



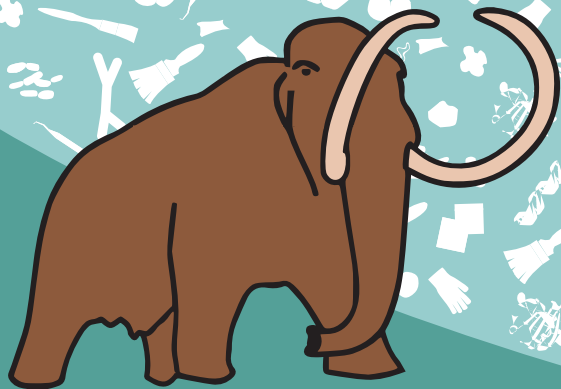
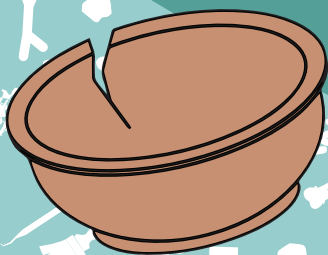
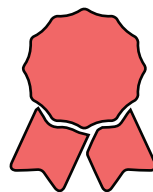
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ARCHAEOLOGICAL SAIYENS

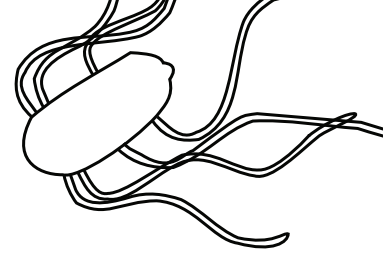
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Name

Fyoocha archaeological
saiyentis eena chraynin



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Di Max Planck Institute fi
Evolushanry Anthropology



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Name

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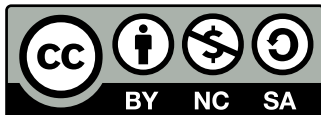
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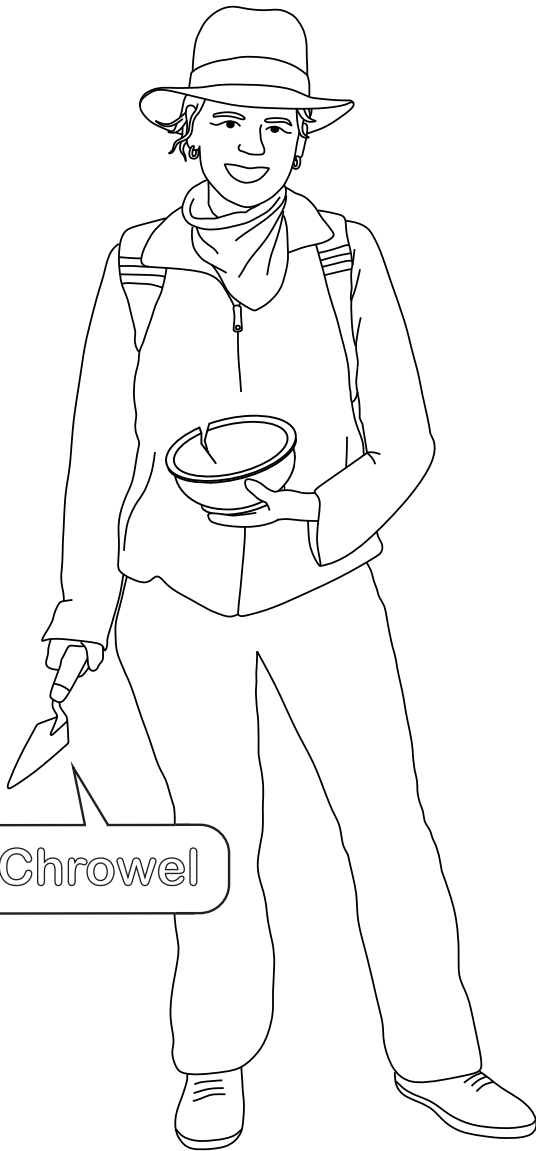
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2023



HOO WI

Archaeological scientistz deh researcherz hoo yooz scientifik methodz ahn cutting-edge techniqwez fi stodi kweschan bowt di hyooman paas.



Chrowel

Eena di feel ...

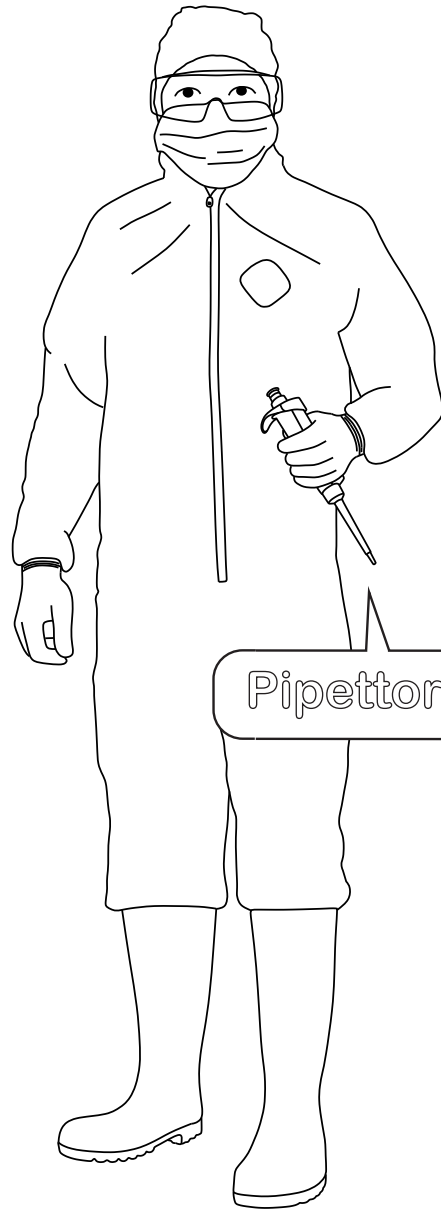
Scientistz werk closeli wid feel archaeologistz fi excavayt ahn kalek samplez fi ferda stodi eena wahn laborator.

Dis kud inklood samplin burials, collectin residuez fram aynshent pots, identifyin animal boanz eena middenz (garbij pits), er siftin sedimentz fi plaant fossilz.

Eena di lab ...

Wen di handl aynshent dna, scientistz mos werk eena cleanroomz ahn wayr speshal suits, gloves, ahn bootz tu protek di aynshent samplez fram modern dna contaminayshan.

Scientistz yooz wahn waid variety a instrumentz ahn ikwipment fi stodi aynshent samplez.



Pipettor



FEEL EXCAVAYSHAN

Archaeological scientistz chravl aal oava di werl fi investigayt hyooman hischri ahn prehistory. Eena addishan tu excavayshan toolz, sohn placez need specialized suppliez ahn ikwipment. Fi egzampl, eena di himalayaz, archaeologistz need chrekkin permitz ahn mongtin climbin gear.

Department of Immigration
TREKKING PERMIT
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 1994 the permission is
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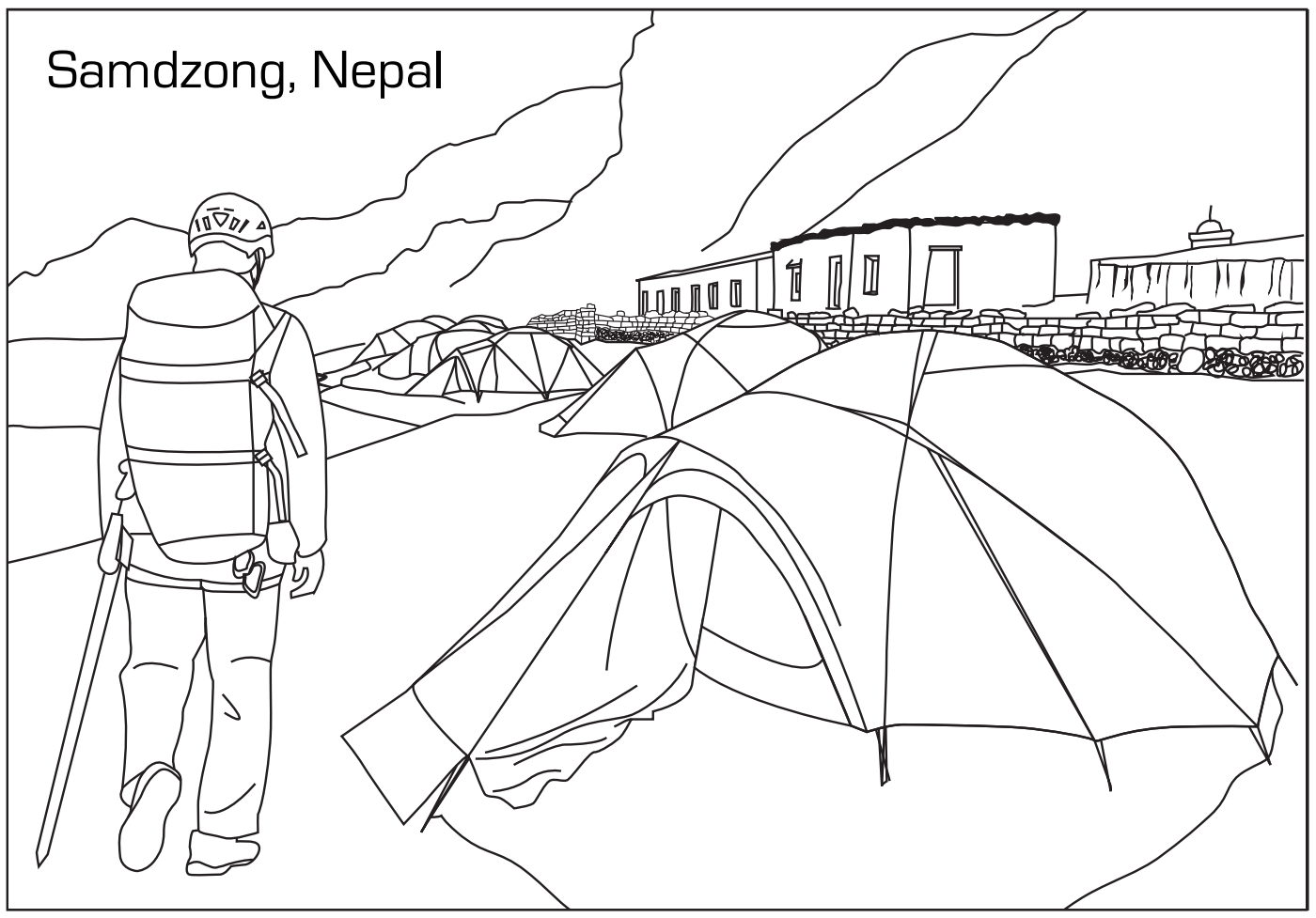
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ENTRY FEE RECEIPT
 Ticket No: 0281630
 Date: 2061
 Nationality: Nepalese
 Agency Name: SHERPA SHAIKUN-LA
 Authorized Signatory

NATIONAL TRUST FOR NATURE CONSERVATION
Entry Permit (ACAMCA/GCA)
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 Nationality:
 Purpose of Visit:

NTNC-ACA
 Entry Permit Issuing Authority
 Signature
 Full Name:
 Designation:

gration Officer
 da No

TOURIST COPY



Dental Calculuz

Aalso naym az teet tarta, dental calculuz da di oanli paat a yu badi dat fossilizez wail yu deh alaiw. Ih entrapz food ahn bacteria, ahn it ku bee yoos tu reconstruct health ahn diet.

