



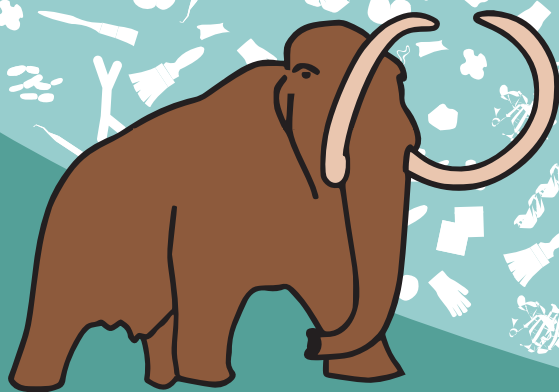
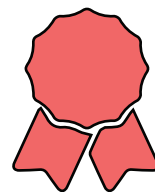
Mesko tee aki kai

NATO ARQUEOLÓGICA ANI ONAN SHINAN IKAINKO

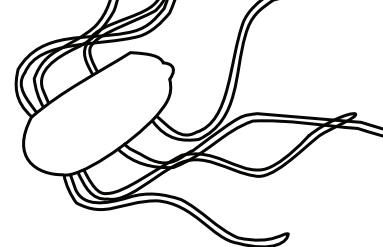
Nato kirikan ibo riki:

Jane

**Ikai/iamax
bioarqueologa/o iamax
tanax axea pekao**



Westiora kirika sikati aka
Max Planck Institute for
Evolutionary Anthropology



Mesko tee aki kai

NATO ARQUEOLÓGICA ANI ONAN SHINAN

IKAI INKO

Nato kirikan ibo riki:

Jane

Ikai/iamax
bioarqueologa/o iamax
tanax axea pekao



Westiora kirika sikati aka
Max Planck Institute for
Evolutionary Anthropology

Publicado por: Max Planck Institute for Evolutionary Anthropology

Editora: Christina Warinner

Asistente: Jessica Hendy

Contribuyentes:

Zandra Fagernäs

Jessica Hendy

Allison Mann

Åshild Vågane

Ke Wang

Christina Warinner

Traducido al Shipibo-Konibo por:

Tony Cristhian Ramirez Nunta

Este libro para colorear fue elaborado como parte de un curso de formación en ilustración científica.



Attribution-NonCommercial-ShareAlike

CC BY-NC-SA



TSOABORIN NOABO

Noa bioarqueolobo riki onantini merayatabo jan non akai riki método científico itan bena wetsa jaskatax jan axetibo moatian joni winoniboki ikabo.



Paletín

Jaa xaba teti ikainko ...

Jaa bioarqueologobora tetai arqueologobo jeman tetai boaibobetan chiniti itan jaa ointi tsinkiti oribo jan jaa onankanti kopi laboratorio ikainxon.

Nato tee ikainko iti atipanke jai minkanabo jaa jato oinmatibo, moatian chomonkonía ika teexebo tsinkiti, yoinabaon xao jain kerasbo potati ikain merati (kini teexe jain potakanayabo) iamax jakon akinshoko toakin mai potobo moatian xobi taxnakaina biti kopi.

Jaa laboratorio ikainko ...

Jaa motian ADN teakin, noa científicobora teti jake xaba kerasma ikainko itan non chopá saweti jake jaskara akin atibiri, mesaweti itan botasbo non moatian ika jaa ointibo non rami atimakopi ramatian ADNnin.

Jaa científicobaonra akai mesko keska jan teti itan jan atibaon onankin moatian ikatiaibo.



Pipeta



JAA MAI KINI

Jaa bioarqueológobora bokanei nete mayai moatian ikatiaibo onanoxon itan nete benatian joni ikatiaibo ribi. Jaskaribi jan teti chinitiboaya, wetsatianbora jati jake jan teti janshaman atibo. Iti atipanke, Himalaya ikainko, arquelogobaon yokaparikanti jake teti kopi itan jan netiboaya iti jake jato.

Department of Immigration
TREKKING PERMIT
accordance with the rule 33 of
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: _____

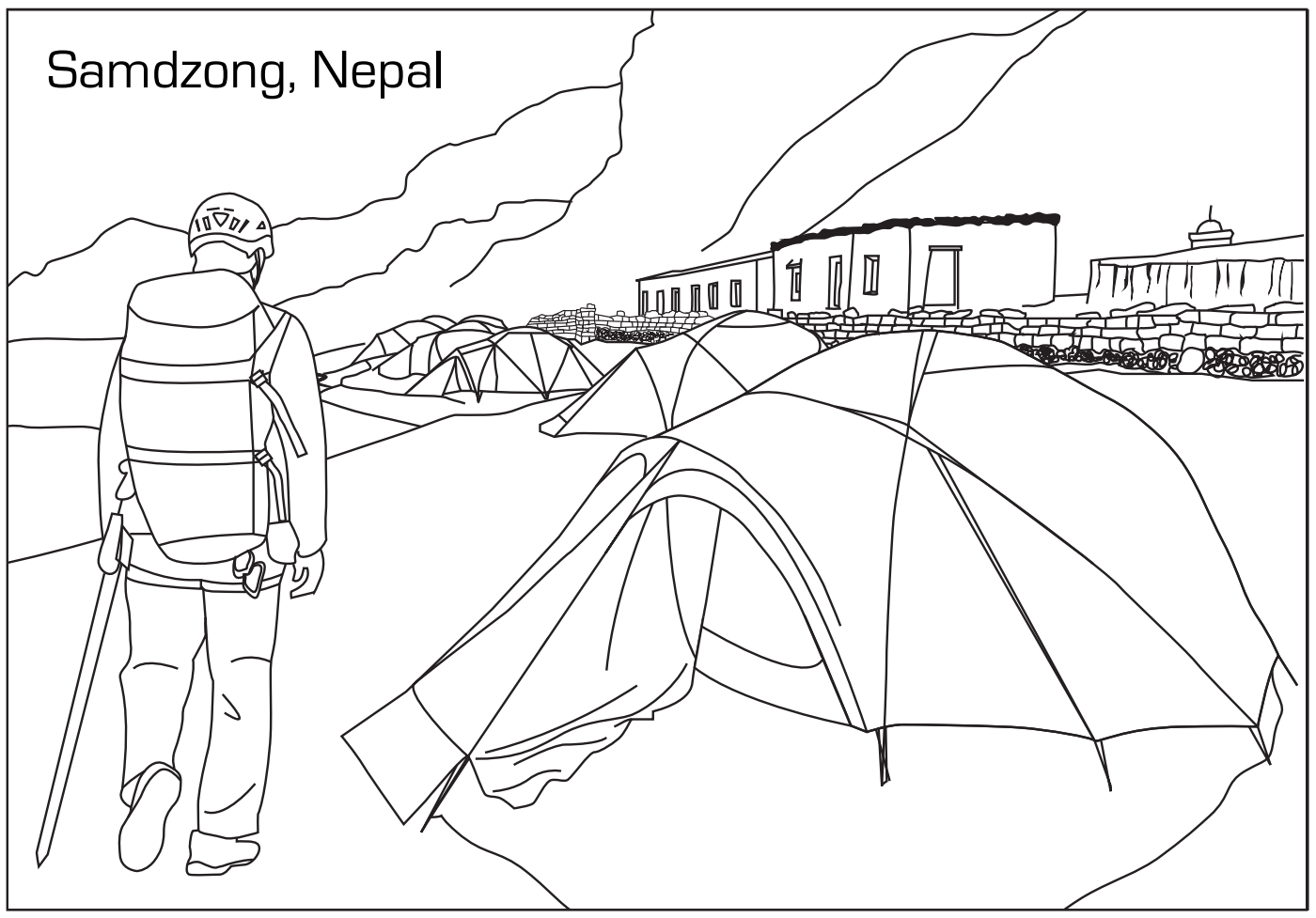
NTNC-ACAMCA
ENTRY FEE RECEIPT
Ticket No. **0281630**
Date _____
Nationality _____
Authorized Signatory _____
Agency Name **SHERPA SHAIKUN-LA**

Department of Immigration
TREKKING PERMIT

TOURIST COPY

Immigration Officer
No

Samdzong, Nepal



Xetanaman panshinbo

Jaskaribi jaska akin onankana, jaa xetanko panshinbo jaa riki jainbicho non yora ikanoa jain poi iamax boi banetai noa jirria ikenbi. Jaa boibaonra akai yatankin bexeshoko xetankonia ika xenabo itan jawekiati texebo, itan nato ati atipanke non wetsa keska akinbires jawekiamakin itan jaskaribi jonibaon salud.

Xaobo itan xetabo

Jaa xaobo itan xetabo ikain jake ADN jaa iti atipanke oribo onantibo moatian kawankatitai wetsa join yoyo ikai jonibo onantibo itan jaweskaraki ikatikai ixon ribi, jaweskaraki ikatia jaton berobo iamax jaton boo, jaskaribi non kaibo iti jimi tsinkitaibo. Moantin ani isinaman retea jonibo jatora jaya iti atipanke jaa ADN isinyabopari jaton yoranko isiman ikana ika ikax.

