiri.



Salmonella  
enterikatatsiri

## Satainkari irokitori Schnabel

Peranipe irokitori, amenayetiriri kaminkari oka pesatope XVII yobayetaro mashicara shiyakantayetarori iitoina tsimeripe, yayetiri, eirokia antiritsi tampya.

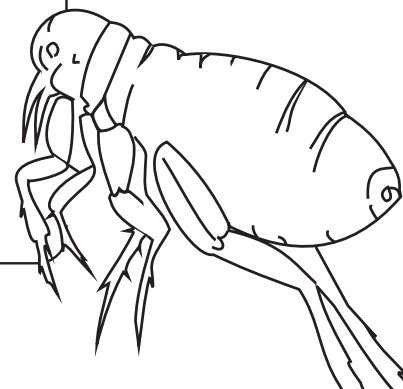


## Oka codice ikantiri koroshiki

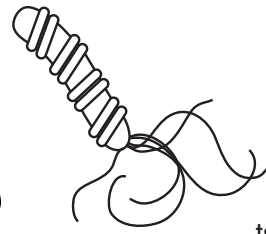
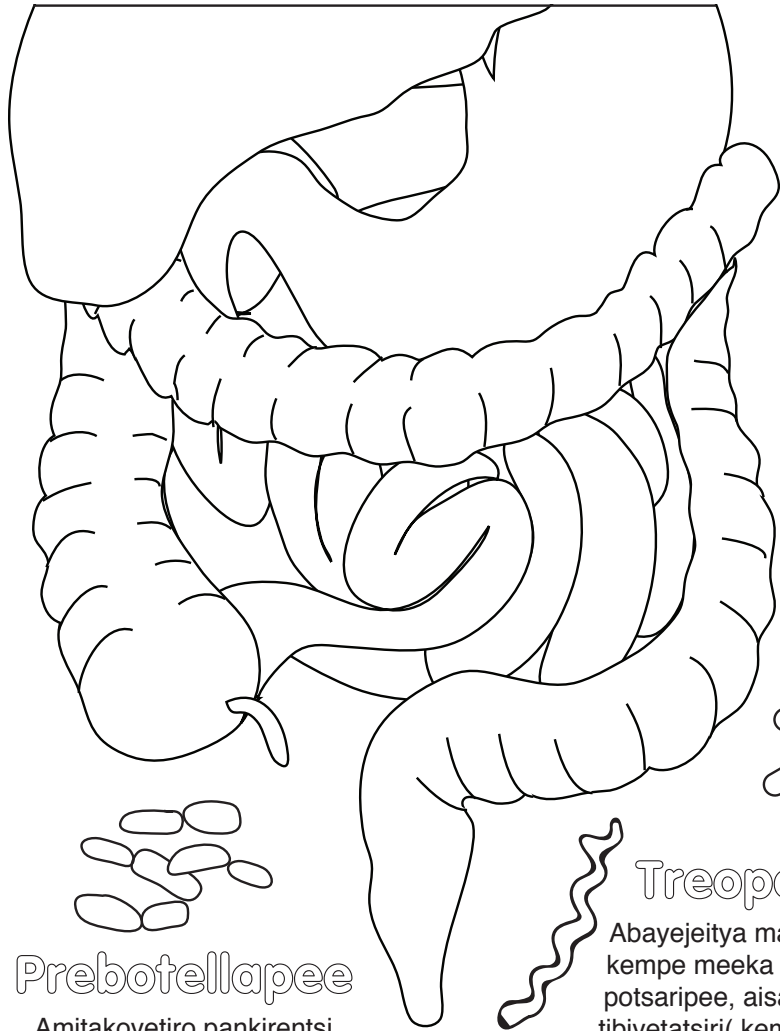
Oka sankenarentsi obayetaichari pesato ashi ashiteka pesato katsini 1550, oinjakero okantakota añajiri cocoliztlitsiri, kempe jokirentsi ampatsaborotanake onkantanake pote pote.

## PATSARENTSI

Oka meeka patsarentsi irinti kantakotakeri bakteria shitsajaniki pajitachari yersinia pestis, kantakarori meeka oka patsarontsi irinti piiki ayetiriri onkiropee, aririka yatsikakeri atiri, ari impatsajeitanake, bonikatatsiri, oka meeka patsarontsi irotake kantakakarori kamanetatsi kisari (1346 1353) oibamake meeka oka ojenka osheki otsipapeki nampitsiki.