Boanz ahn Teet

Boanz ahn teet contayn fragmentz a dna dat ku bee yoos tu chrace di migrationz a aynshent peepl dehn ahn reveal chraits, laik hyaa ahn aiy kala, az wel az genetik adaptationz. Di teet a peepl hoo mi ded joorin epidemicz kud aalso contayn di dna a di pathogenz dat infected dehn.

Pottery Residuez

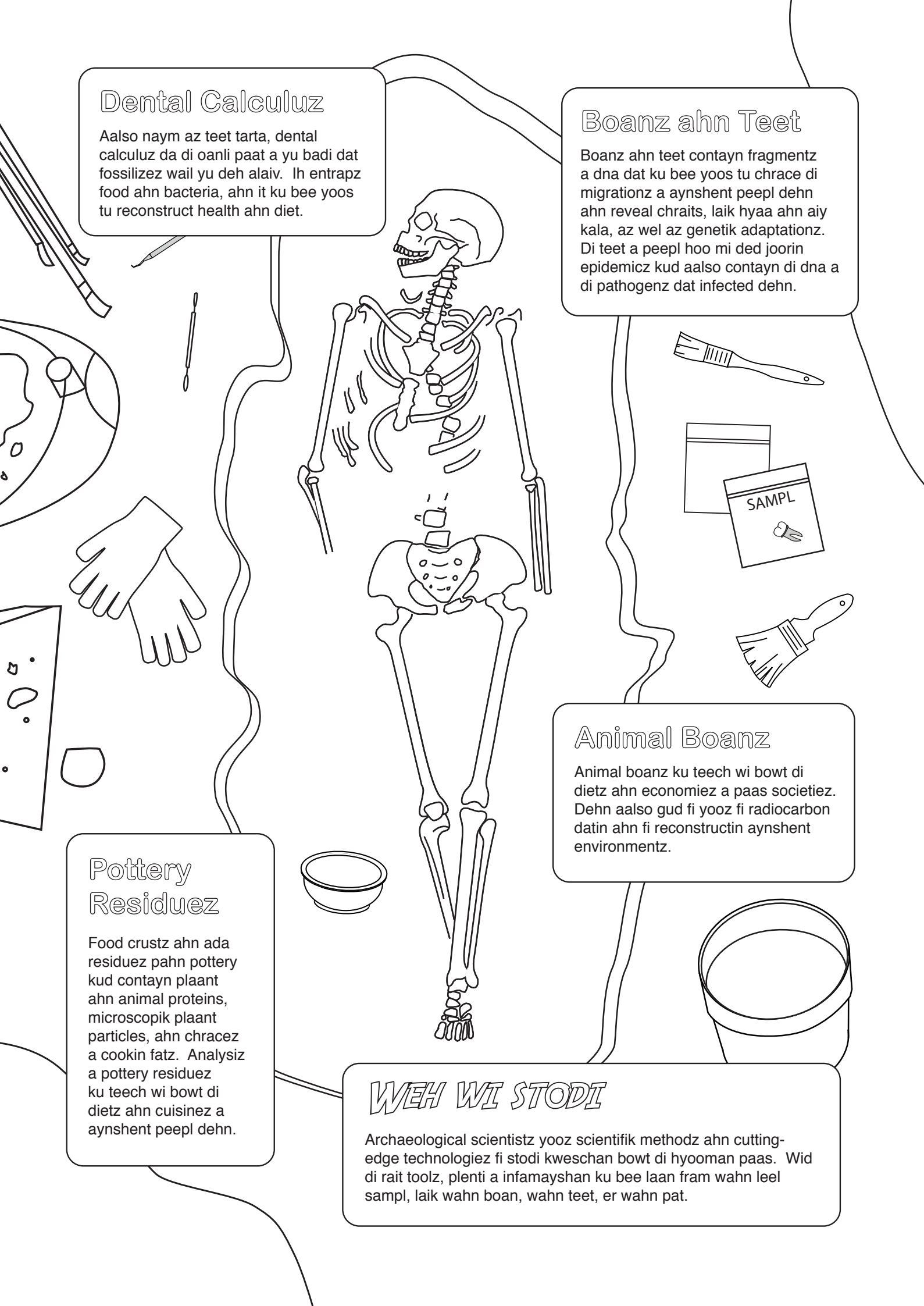
Food crustz ahn ada residuez pahn pottery kud contayn plaant ahn animal proteins, microscopik plaant particles, ahn chracez a cookin fatz. Analysiz a pottery residuez ku teech wi bowt di dietz ahn cuisinez a aynshent peepl dehn.

Animal Boanz

Animal boanz ku teech wi bowt di dietz ahn economiez a paas societiez. Dehn aalso gud fi yooz fi radiocarbon datin ahn fi reconstructin aynshent environmentz.

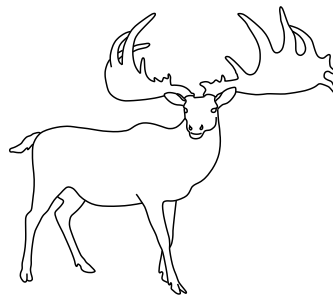
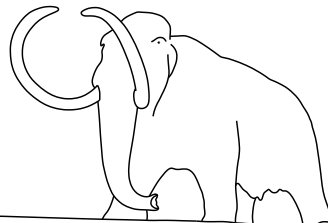
WEH WI STODI

Archaeological scientistz yooz scientifik methodz ahn cutting-edge technologiez fi stodi kweschon bowt di hyooman paas. Wid di rait toolz, plenti a infamayshan ku bee laan fram wahn leel sampl, laik wahn boan, wahn teet, er wahn pat.



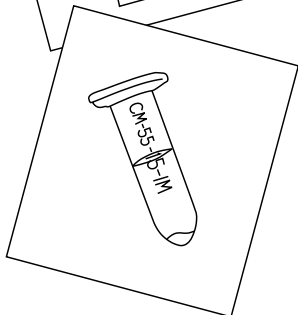
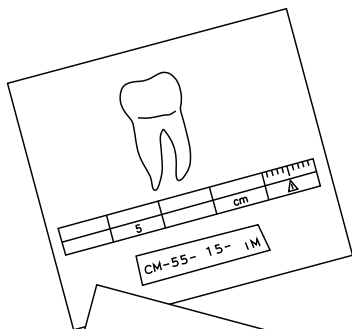
YU MI NOA?

Neanderthalz gaahn extinct approximateli 40,000 (faati towzn) yaaz agoa, bot neanderthal dna laifz pahn eena di genomez a moas non-african hyoomanz.



HYOOMAN ORIGINZ

Aynshent dna dih help wi + andastan wi closis Evolushanry cousins: Neanderthalz.



Evolushan

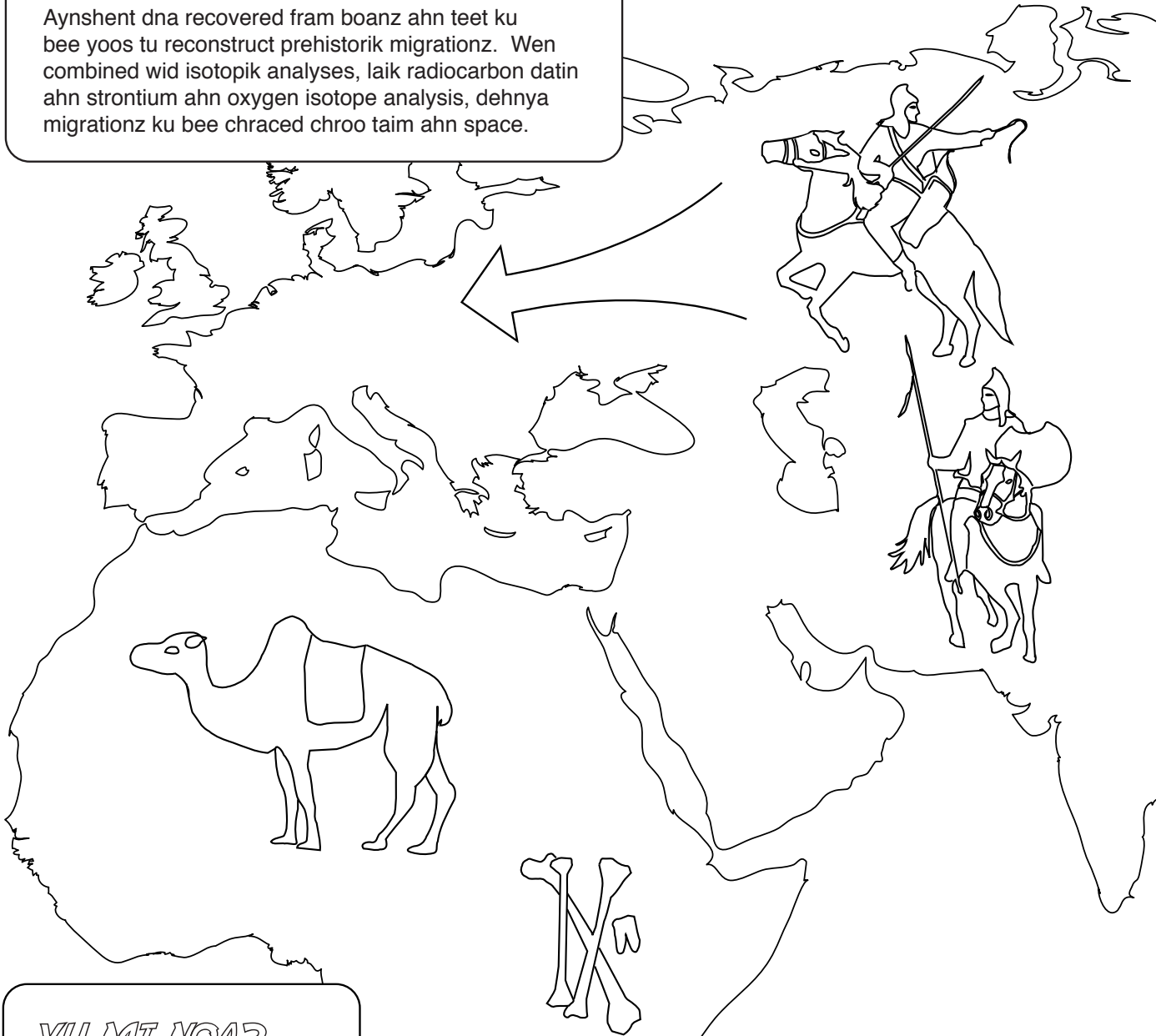
Bai di stodi di teet ahn boanz a aynshent hyoomanz, wi ku fain owt how wi ancesta dehn mi liv, ahn how wi az hyoomanz gaahn tu bee di speciez weh wi tudeh.