Chomo ikain texebo

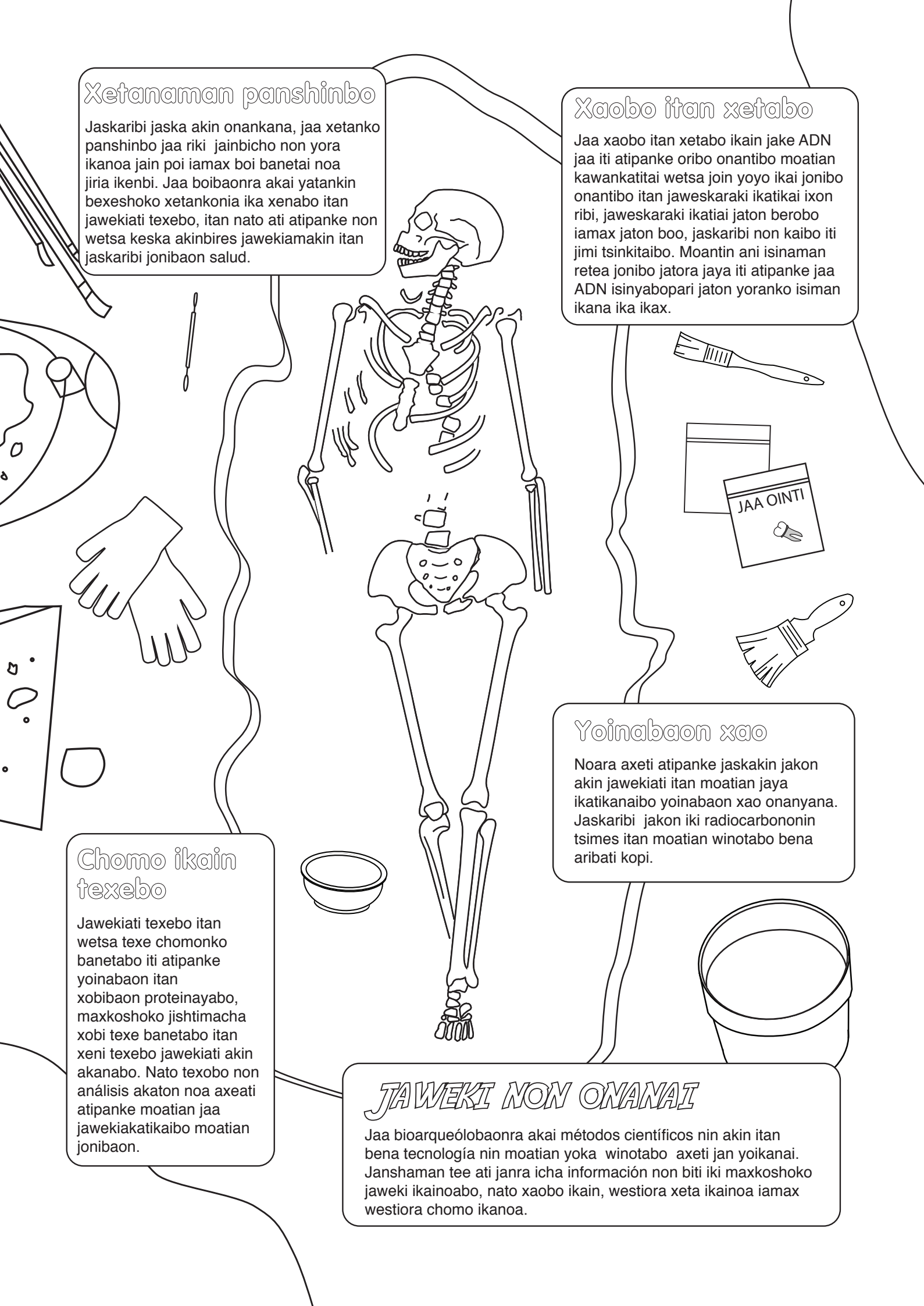
Jawekiati texebo itan wetsa texe chomonko banetabo iti atipanke yoinabaon itan xobibaon proteinayabo, maxkoshoko jishtimacha xobi texe banetabo itan xeni texebo jawekiati akin akanabo. Nato texobo non análisis akaton noa axeati atipanke moatian jaa jawekiakatikaibo moatian jonibaon.

Yoinabaon xao

Noara axeti atipanke jaskakin jakon akin jawekiati itan moatian jaya ikatikanaibo yoinabaon xao onanyana. Jaskaribi jakon iki radiocarbononin tsimes itan moatian winotabo bena aribati kopi.

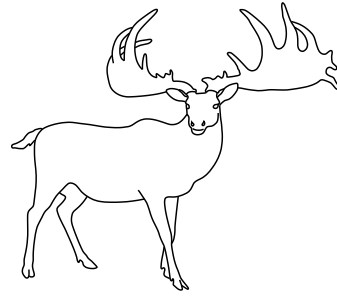
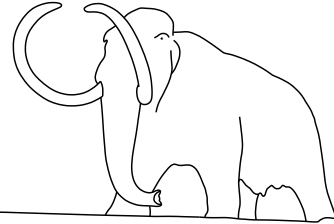
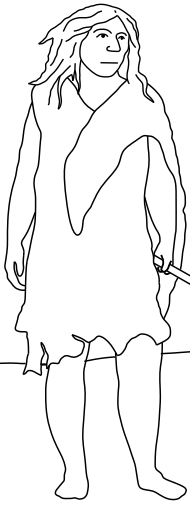
JAWEKI NON ONANAI

Jaa bioarqueóloboanra akai métodos científicos nin akin itan bena tecnología nin moatian yoka winotabo axeti jan yoikanai. Janshaman tee ati janra icha información non biti iki maxkoshoko jaweki ikainoabo, nato xaobo ikain, westiora xeta ikaino iamax westiora chomo ikanoa.



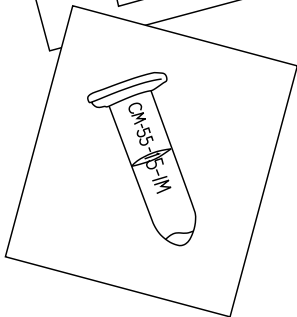
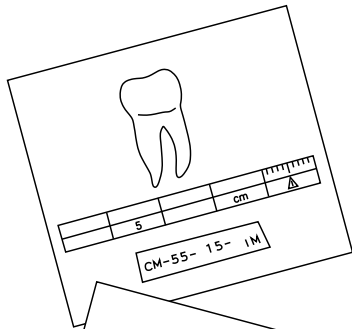
EMINKI ONANA..?

Jaa neandertalesbo keyokana iki moa 40 000 baritia, ikaxbi jaton ADN neandertal jake genomas jaweti joni africa ika ikainko.



JAINOAX NOA JONIBO PEOKOTA

Jaa moatian ADN baonra noa akinai onankinki non ochoma bena kaibobo onamakin: jaa neandertales.



Bena Pikoinatai

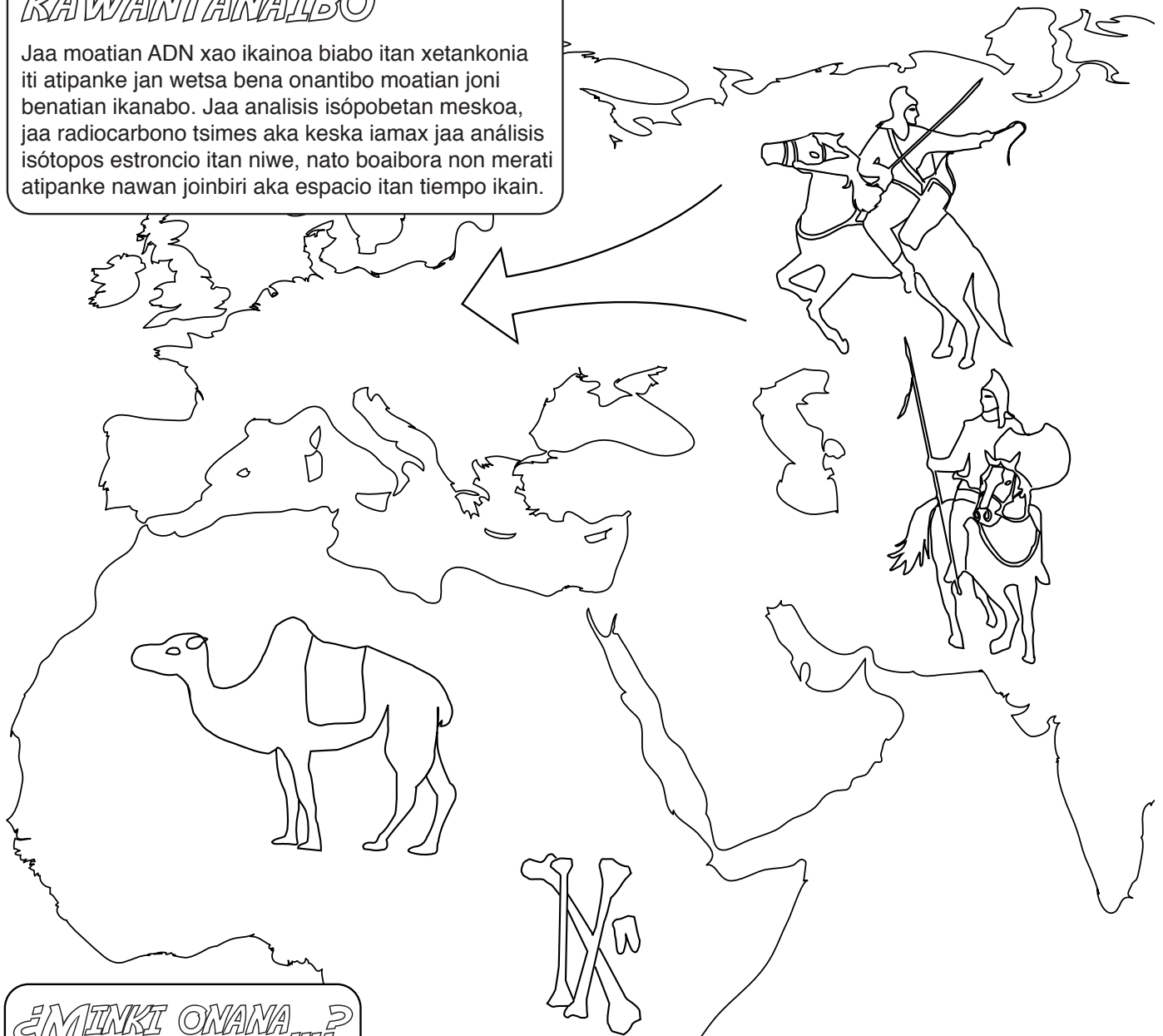
Jaa xetabo onankin itan xaobo moatian jonibaona, non onanti atipanke jaweskatiki jakatikanai non moatian rarebo itan jaweskaraki rama noa itai keska noa baneta iki ixon.



MOATIAN JONI KAWANTANAIBO

Jaa moatian ADN xao ikainoa biabo itan xetankonia iti atipanke jan wetsa bena onantibo moatian joni benatian ikanabo. Jaa analisis isópobetan meskoa, jaa radiocarbono tsimes aka keska iamax jaa análisis isótopos estroncio itan niwe, nato boaibora non merati atipanke nawan joinbiri aka espacio itan tiempo ikain.

Escitas, Asia napon bekomea
Yamin baritia, 700 K.J.



¿MINKI ONANA...?

Jaa radiocarbono, iamax ^{14}C , jaa riki westiora isótopo jakonshaman carbono imayamai nato iki niwe ikainoa jesh aka jiwibaon jaton pei ikainxon. Yoinabora jaya iki radiocarbono jaton beshe ponobo ikainko xobibo jawekiakax. Jaa radiocarbono jakomatai moa basi iketian. Moatian muestranin topona ^{14}C , non onanti atipanke jaweti basiki jaa jiria iki ixon.