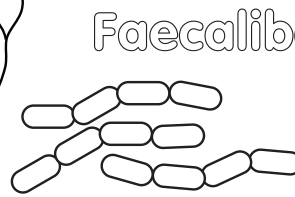
Helicobacter  
pyloriki

Itimi atsomonteki  
ari apatsanake  
tsompoinaki



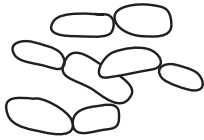
Bifidobacterium  
ikantiri

Amitakotiri jobentsi ishite  
kametsa irakeri ireche



Faecalibacterium

Antakoyetirori opiro  
kempe meeka  
onkametsatantaryari  
amporetsatepe



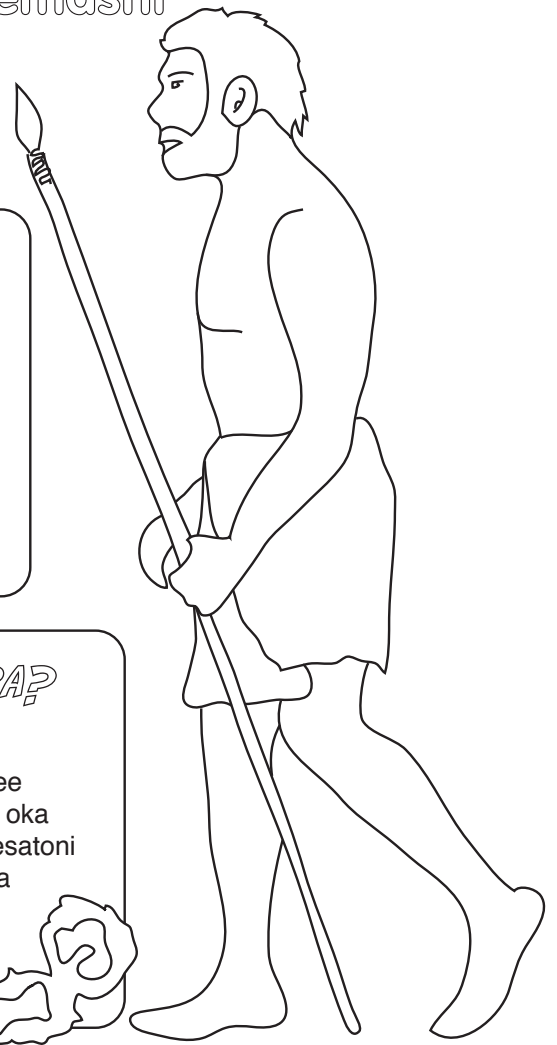
Prebotellapee

Amitakoyetiro pankirentsi  
ojokayetiro ojasanori



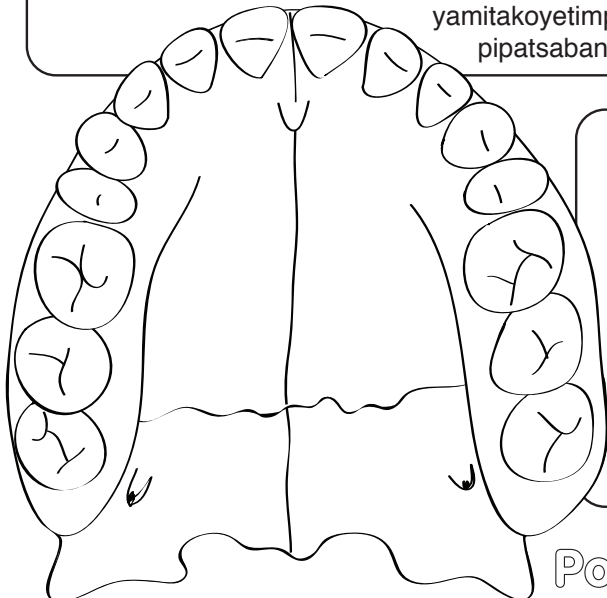
Treoponemashi

Abayejeitya maroni  
kempe meeka oka  
potsaripee, aisati  
tibiyetatsiri( kempe  
verduraspee)



## JAOKA OKANTARI OKA MICROBIOMASHI

Añantajeitakari meeka aka abatsaki osheki tsitsajanikipee,  
ikantakoyetiri bakiteria, ibajiro maroni, microbioma.yokameeka  
shitsajaniki yamitakotee abajia kametsa paitarika, aisati  
ameshinaki onkametsatanake, aisati saikatsiri pibanteki  
yamitakoyetimpi eiro  
pipatsabantetatsi.