AYNSHENT MIGRATIONZ

Aynshent dna recovered fram boanz ahn teet ku bee yoos tu reconstruct prehistorik migrationz. Wen combined wid isotopik analyses, laik radiocarbon datin ahn strontium ahn oxygen isotope analysis, dehnya migrationz ku bee chraced chroo taim ahn space.

Scythians, Senchral Aysha
Aiyen ayj, 700 BC

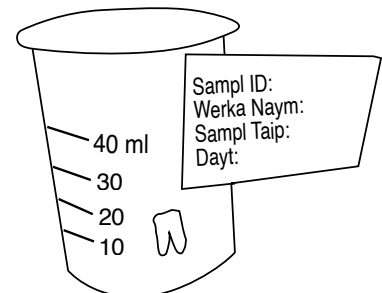


YU MI NOA?

Radiocarbon, er ^{14}C , da wahn unstabl isotope a carbon dat get tek op bai plantz fram di ayaa joorin photosynthesis. Animal dehn incorporayt radiocarbon eena dehn tissues wen dehn eet plantz. Radiocarbon decayz oava taim. Bai measurin di amonk a ^{14}C eena wahn aynshent sampl, ih pasabl fi estimayt how lang agoa wahn organizm mi deh alaiv.



Radiocarbon datin

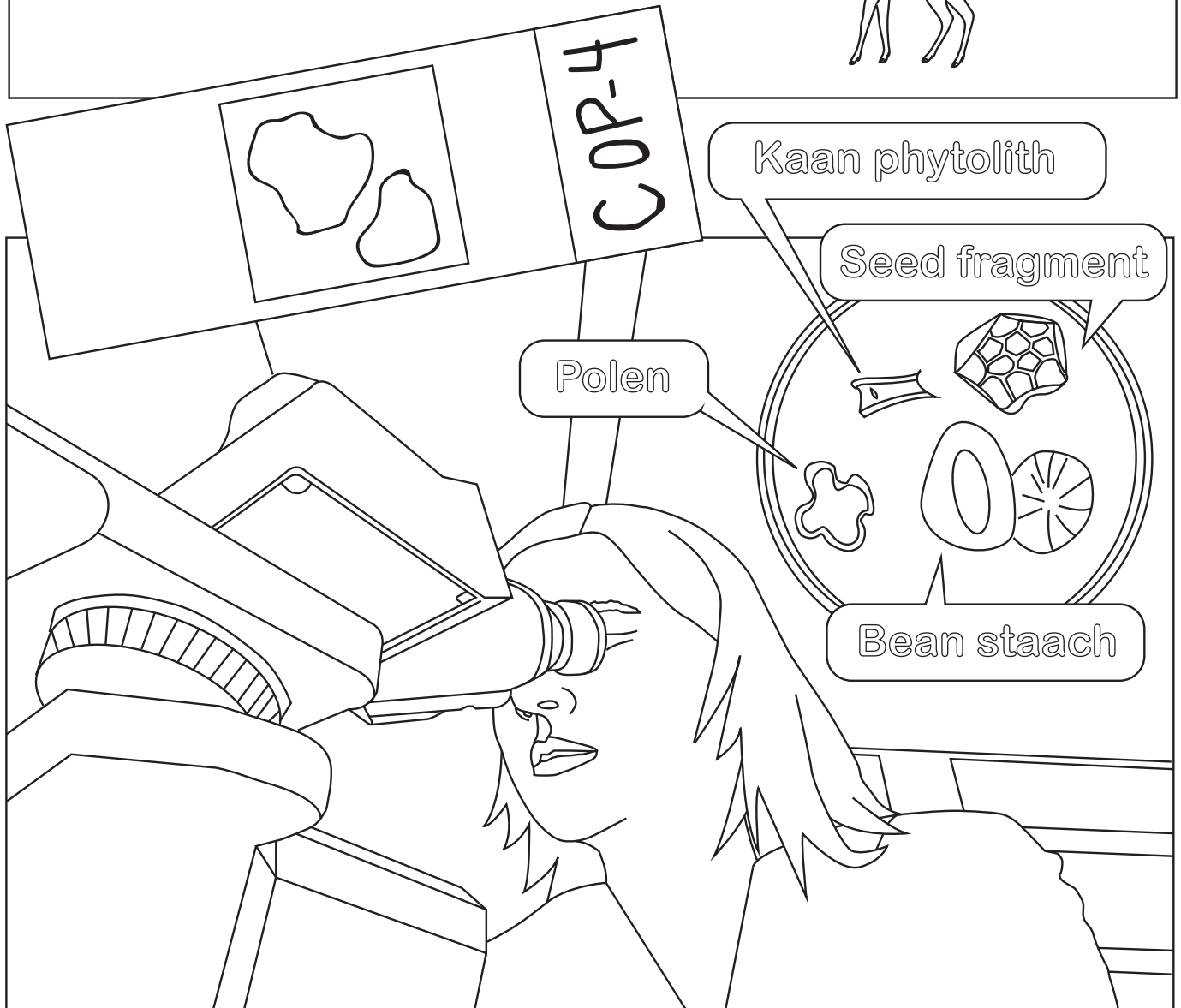


Radiocarbon datin da wahn technique dat ku bee yoos tu determain di agez a animal dehn ahn plantz op tu 40,000 yaaz oal.

AYNSHENT DIET

Scientistz ku yooz microscopez fi fain tiny bitz a food pahh aynshent potz ahn hyooman teet. Dis "microfossil" analysiz teech wi. bowt di foodz eaten bai di aynshent maya a mesoamerica moa dan 2,000 yaaz agoa.

Copan, Honduras
Classic Maya, AD 300

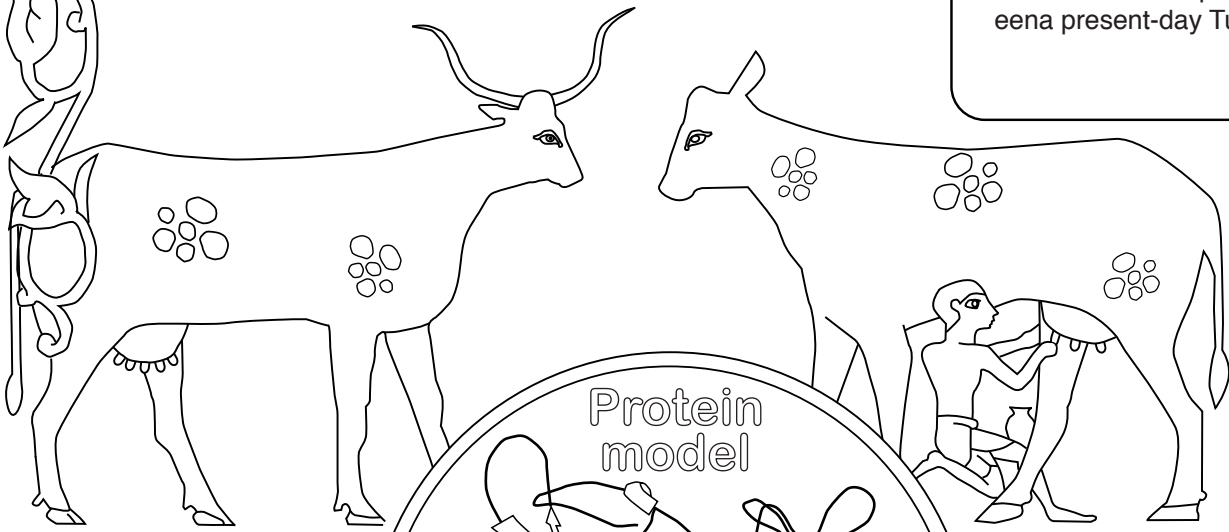


DOMESTICATION

Fi moa dan 10,000 yaaz, hyoomanz bee selectiveli breedin plantz ahn animal dehn fi particular chraitz. Cow Dehn mi deh monks di fos food animal dehn tu bee domesticated, ahn erli peepl yooz dehn fi chraction, meat, milk, ahn hidez.