Radiocarbono nin tsimes aka



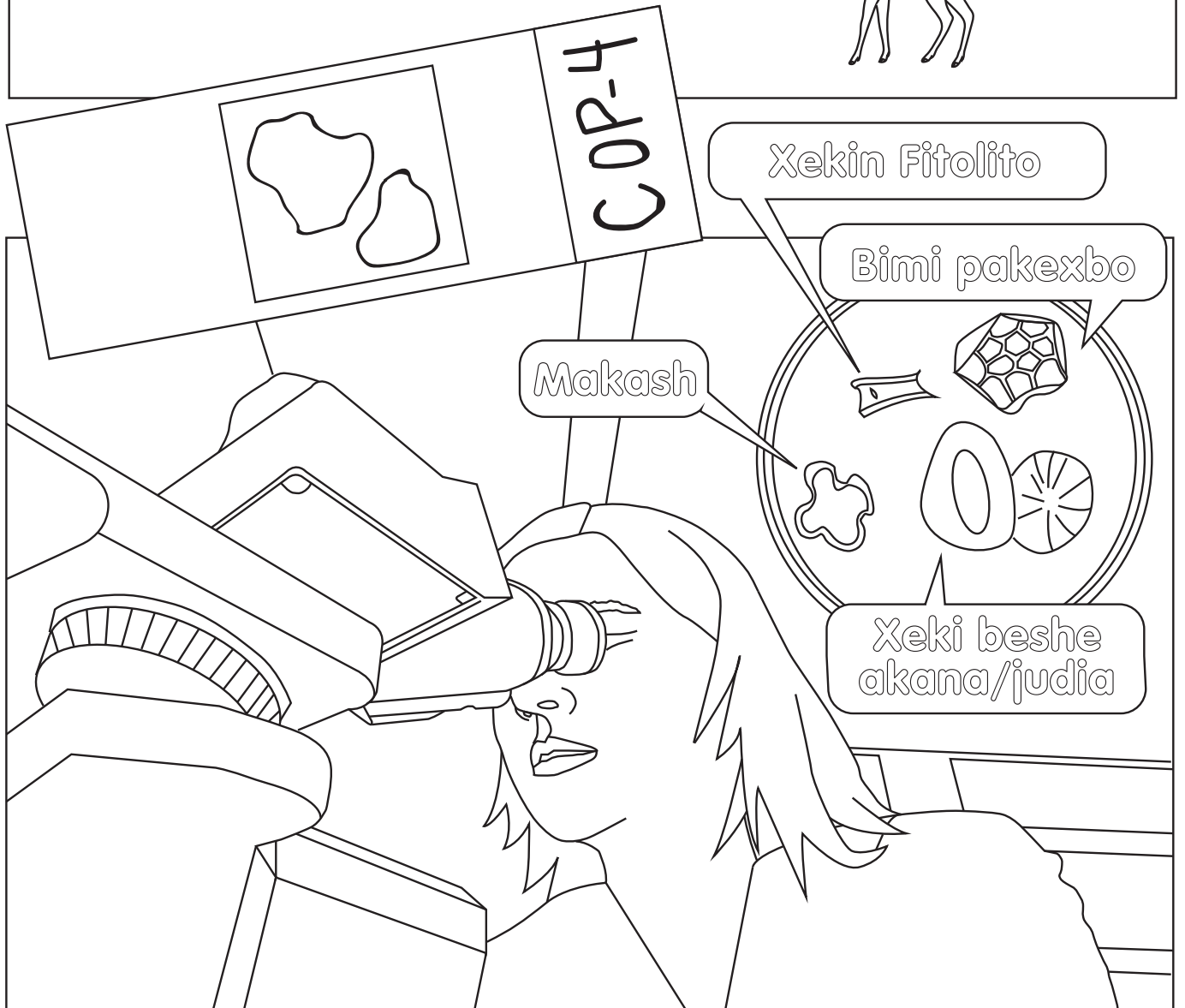
Jaa ointi onantiati:
Tetai joni:
Jaskara jisa jaa ointi:
Nete:

Tsimes aka radiocarbonoboni onanti riki westiora jan jaska axon atibiri natonra non onanti atipanke jaweti basirin yoinabo ixon itan nii 40 000 baritia winotabo ribi.

MOATTIAN SAMATTIBO

Jaa científicobaonra merakanti atipanke chomo pakex itan jonibaon xeta ikainko jawekiati tsimesbo. Itan jonin xetankonia. Jaa análisis nato "microfósiles" akabo jabaonra noa akinai onankinki jaweki jawekiakatakanai moatian wetsa join yoyo ikai joni maya nato Mesoamérica 2000 años.

Copán, Honduras
Maya, 300 K.J.



AXEMATI

10 000 baritia winoa, jonibaonra banake yoabo itan inan akanke yoinabo katoxon. Waka ika iki japari akana ina akin, itan jaa reken waka ina akaibaon akatia ninimakin itan nawi jainoa jawekiati kopi ina akin, waka xoma jene itan jawen bichibo biti kopi.

¿MINKI ONANA...?

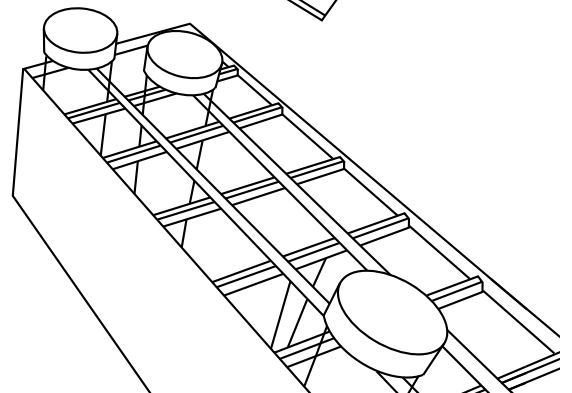
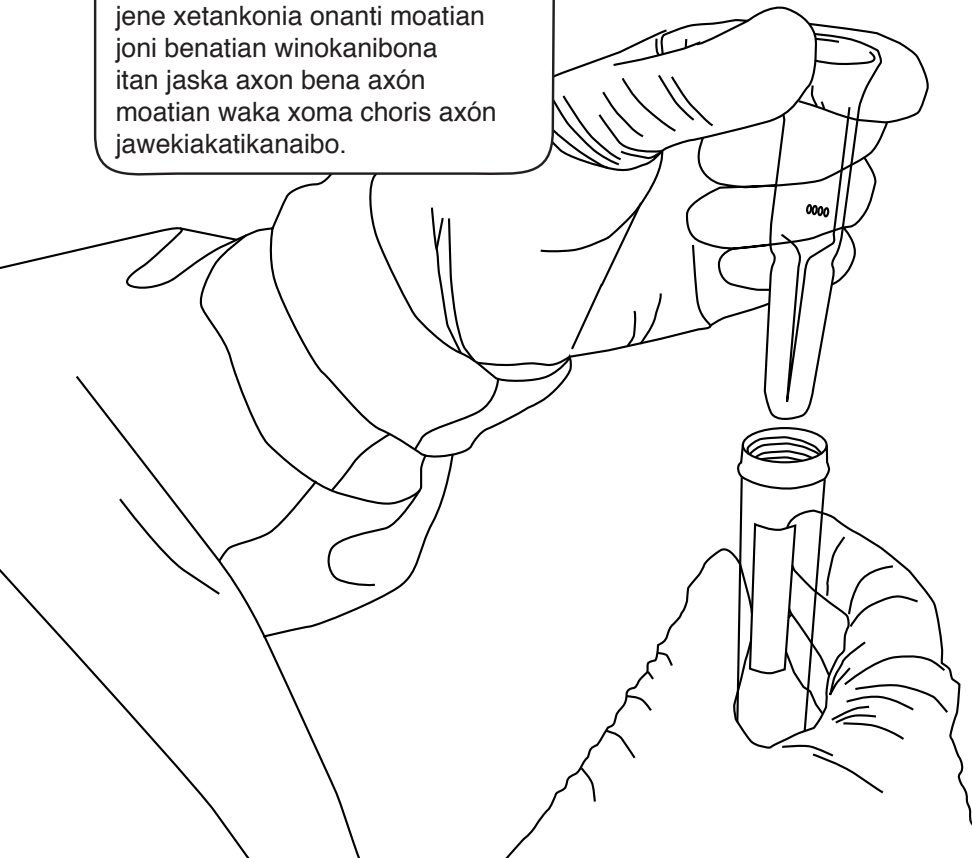
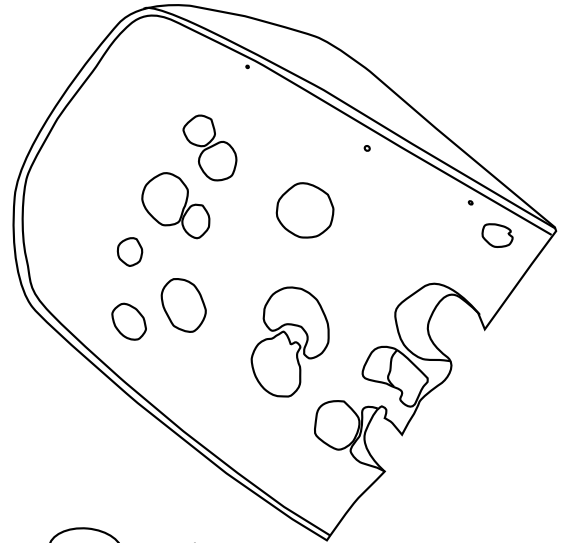
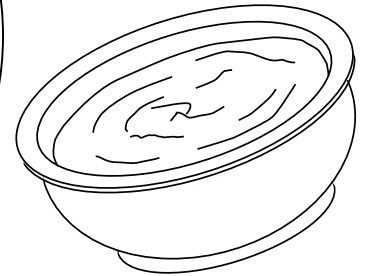
Waka ina akin peokana iki bisontes eupeos ikainxon (jaskaribi janekanai urus), westiona ina kikinshaman ani, rama moa yamake. Jainxon waka ina akin peokana jain pari merakana moatian ika nato joai iki Antolia teki ikainko naton jane iki rama Turquia.