## PIYOTAKEMPA?

Yoka iyotinkaripee,  
shitoriyetatsiri irajipee  
itsipa atiri, ikoyayetiro oka  
microbiomashipee pesatoni  
iyotasonotantyarorikia  
paita ajokiyetantari  
osheki.

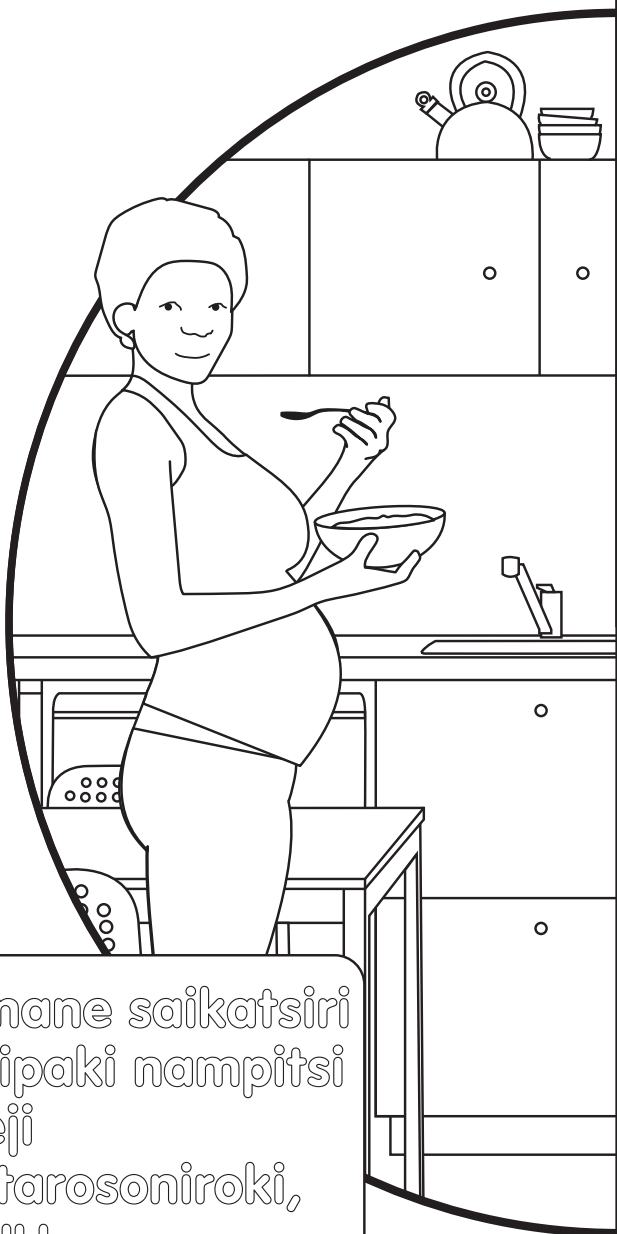
Porphyromonashi

## KOYA YEJETTIRIRIPEE

Yoka meeka koyayetatsiripe, iyoyejitakeri, kempe, kenaberinti, yobajeita osheki meeka oka tsipanashi, oraikia, ari osamanitapaje kashiriki, eiro yobaja

Perani katsini avisake 10,000 osheki osarintsi, marojeini iyoyejitiri koyayetatsiri.

Meeka yoka koyajeitatsirini, choratake oka ikantetiri microbiomas, iramporetsaki yobametsatakakero irinti yoka meeka sabikayetapajantsiri.