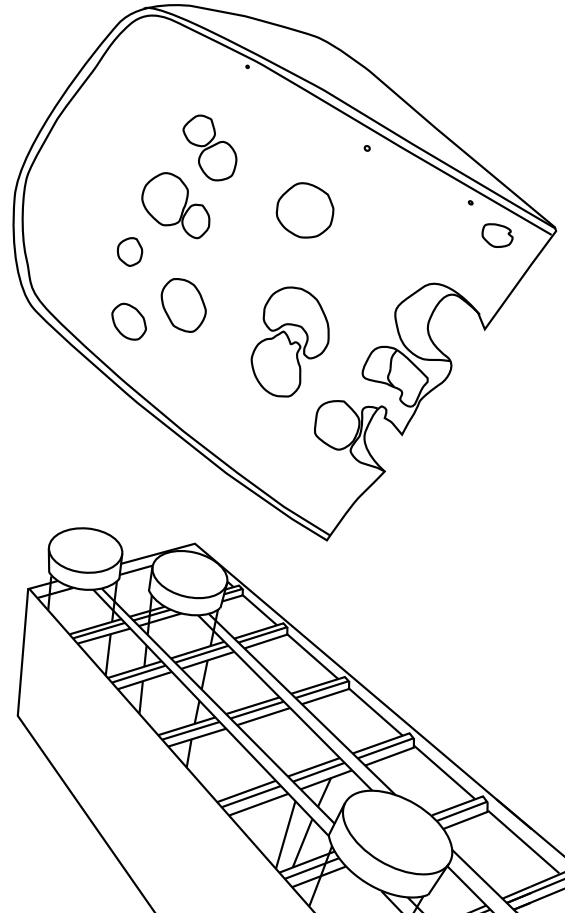
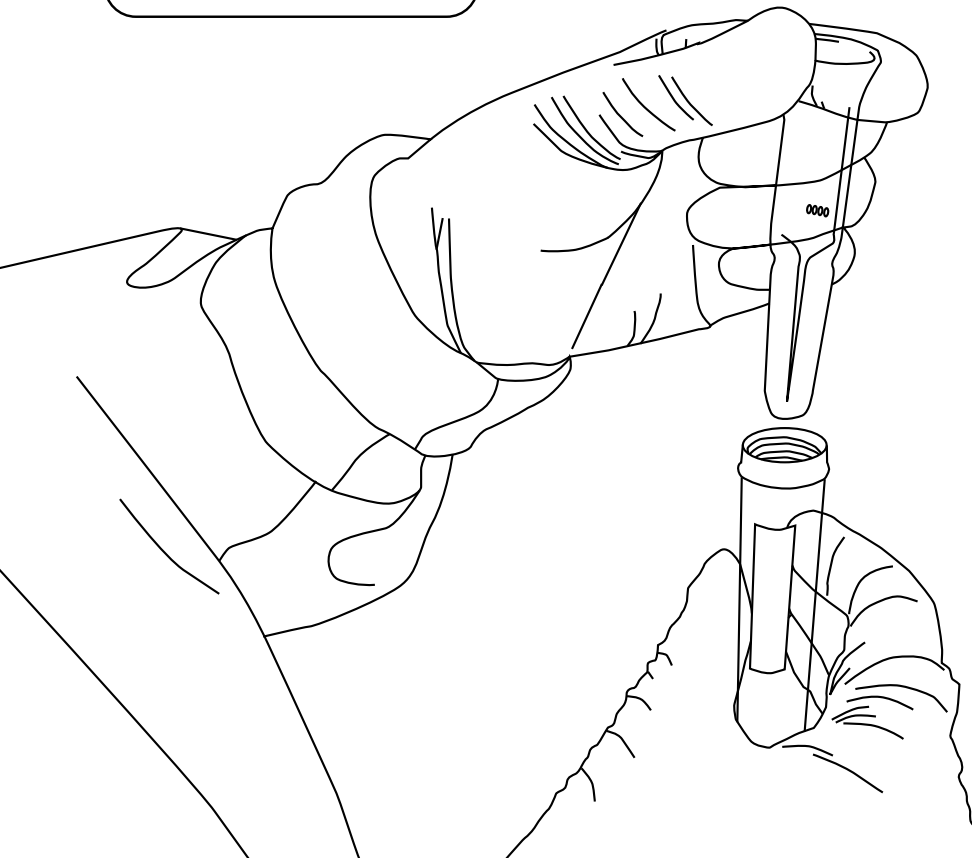
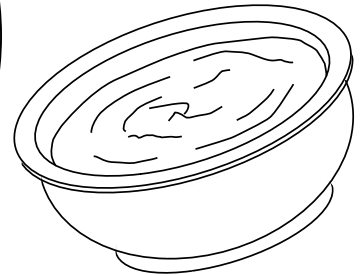
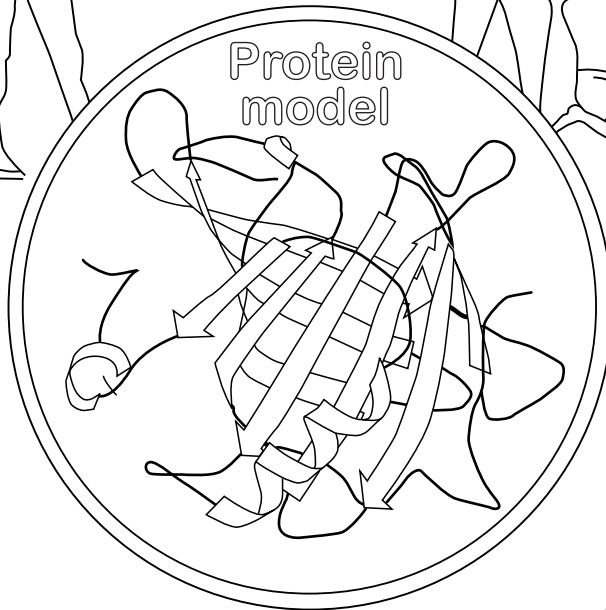
YU MIH NOA?

Kow dehn mi domesticated fram aurochs, wahn big wail bovid speciez dat now extinct. Di earliis evidens fi domesticated cow kohn fram di anatolian peninsula, eena present-day Turkey.



Dairy Originz

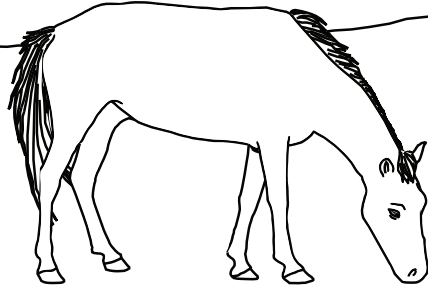
Di originz a dairyin deh noh wel noa, bot archaeological scientistz deh di yoos wahn technique kaal masz spectrometry fi detect milk proteinz pahh prehistorik teet ahn soh reconstruct di erli hischri a dairyin.



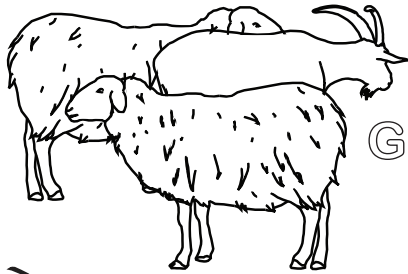
Mongolia

Wahn waid raynj a animal dehn liv pahn di grassy mongolian steppe, di inklood horses, dehn animal, yaks, sheep, goats, reindeer, ahn camelz. Nomadik herderz projoos dairy productz fram di milk a eech a dehnya animal dehn.

Haas

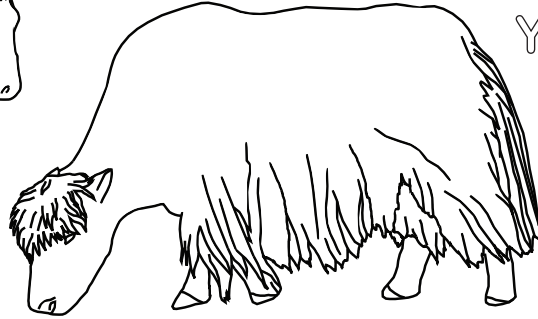


Sheep

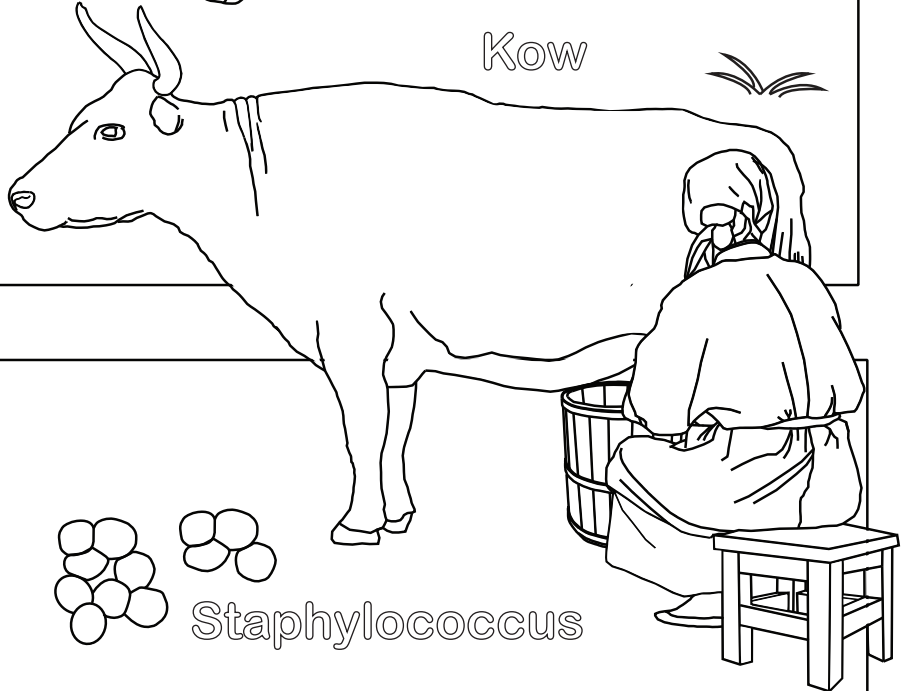


Goat

Yak

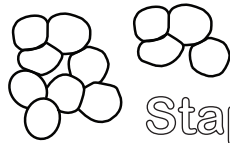


Kow

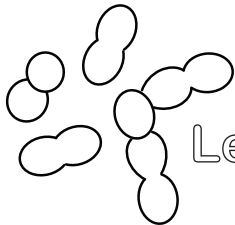


DAIRY FOODZ

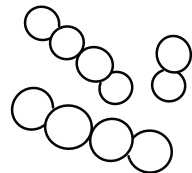
Dairy foodz deh wahn extremeli impoatant paat a dayli laif eena mongolia. Fram archaeological risaach wi noa dis chradishan stretchz bak tu atlees 3,500 yaaz agoa.