Jaa ointi proteina

Jaskaxon yoinan xoma jene jawekiati chorish akin peokanin

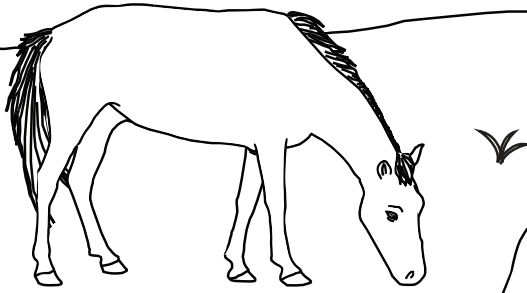
Yoina xoma jene choris akana jawekiati jawetian pikokanarin ixon tson onanshamayamakanke, ikaxbi bioarqueólobobaon akai westiora jan onantini jawen jane iki espectrometría de masas jaa iki proteinabo onanti waka xoma jene xetankonia onanti moatian joni benatian winokanibona itan jaska axon bena axón moatian waka xoma choris axón jawekiakatikanaibo.



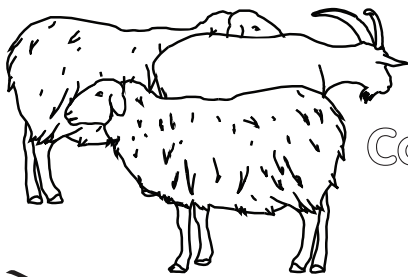
Mongolia

Mongolia pastonko jake mesko keska yoinabo, jaribake caballobo, reses, cabras, obijabo, renos itan camellobo. Jaa koiranai kawan atanaibo bikanai icha jaa yoinabaon xoma jene.

Caballo

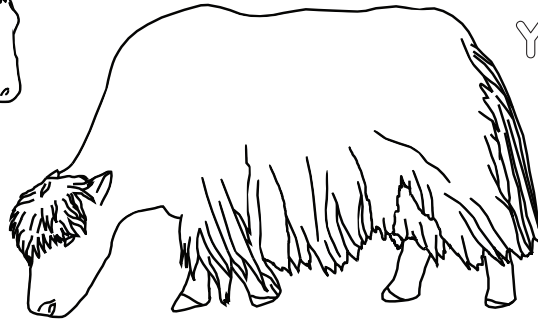


Obija

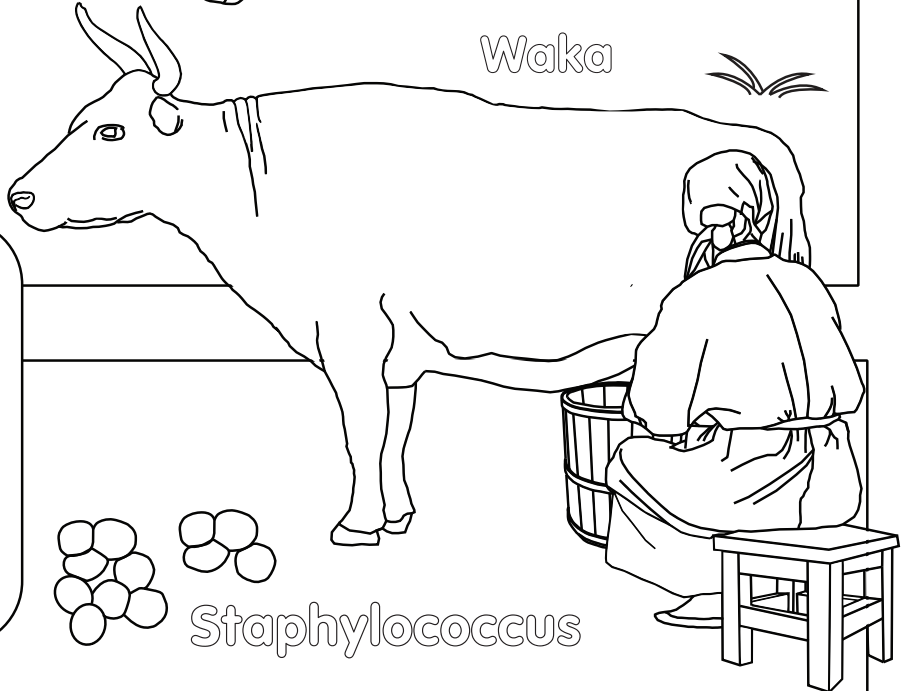


Cabra

Yak



Waka

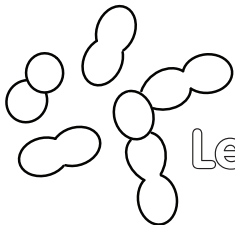


YOINAN XOMA JENE CHORISH AKA JAWEKIATI

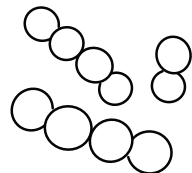
Jaa waka xoman jene jawekiati jaa riki Mongolia jemankoxon ayorakin nete tibi jawekiakanai. Nato investigación arqueológica ikainkoxon onankana iki nato moatianbi 3500 baritia pekao ikainxon peokana.



Staphylococcus



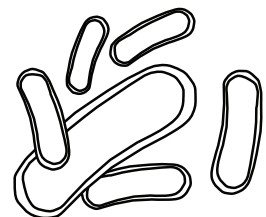
Leuconostoc



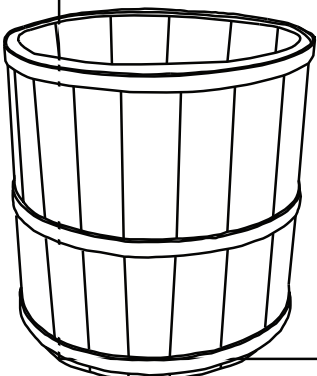
Lactococcus

Waka xoma jene cho- ris akana ikain jawen besheshoko xenabo

Jaa besheshoko xena, nato kikin onantikoma itan levadurabo, jabo iki waka xoma jene jawekiati mesko keska pikokin atibo nato yogurt, mantequilla itan queso, itan jaa onankanamatani jaskakinbiriakin onankana el aaruu (requesón tarax) itan airag (birisinko jene caballonin yoma jene akana) Mongoliainoa.

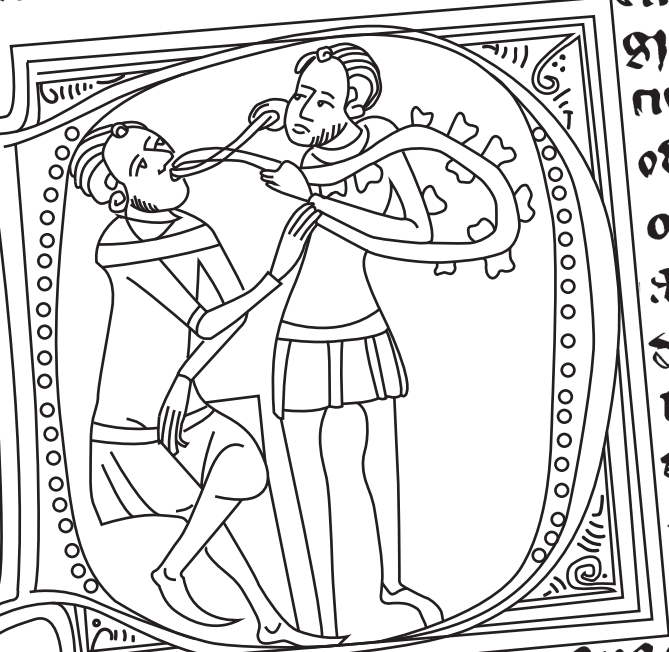


Lactobacillus



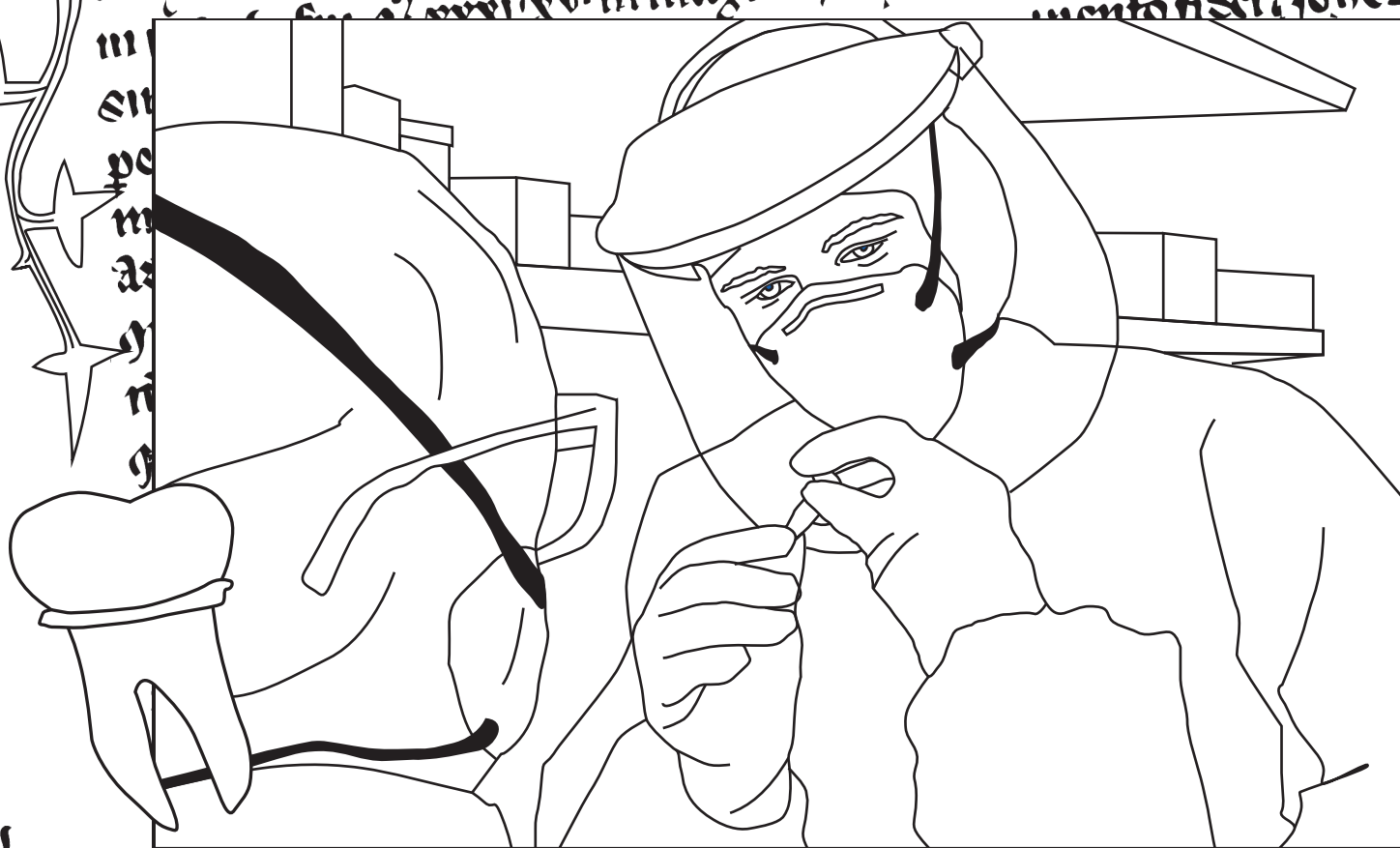
MOATIAN ISINBO WINOTABO

Jaa xaobo, xetabo, itan xeta naman panshinbo jabaon akai benxo akin mesko keska onantibo saludmea jawekibo moatian joni winotabaona. Iti atipanke, jaa ADN itan proteinasbo ikain japaria xeta nawan panshinbo jabaon akai cientificobo ishton merakinki gingivitis winonibo itan xeta payotaibo.