Tsinane saikatsiri  
otsipaki nampitsi  
areji  
shitarosoniroki,  
EEUU

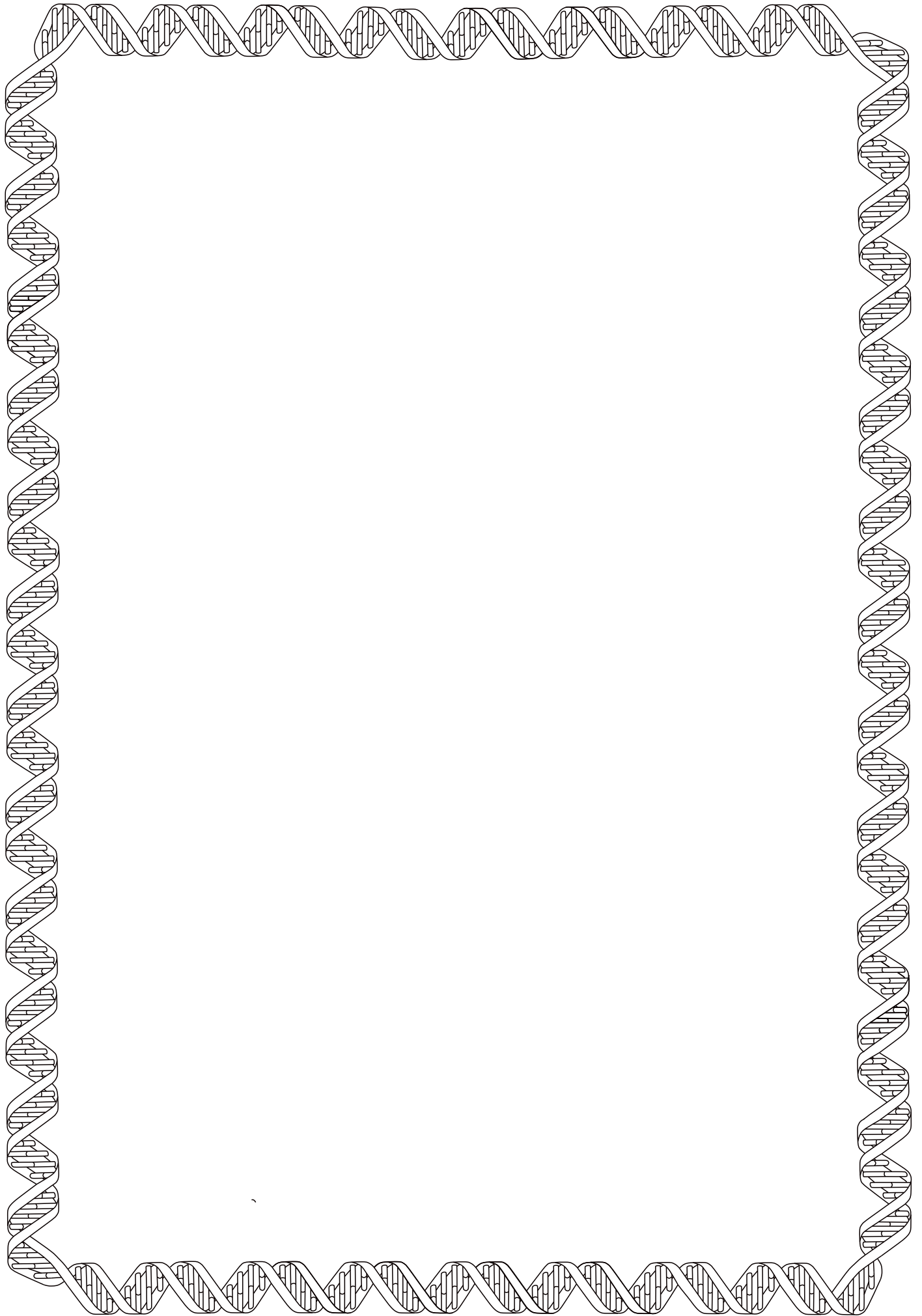


Tsinane impoiiji  
jobentsi hadzas,  
poachari  
tanzaniaki

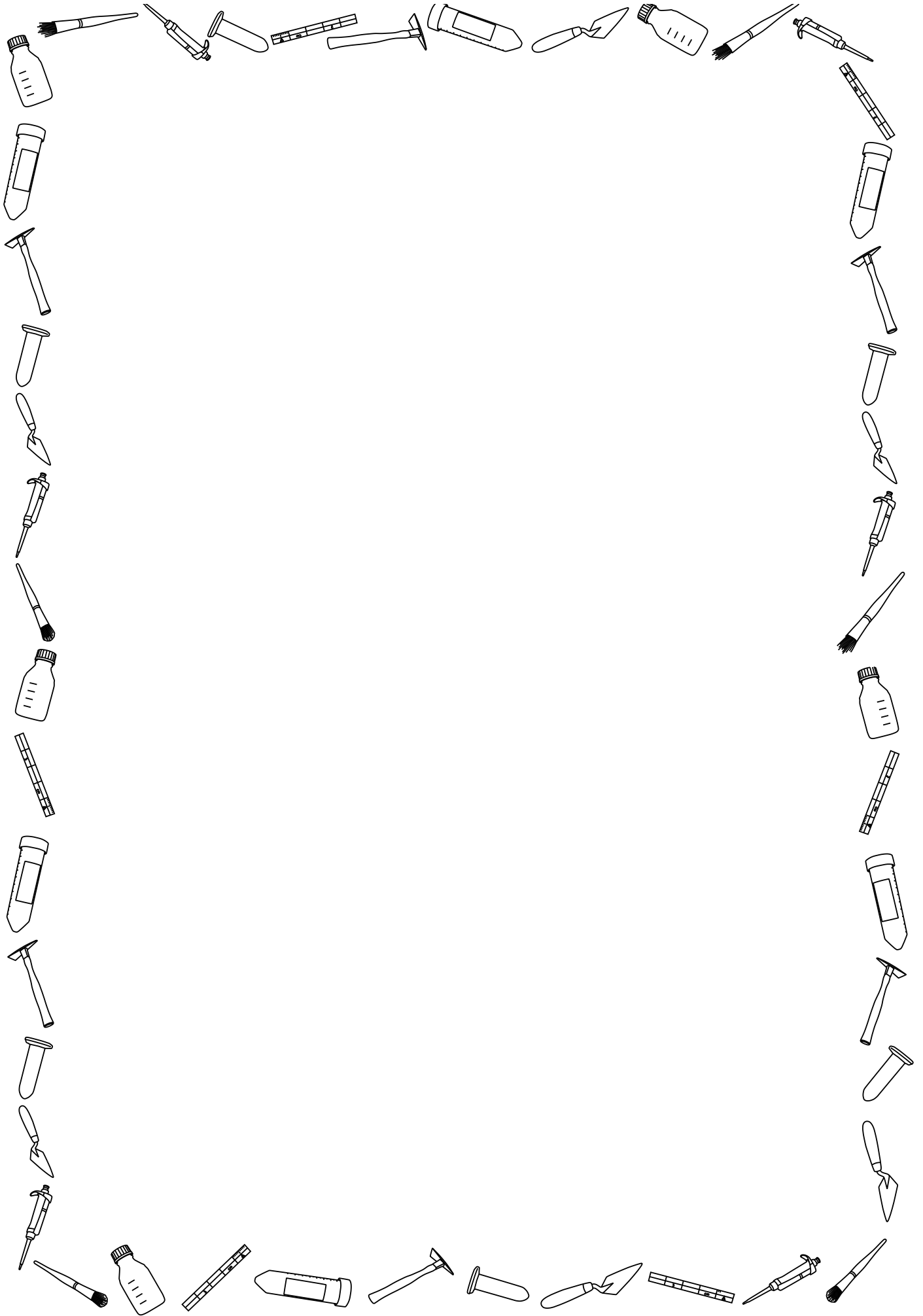
## ANTYAROITE NAMPITSI, BETSIKANAINCHARI

Okameka nampitsi kametsaro betsikainchari osheki ayetake kempe pankirentsipee irashi iriyoripee, oka meeka abari ari antsametake osheki, amenakotirori te irishekite aparopeni. Irointinatake meeka yaakoyejitiro bararontsipe, te onkametsatanaje osheki ipantayetakero, iyoyetakeri irinti, intsonkanake yayetanakero arejiki, yobayetantyarori itsipape atiri.