Staphylococcus



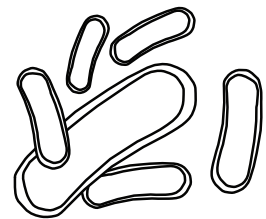
Leuconostoc



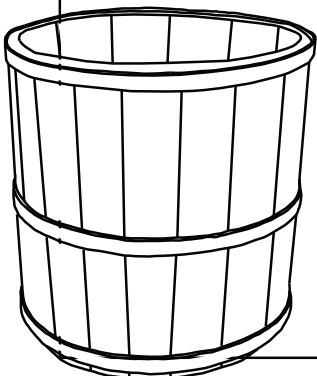
Lactococcus

Dairy Microbz

Microbz - espeshali bacteria ahn yeastz - play wahn impoatant role eena di kriyayt wahn waid raynj a fameelya dairy foods, laik yoghurt, butter, ahn cheese, az wel az les fameelya foods, laik mongolian aaruul (dried curds) ahn airag (horse milk byaa).



Lactobacillus



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AYNSHENT DISEASEZ

Boanz, teet, ahn teet tarta preserve preshos infamayshan bowt di healt a paas peopl. Fi egzempl, dna ahn proteinz preserved eena teet tarta help scientistz andastan di hischri a gum dizeez ahn dental decay.

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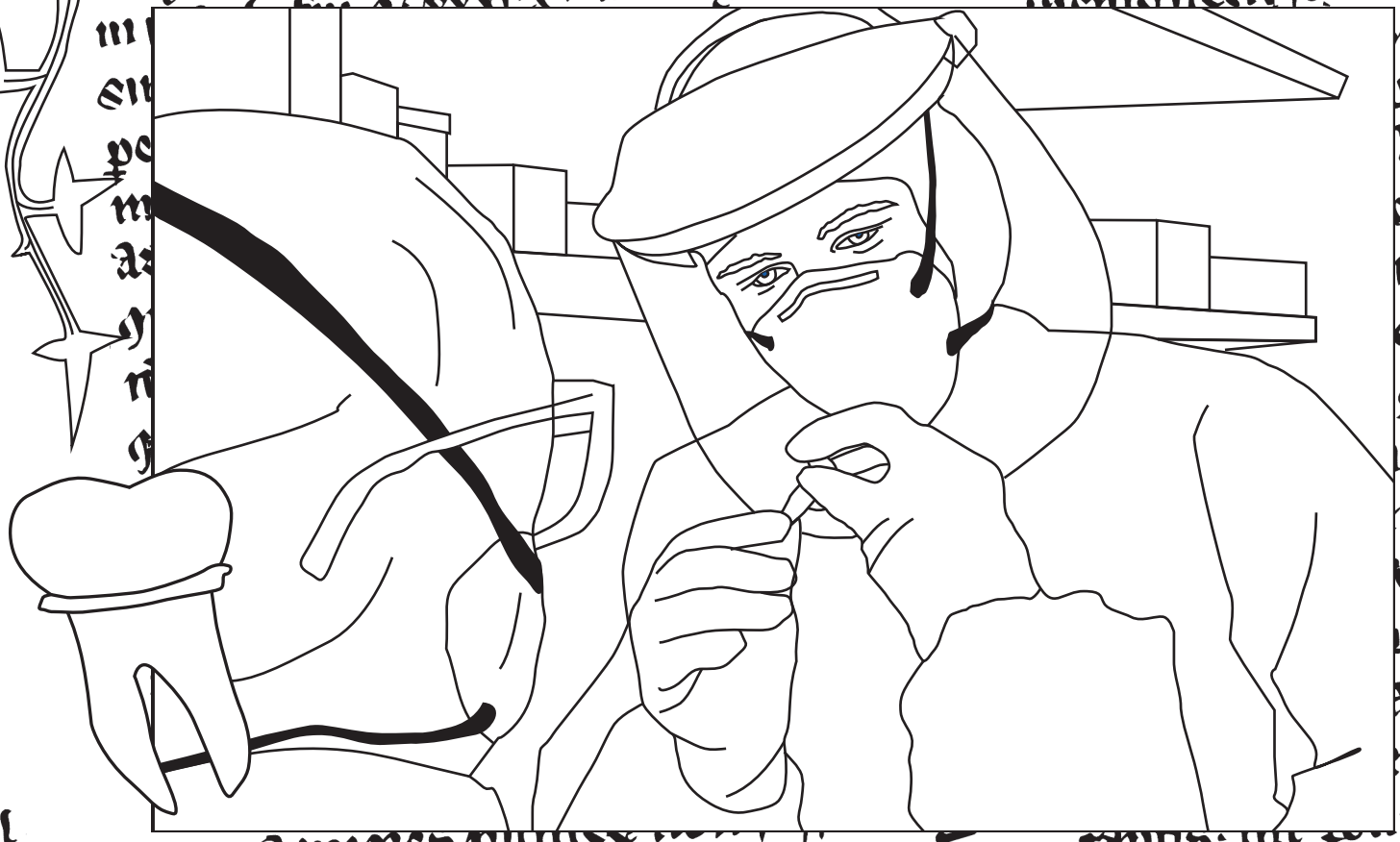


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Omne Bonum

Di omne bonum da wahn 14th senchri latin encyclopedia bowt laif eena di european midl agez dat de da di british laibri. It inklood entriez pahn dentistry ahn medikal kayr dat help wi beta interpit medieval health ahn dizeez.

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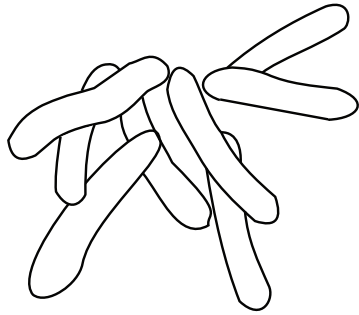
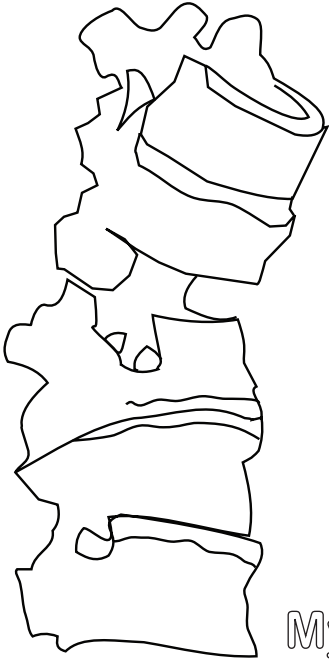


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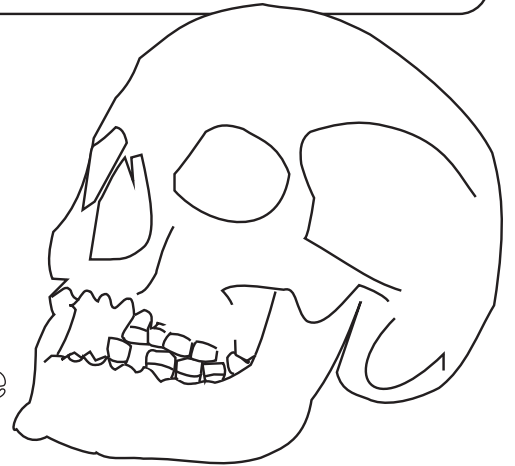
tantis...
a dulcora sup me

TUBERCULOSISZ AHN LEPROSY

Tuberculosisz ahn leprosy deh kaaz bai rilaytid bacteria: mycobacterium tuberculosis ahn mycobacterium leprae. Too a dehn ku infect boan, ahn chracez a dna lef bihain eena di skeleton deh helpin scientistz reconstruct di hischri a dehnya aynshent diseasez.

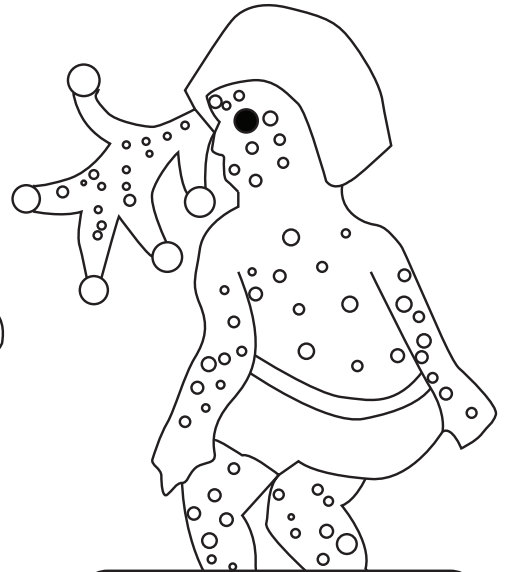


Mycobacterium leprae

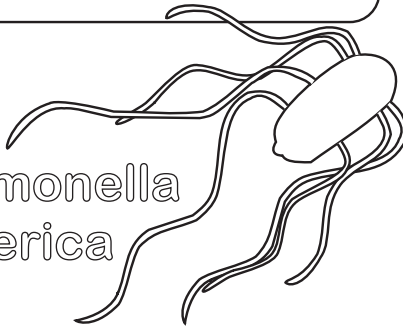


COCOLIZTLI

Wahn unidentified epidemik - mi naym cocoliztli bai di aztecz - mi kil 60-90% a di papyulayshan a Mexico bitween ad 1545 ahn 1550. Recently, dna fram di pathogen salmonella enterica paratyphi c show up eena di teet a epidemik victimz.