colorum oculis dicitur
b; capiat nec sapor qui fan
nec dimum; molle quod
nati; ramentum aliquis est y
fale est. explicare non
sup johem. Suos viti
in utrimus affiat: omnis
sugge
obmutescit
tes in medio civitatis in
sedne opib; mentes misu
specione custodiant. Si
omni devocions portan

Omne Bonum
Omne Bonum latinma ika jaa riki westiora kirika jain jaa axeti nato siglo XIV jaskati jakatikanai Europa medieval ikain nato japarike benxoakana jain kirika onanti tsamankanai ikainko Real Britanica. Jain jake onantiakin akana nato odontologiaki ika itan raonmisbaon koiranti iki ika jabaon akai ayorabireskin akinki salud itan isinbo Edad Media ikain winotabo onamakin.

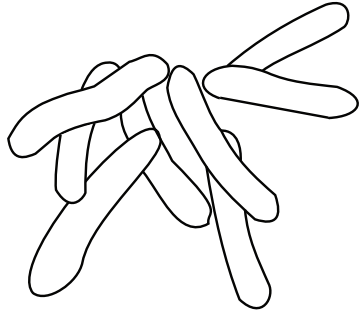
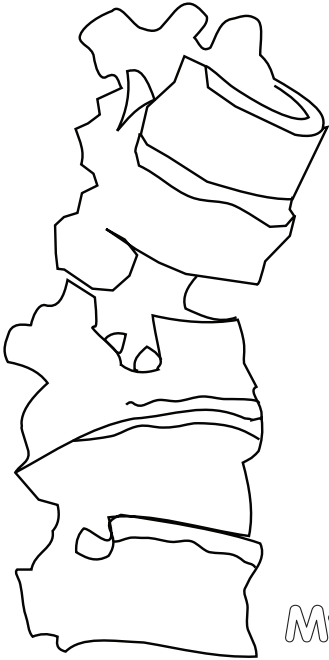


omni hilantia
p dicitur in iohai
dentib; p dicitur in iohai
entes fin
gros d
nnt q
odente
omni
apost
duid
tes
dente
dicit p
sunt deu
tes fm a
mesam plantam in ossib; max
allaz; 2 mem quib; dam radib; man; 2 sit
m
en
pe
m
as
y
n
g
quod priores pluce
m
m
a dulcora sup me

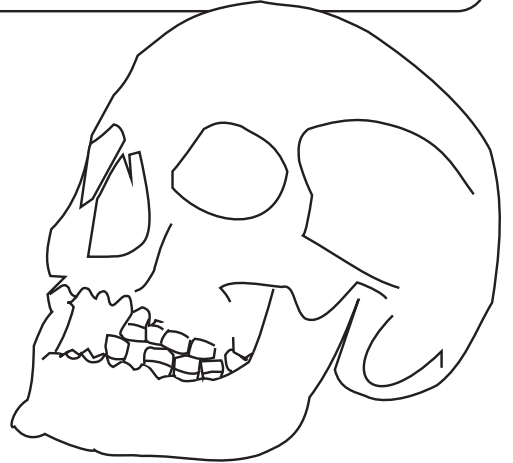
BONXAN ISIN ITAN CHANKO

PAYO ISIN

Jaa bonxan isin itan chanko payo isin riki nato onantikoma xena isinma ima: Mycobacterium tuberculosis itan Mycobacterium leprae. Jaa rabekanra bimati atipanke xaobo, itan wetsa ADNbo moa xaobicho iketian akinribai cientificobo moatian ikatian isinbo merakankin jakiribi bena akin.

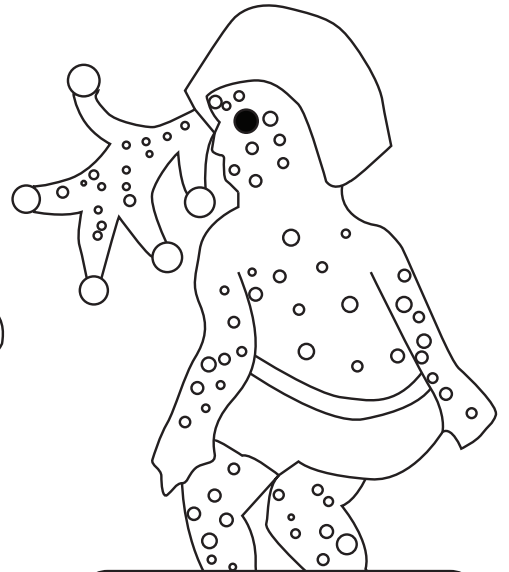


Mycobacterium leprae

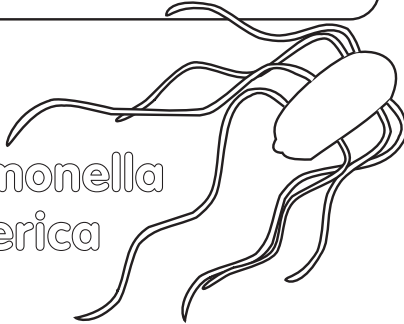


JA COCOLIZTLI

Westiora ani sin tson onanyama, jawen jane Cocoliztli aztecas baon aka, retea iki nato 60% itan 90% Mexico ikainoa jonibo nato 1545 itan 1550. Ramabi, nato isiman Salmonella enterica Paratiphy Paratiphy C ADN merakana iki westiora joni jaa ani isinya mawataton xetanko.

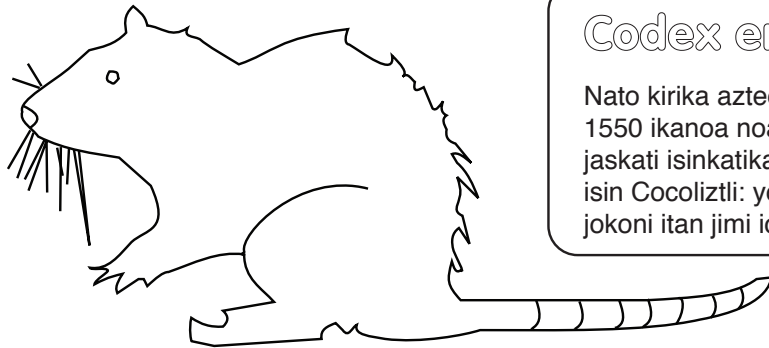


Salmonella enterica



Dr. Schnabel

Rokotorobo jan joni ani isiman ikaitian raonkatiabo nato siglo XVII sawekatikanai westiora bepomati nato isakan mapo keska isinma itima kopi jakoma niweboki koirameti.

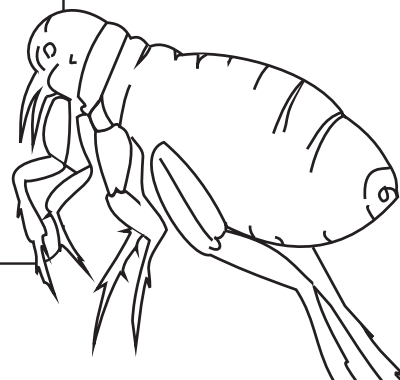


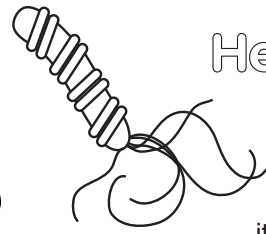
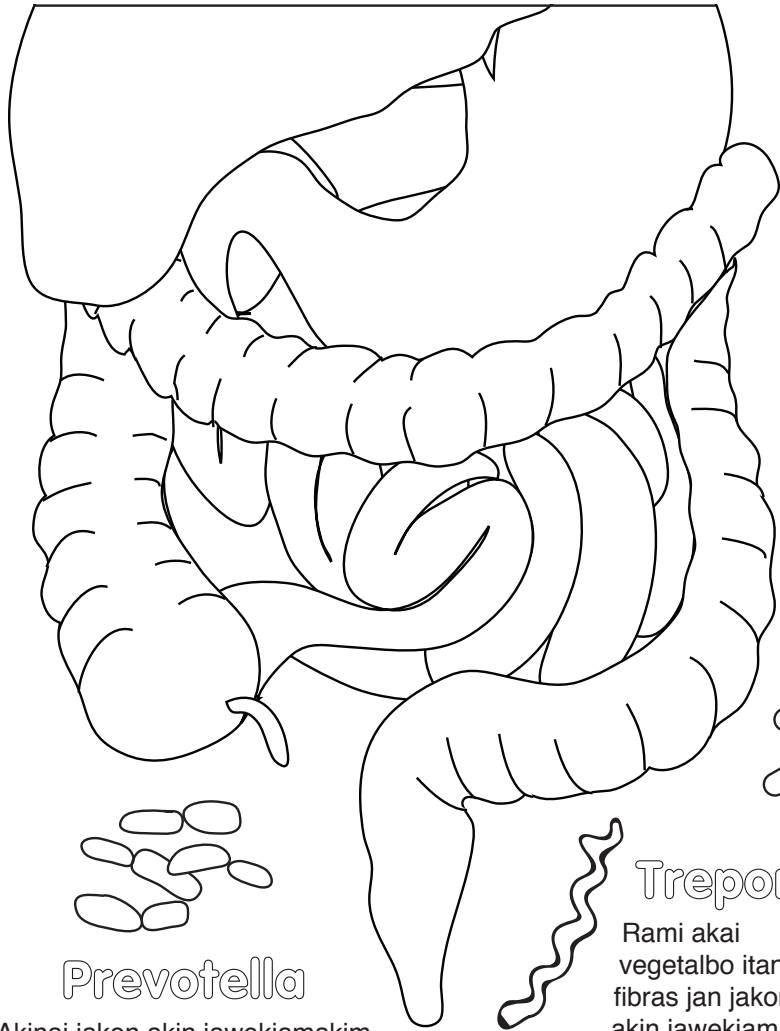
Codex en Cruz

Nato kirika azteca baritia 1550 ikanoa noa oinmai jaskati isinkatikanai nato ani isin Cocoliztli: yona, mashi jokoni itan jimi ichatama bei.