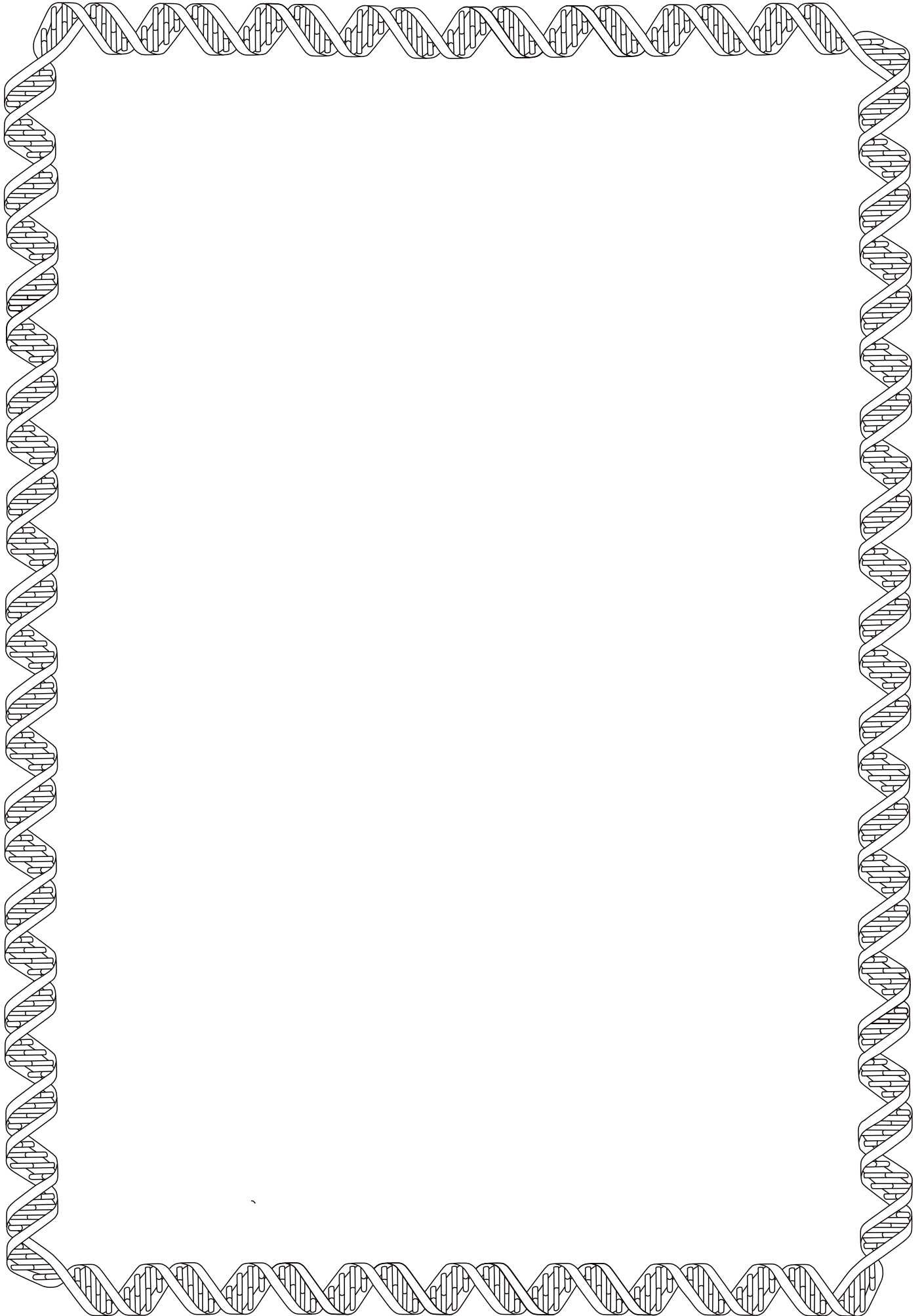
Yoka meeka saikayetatsiri otsipapeeki nampitsi chora oka micrbiomatatsiri, yakotakeri eirokia ijokitantanakatsi, imponkayetanake koronika.