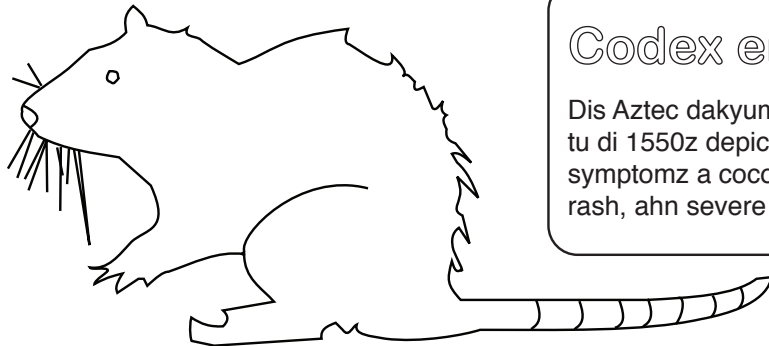


Salmonella enterica



Dr. Schnabel

Doctorz di chreet plague victimz eena di 17th senchri mih wear bird-laik maskz tu protek dehn fram "bad ayaa".

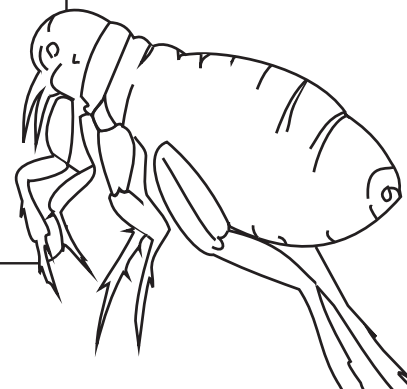


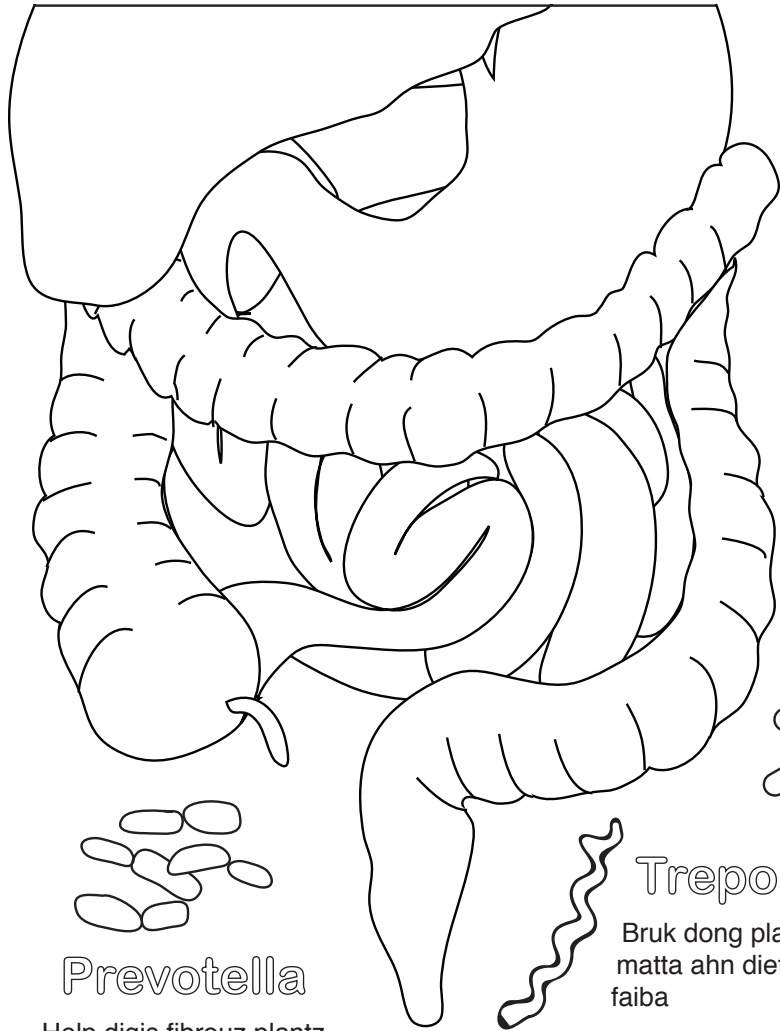
Codex en Cruz

Dis Aztec dakyument datin tu di 1550z depictz di symptomz a cocoliztli: feeva, rash, ahn severe bleedin.

PLAGUE

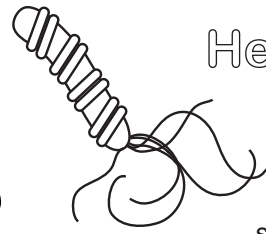
Plague da kaaz bai di bacterium Yersinia pestis, wich spreadz bai infectin fleee dehn dat liv pahn ratz. Hyoomanz weh get bite bai dehnya fleee dehn develop bubonik plague. Plague da mi dih kaaz a di blak det (ad 1346-1353) dat mi kil haaf di peepl a Yoorup.





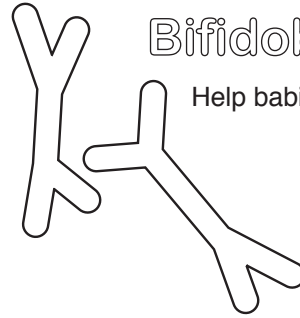
Prevotella

Help digis fibrouz plantz



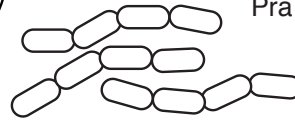
Helicobacter pylori

Laifz eena di stomach ahn ku kaaz ulcerz ahn sohn cancerz



Bifidobacterium

Help babiez digis milk



Faecalibacterium

Pra Mek food fi intestinal cellz

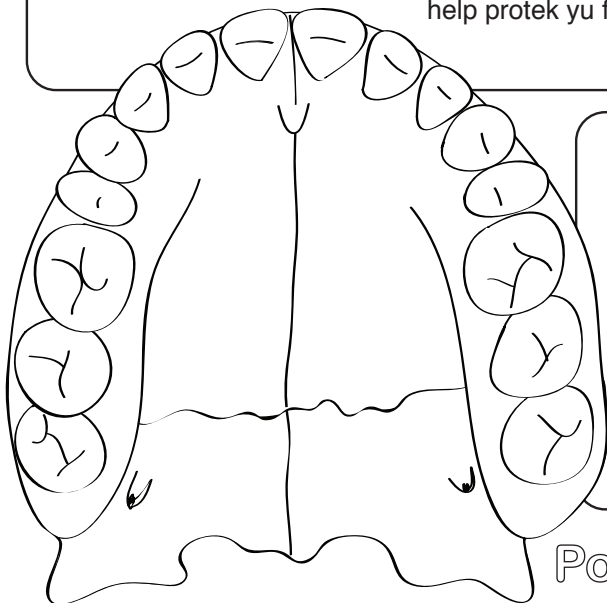


Treponema

Bruk dong plaant matta ahn dietary faiba

ANCESTRAL MICROBIOME

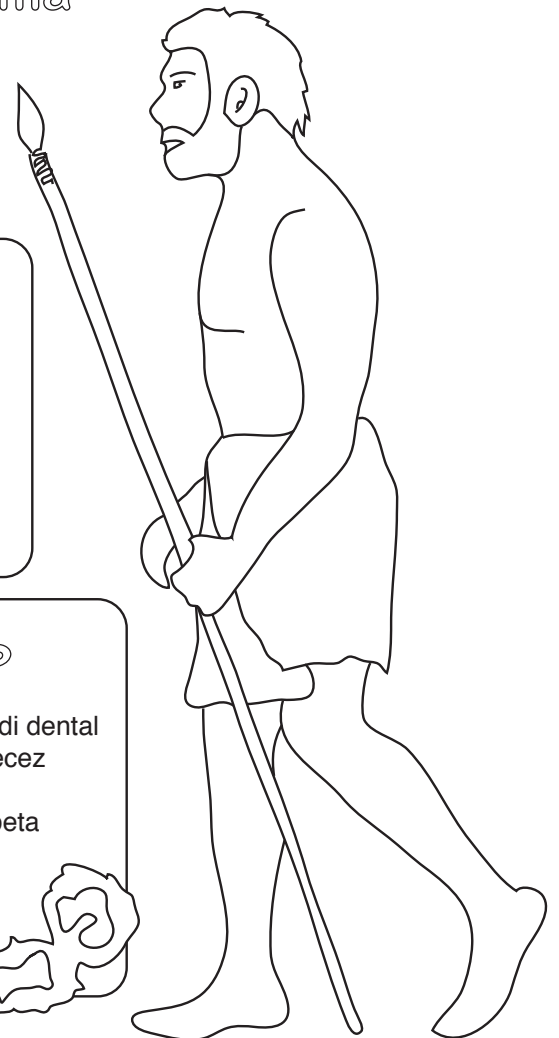
Yu badi da hoam tu chrillionz a bacterial cells, ahn tugeda dehn kaal it yu microbiome. Di bacteria dat liv eena yu intestinez help yu digis food ahn schrentn yu immune sistem. Di bacteria pahn yu skin help kip yu kleen, ahn di bacteria dat liv eena yu mowt help protek yu fram dizeez.



YU MI NOA?

Scientistz deh di stodi dental calculuz ahn paleofecez fi defain di ancestral microbiome ahn tu beta andastan di kaaz a diseasez.