CHAMI ISIN

Ja peste riki ika nato besheshoko xenan onantikomabaon ima Yersinia pestis, nato ichai iki xoyan ia moa jaa isinyabo ikainoax. Jaa iakan jonibo natexara moa jaya iki nato peste bubónica. Nato ani isin peste jan jato icha joni mawama iki jakopi yoikanike Muerte Negra (1346-1353) jan retea iki nato pochininko jema Europa jaa baritia.





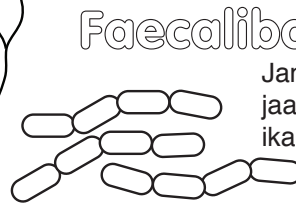
Helicobacter pylori

Jake poko chicho itan ani payoati atipanke itan kanserya imakin



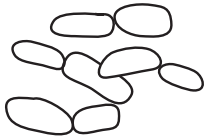
Bifidobacterium

Akinai bakebo jakon akin leche xeamakin



Faecalibacterium

Jan pikoxonai jawekiati jaa célula ani poko ikainoa



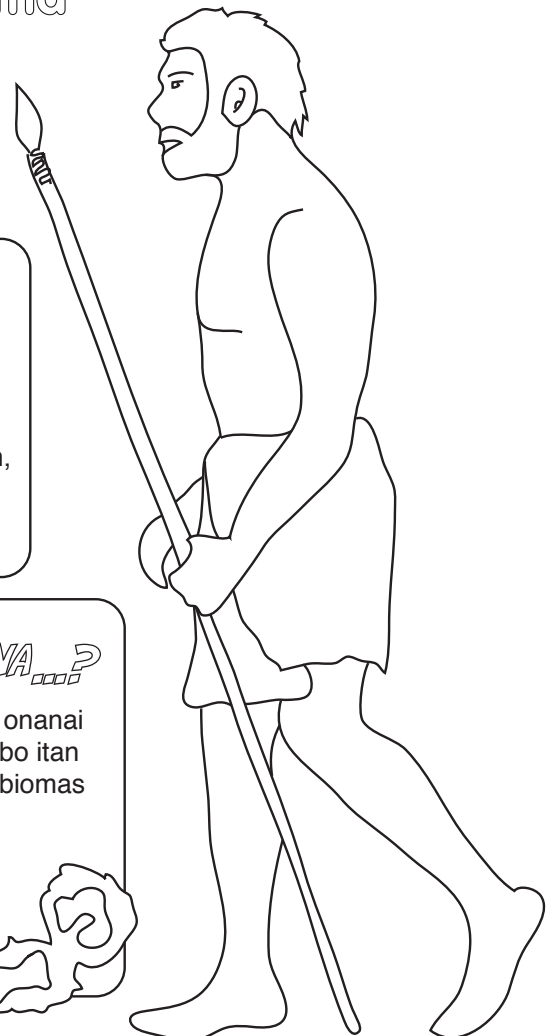
Prevotella

Akinai jakon akin jawekiamakim nato nishi xobibo



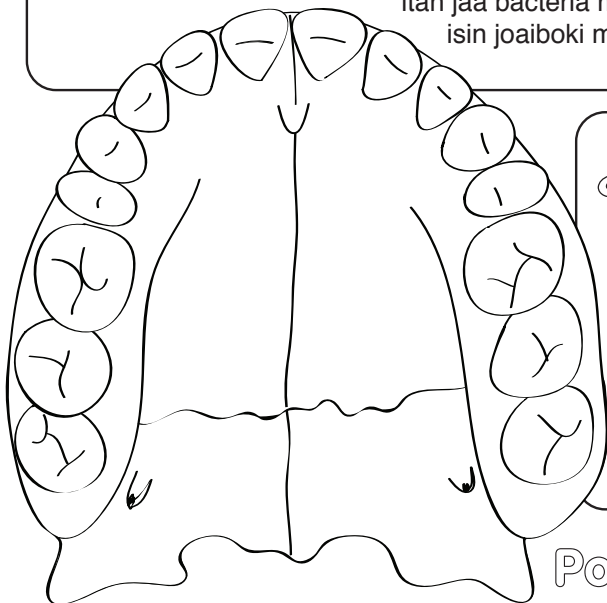
Treponema

Rami akai vegetalbo itan fibras jan jakon akin jawekiamai



MOATIAN MICROBIOMAS

Min yora riki **trillones** maxkoshoko xenan xobo, itan jaa jatibira jane kanai microbioma. Jaa besheshoko onantikoma xena min ani poko ikainoara akinai jakon akin mia jawekiamakin itan ribi min yora koshi akai. Jaa bacteria min yorankobo ikatonra akai mia keras imayamakin, itan jaa bacteria min xeka ikatonra akai isin joaiboki mia panaxonki.



¿MINKI ONANA...?

Jaa cientificobaonra onanai xeta naman panshinbo itan moatian poibo microbiomas bo moatian ikatiabo onankanti kopi itan jakon akin onankanti kopi jawe kopiki isinkatikai ixon.

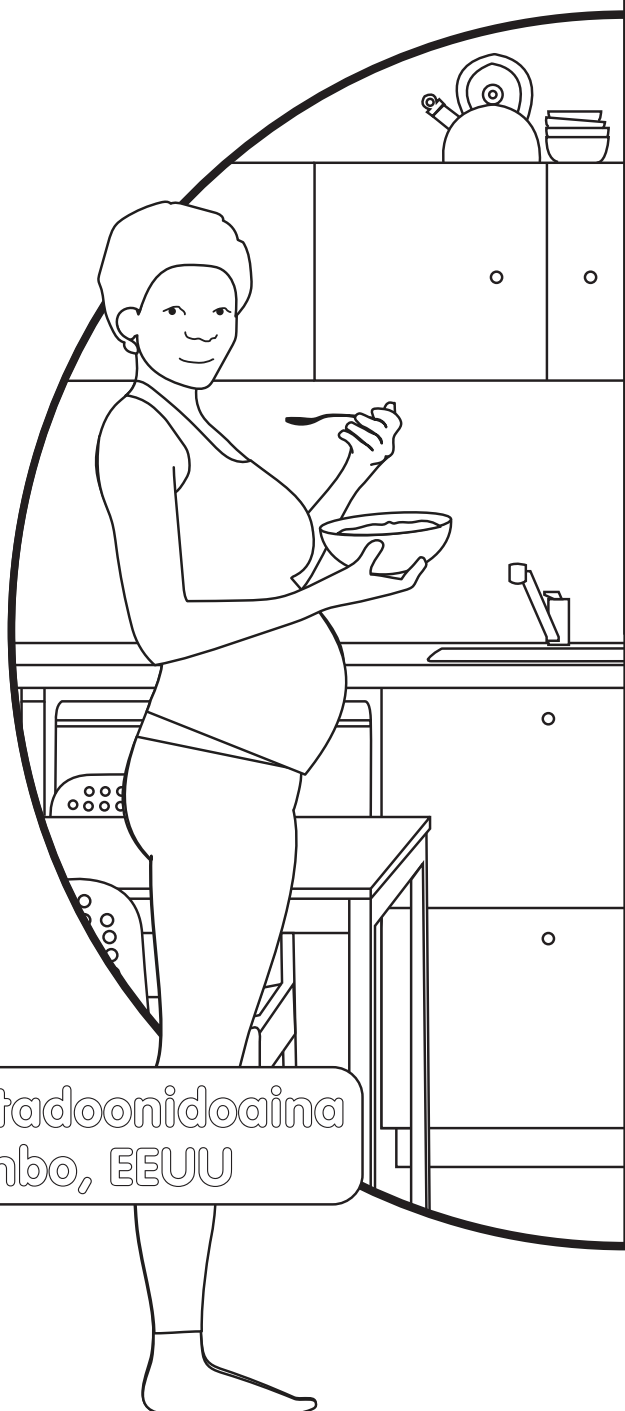
Porphyromonas

BIMI TSINKIABO

Jaa bimi tsinkiaibo, jaskaribi jaa jaska akin onankanaboribi yoina akaibo- bimi tsinkiaibo, jatonra jawekiakai niimea yoabo itan jaton jawekiati iki mesko keska baritia winotaitian.

Yoabo akin peokanamatian 10 000 baritia, jatibi jonibo ikatia bimi tsinkiaibores.

Jaa rama bimi tsinkiaibo iki jaton ani poko ikain besheshoko yora xenayabo ani jema joeyabo ikainko jaa jonibo winoabo mesko keska shenayabo.