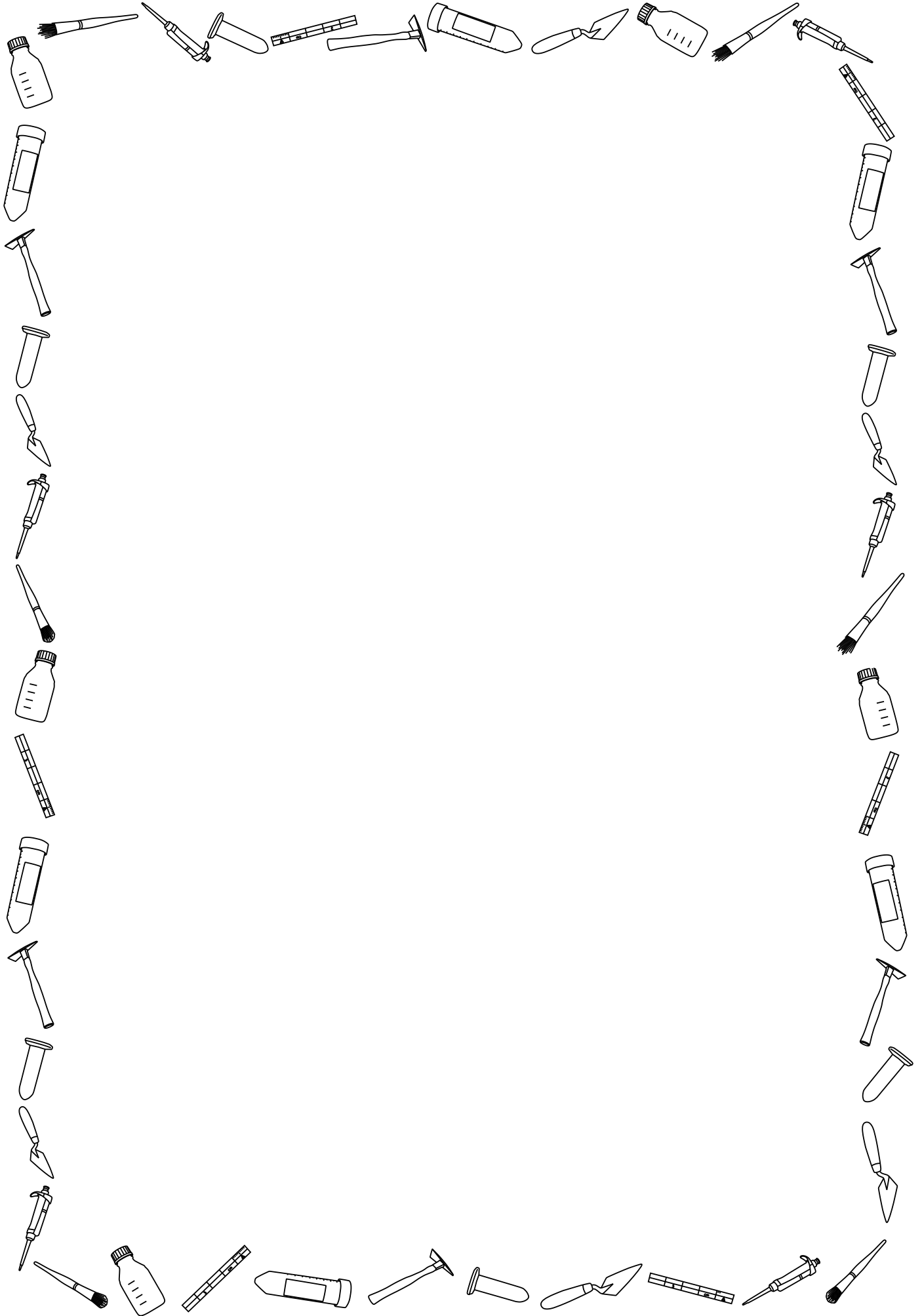




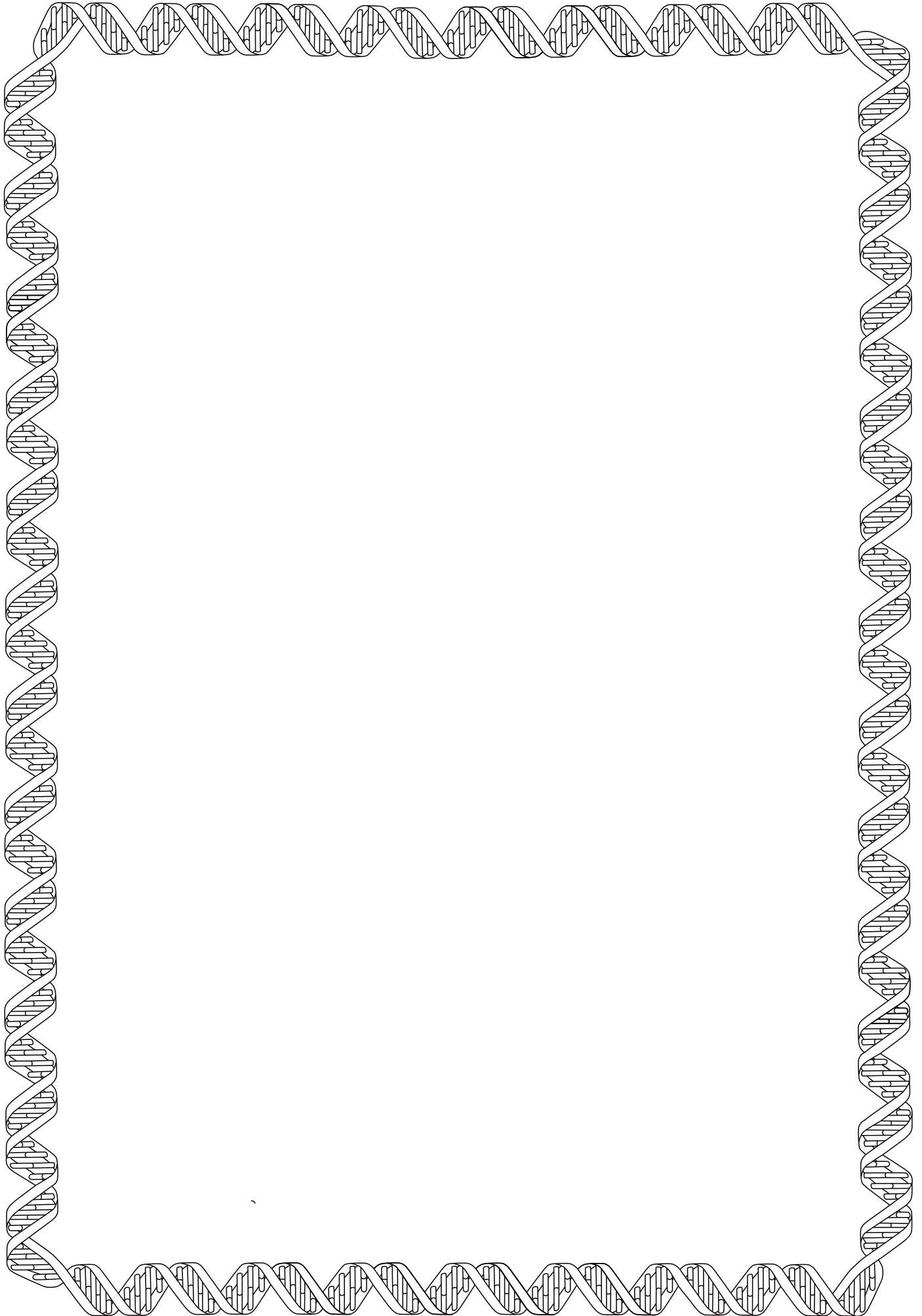






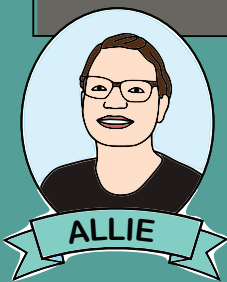




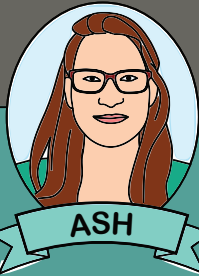




## Yotatsipanko Max Planck iyotakoyetiriri atiripee jerikapee ibajiropee



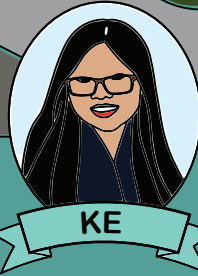
ALLIE



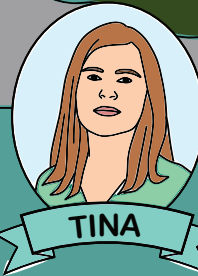
ASH



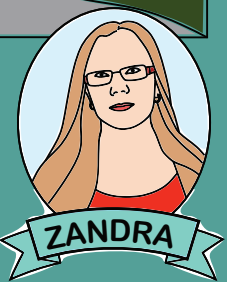
JESSIE



KE



TINA



ZANDRA

## Aniyejeitakotirori

# OKA PESATOPE KAMINKARIPE

## Potsoyetakotirori sankenarentsi

¡Piyote kempe meeka yoka iyojeitaintsiri, itsamejeiti maroni yapatobakajeitanakia, isampijeyeteririka paitarika inkatayejeitakeri jaoka okantani perani, jaoka ikanta perani atiripe saikayetanaintsiri, paita akobakajeitari aroripee, janikajei arotake amenayetirori oka kantayetanainchari perani, ayotakotantyarori jaoka apoñakari jaoka okantakari apatsayetanake, ayotakotero jaoka okenapake oka radiocarbonotatsiri, piyojeite jaoka ikanta ibametsajeitiro, yamenakotiro paita abayetari perani, aisati paita iriri perani katsini, pamenajeitero abirori oka jokirentsi pesatopee piyojeitanyari, paita timabeitachari jokiyetanakeriri, atiri pesatipe, piñantyarorikia abirori, jaoka akanta perani.

Oka meeka antakantakerori irijeitake yotinkaripe shitoriyetatsiri aka yotantsipankoki Max Planck, iyotakotiriri pesati atiri.

Sankeñayetakerori ashaninkaki Blanca Yessica Sanchez Comanti.



YESSICA