Porphyromonas

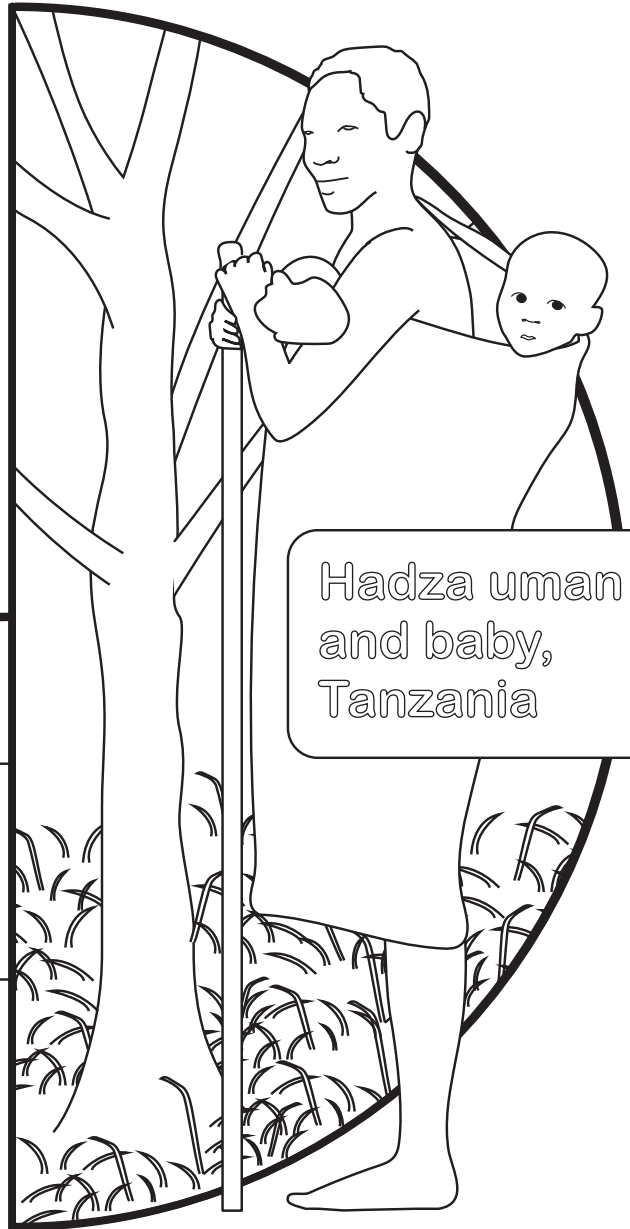


FORAGERZ

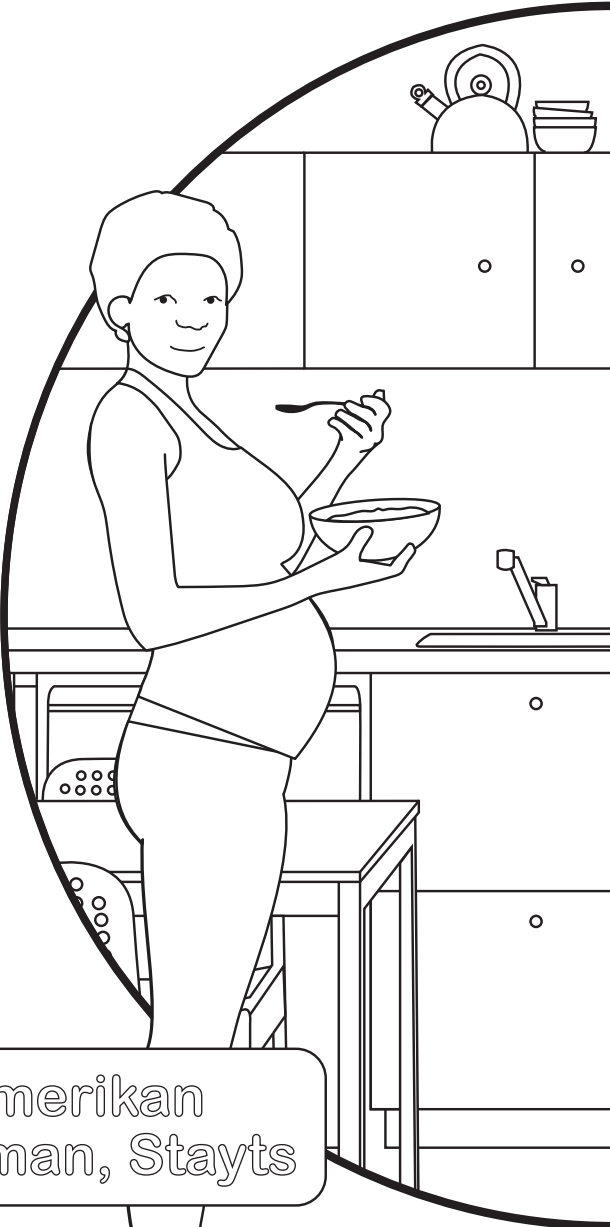
Foragerz, aalso naym az hunter-gatherers, eet wail foods, ahn dehn dietz deh seasonal variabl.

Bifoa di onset a agrikolcha rong 10,000 yaaz agoa, aal hyoomanz pahn ert dah mi foragerz.

Foragerz tudeh ga moa diverse gut microbiomez dan peopl eena industrialized societiez.



Hadza uman
and baby,
Tanzania



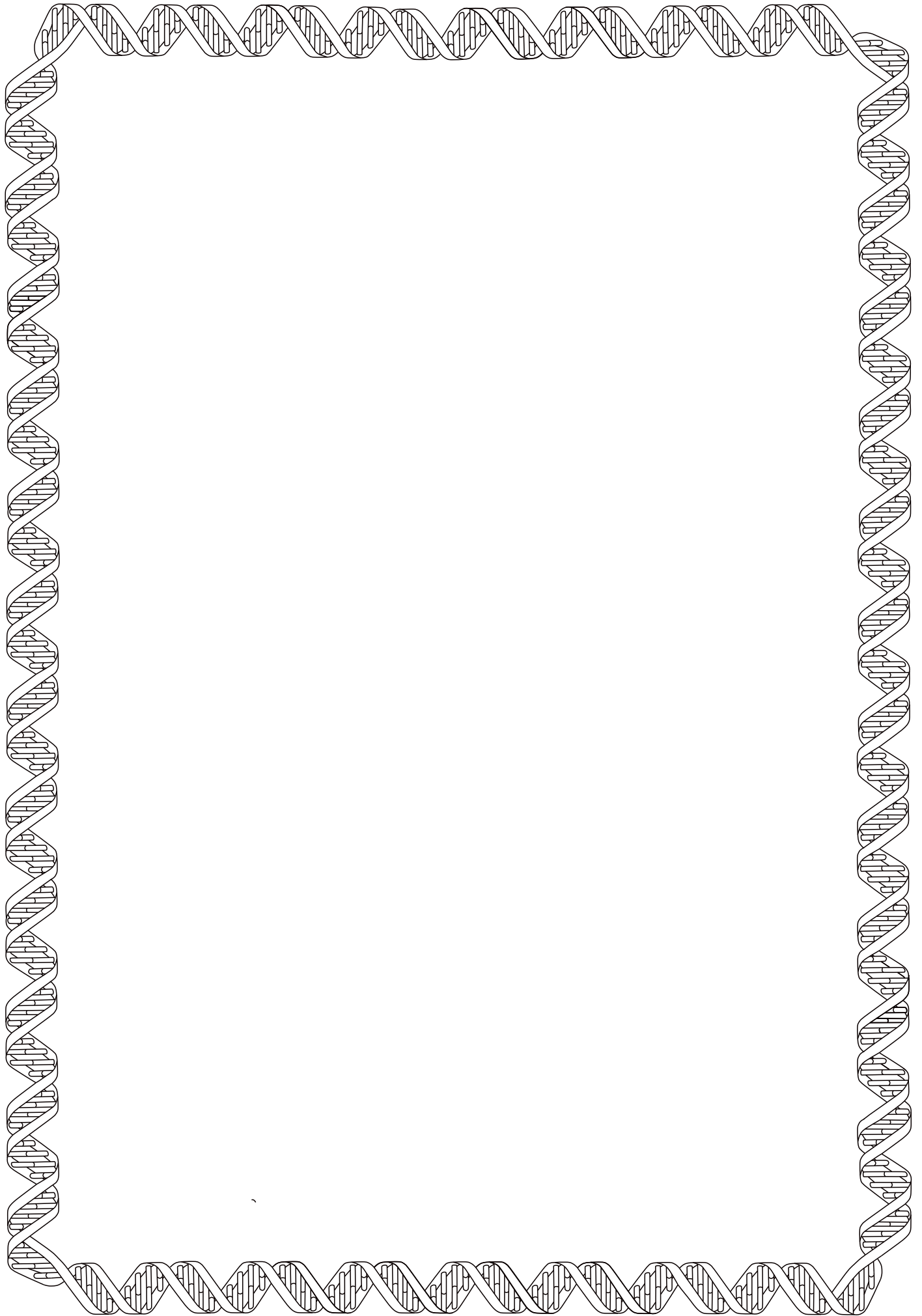
Amerikan
uman, Stayts

INDUSTRIALIZED SOCIETIEZ

Industrialized societiez consume mainli agricultural foods, ahn food producshan da wahn specialized activity mi du bai oanli wahn fyoo.

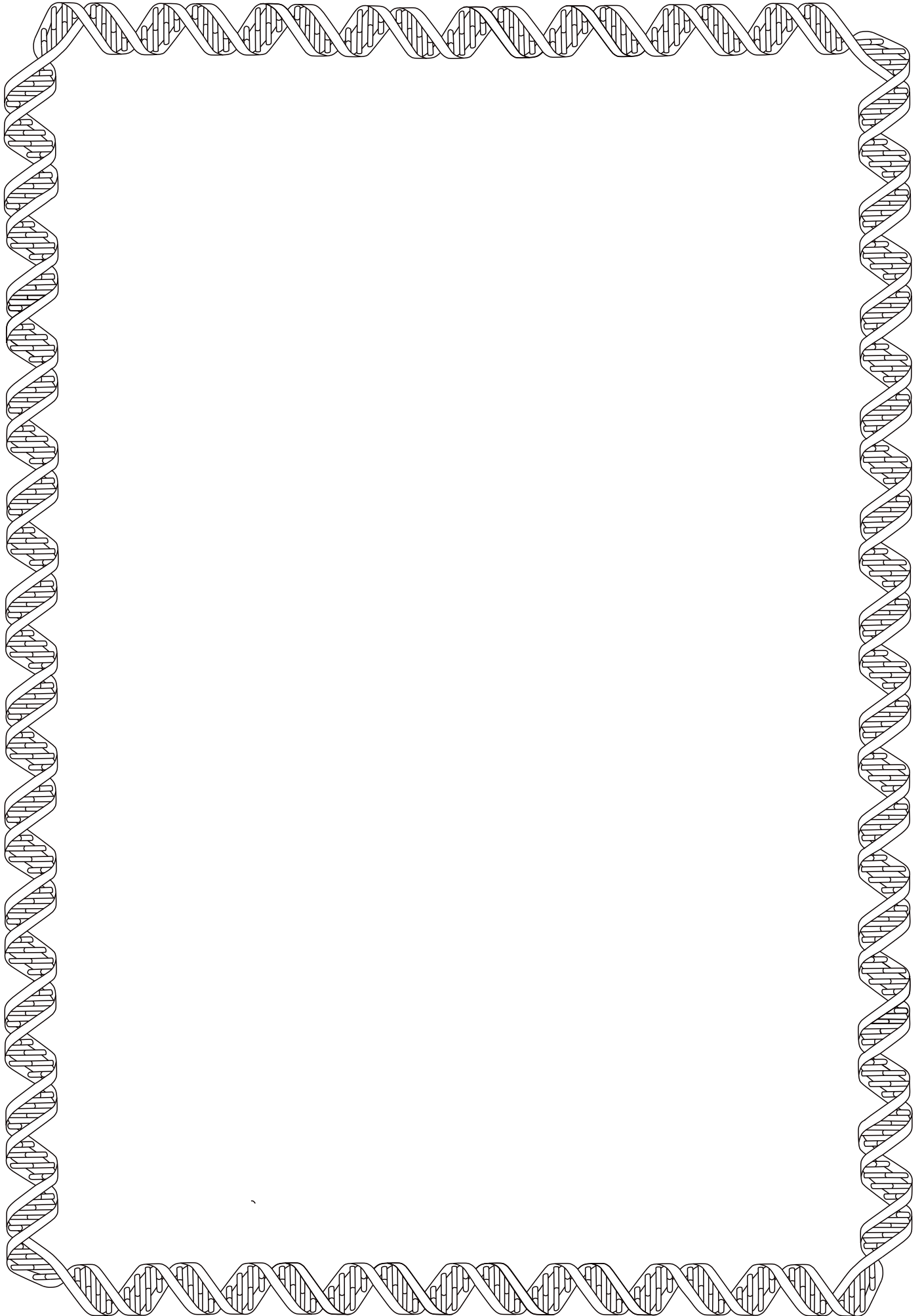
mechanization, preservayshan, ahn storij dehn dah kee aspekts dehn fa industrialized food chains, ahn foodz often chravl lang distancez bifoa dehn eat it.