Estadonidoaina
ainbo, EEUU



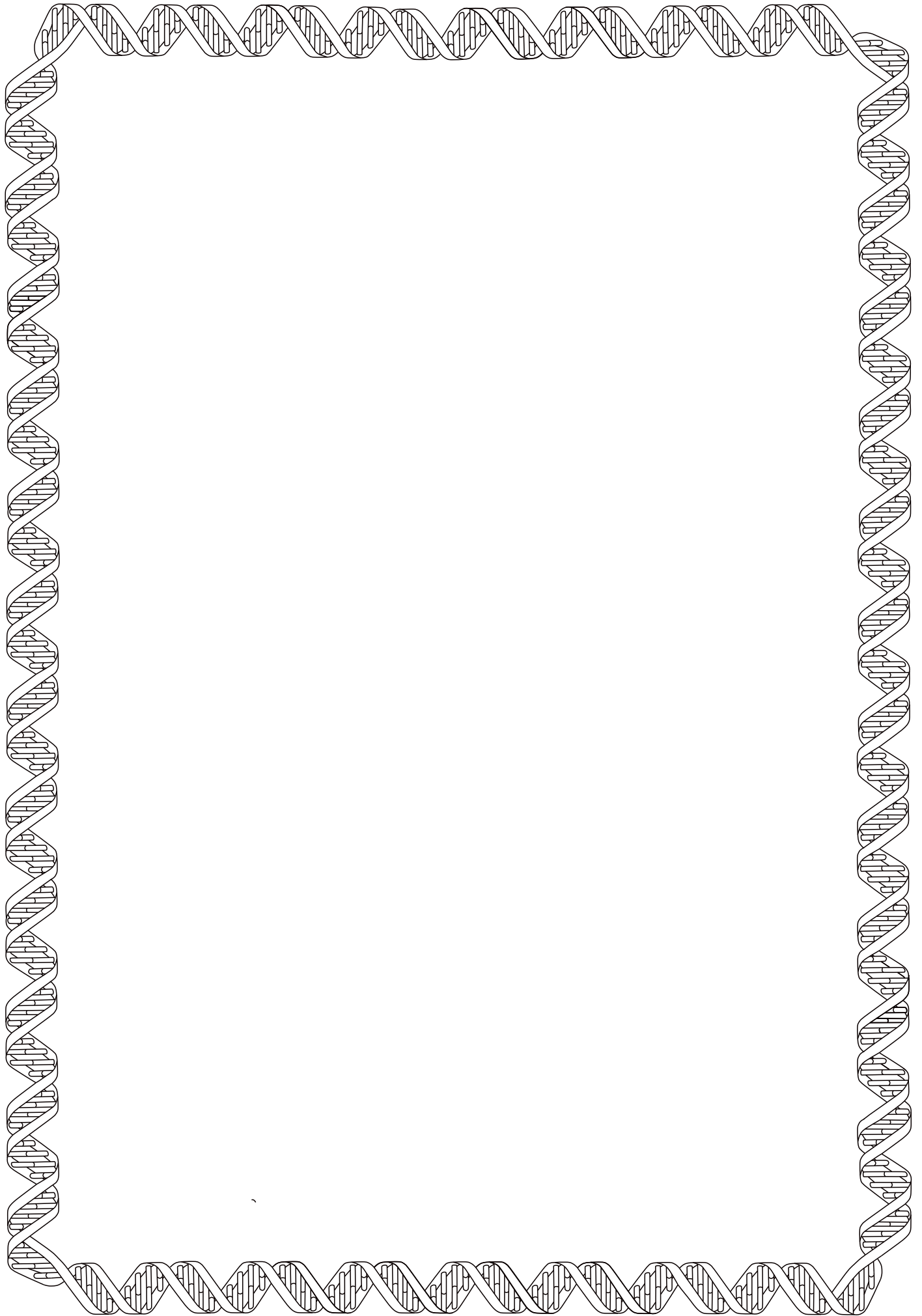
Ainbo itan
bake hadzas,
Tanzania
ikainoa

ANI JEMABO JOEYABO

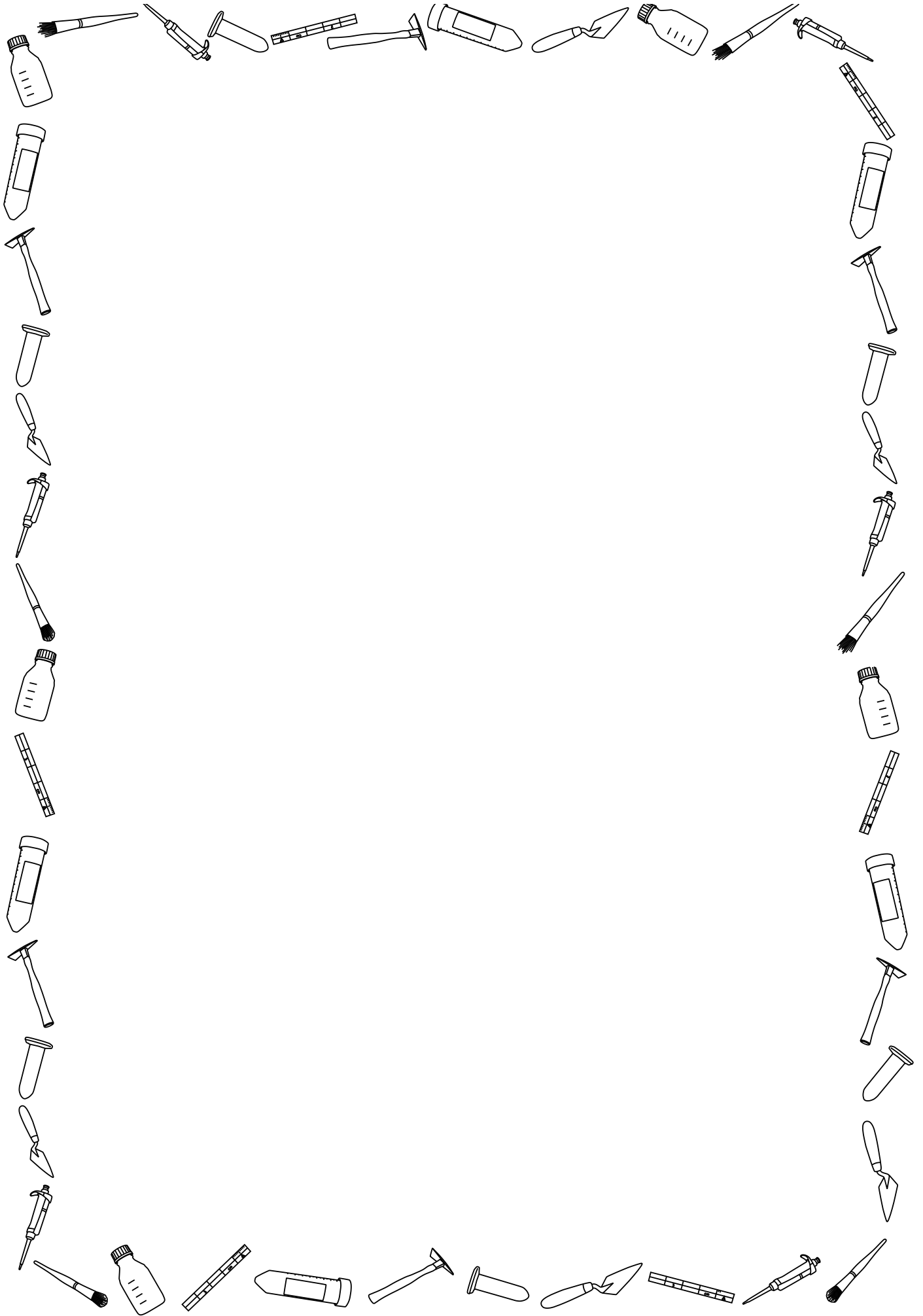
Ani jema joeyabaonra jawekiakai mesko keska yoabo itan nato yoabo akaibo riki ichama jonibo janbiribi merayatabo westi iki natobo.

Jaa mecanización, benxoati itan icha tsamaxon benxoati jaa iki jato jawekiamakin jenetima kopi nato yoabo procesadobo jaska akanai, itan nato yoabo akanai rankin ochobo jawekiakanti kopi.

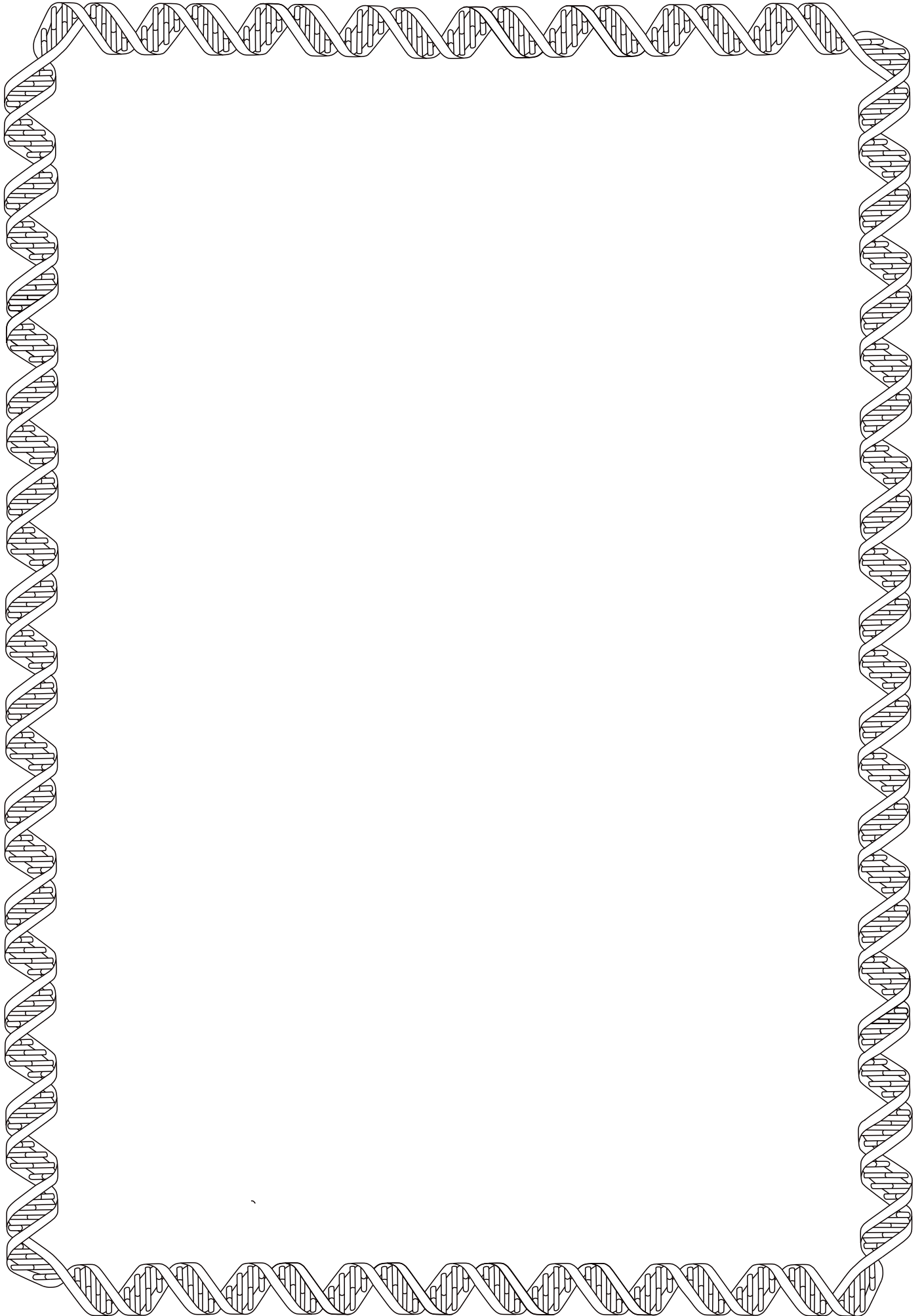
Nato ani jemamea joeya jonibora ramatian jaya iki nato microbiomas ikaxbi meskoiramabo, janra akai koshishamama jato imakin nato mesko ikachama ani isin soo iti isinboki.



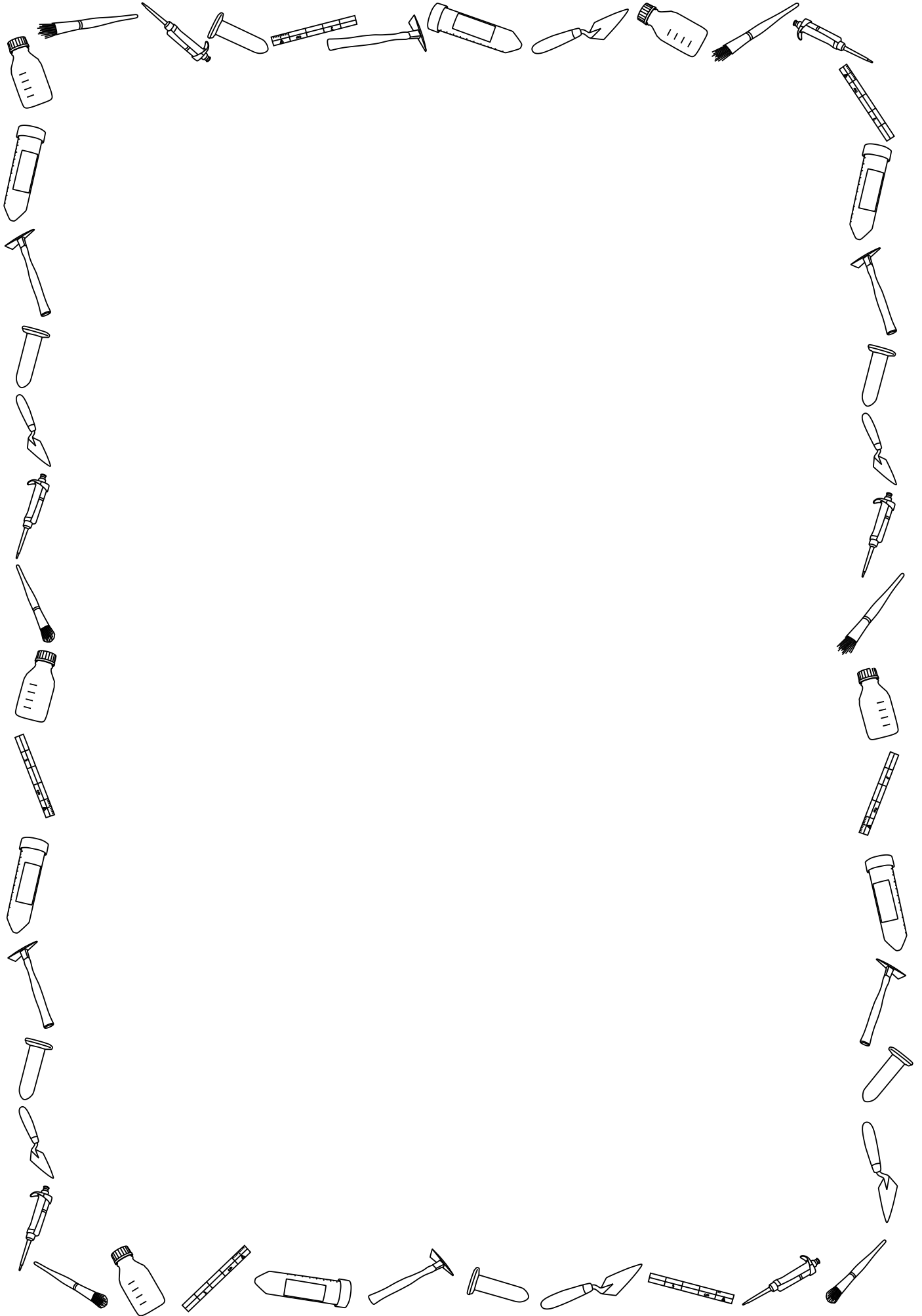




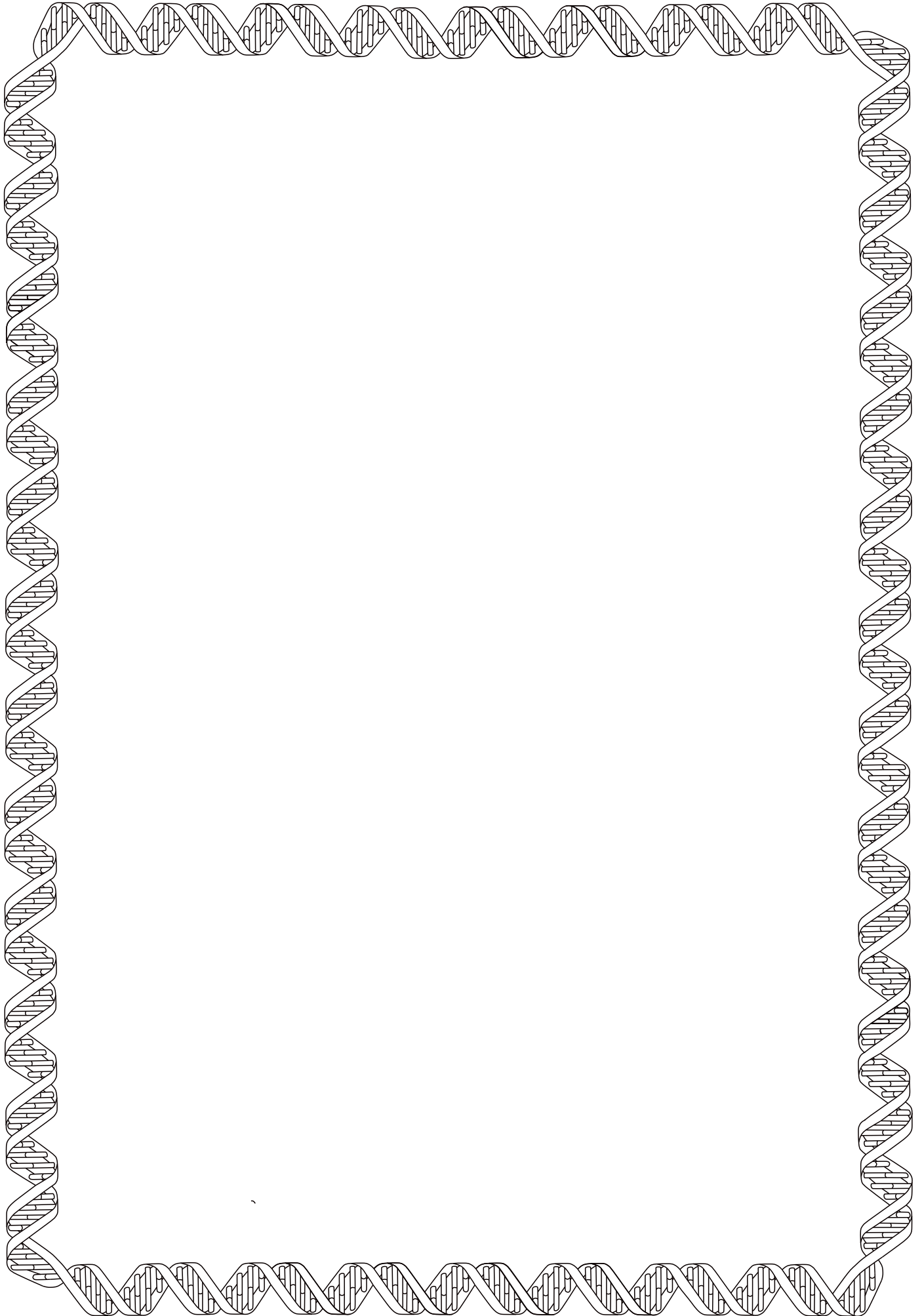






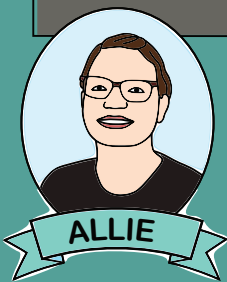




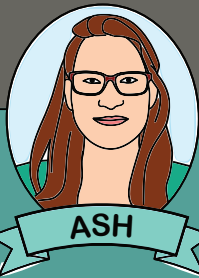




Max Planck Institute for Evolutionary Anthropology



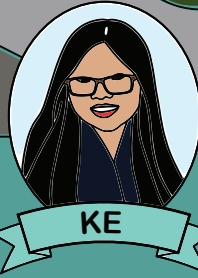
ALLIE



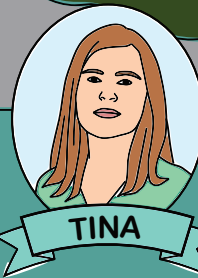
ASH



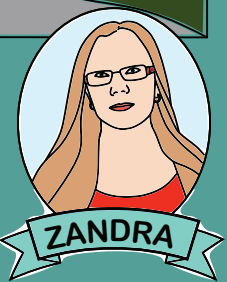
JESSIE



KE



TINA



ZANDRA

Mesko tee aki kai

NATO ARQUELÓGICA ANI ONAN SHINAN IKAINKO **Kirika jaa sikati**

¡Axewe arqueólogobo itan bioarqueologobo keskati jatibikeax teti moatian noa winotaboki ika yokabo yoinoxon! Noa chibanwe onankinki tsoaborin noa itan jaweki non onanai, joni pikota benatian jainxon chami isin medieval kaman. Onanwe nato moatian joni kawantanaibo itan radiocarbono nin tsimes axon onanti. Onanwe jawekeskaxonki científicobaon bena aribai moatian jawekiatikanaibo nato restos vegetales microscópicos ikaixon. Benawe wetsa jaska axon ina akatikanaibo itan waka xoma jene chorish akana jawekiati pekao iki nato ciencia. Benawe isinbo itan moatian ani isinbo itan onanwe moatian microbioma jonibaona.

Max Planck Institute for Evolutionary Anthropology
ikanoa científicobaon pikoa.

Jan Shipibo-Konibo join yoiya Tony Cristhian Ramirez Nunta



TONY