peopl eena industrialized societiez tudeh ga les diverse gut microbiomes, wich kud put dehn ina grayta daynjaros sichuwayshan fi sohn chronik inflammatory diseasez.

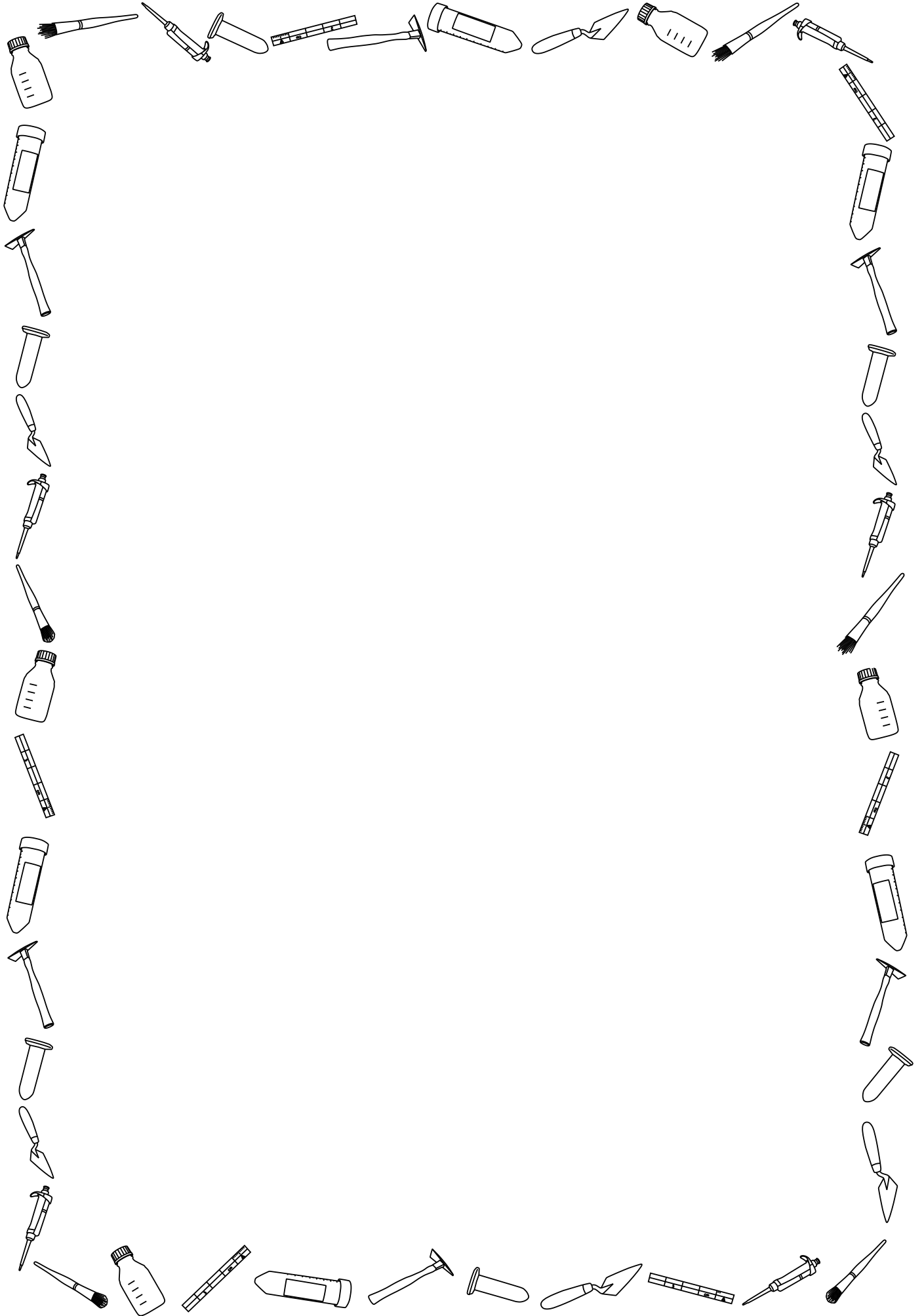




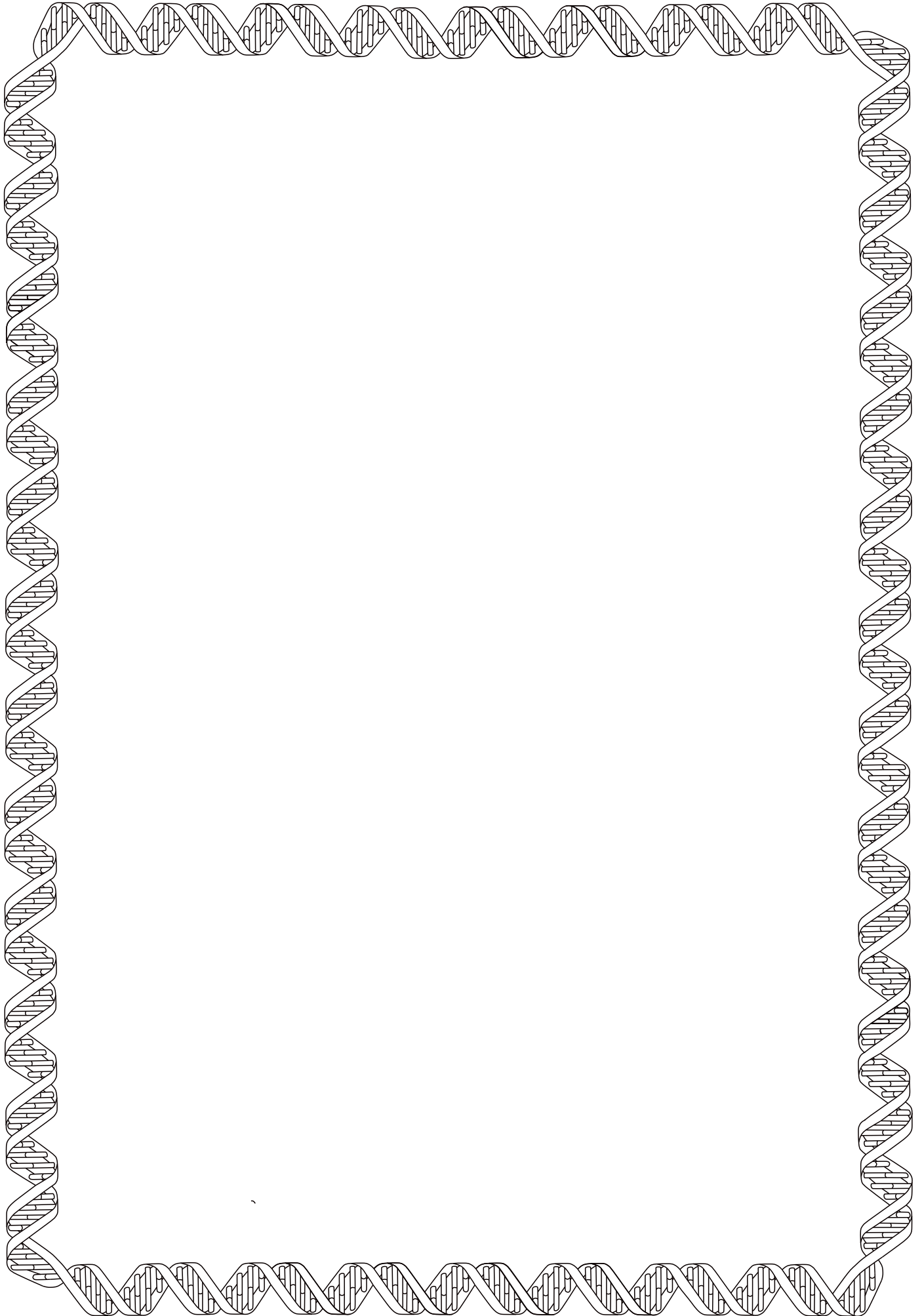






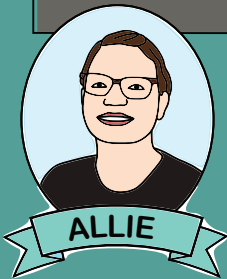




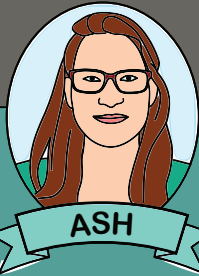




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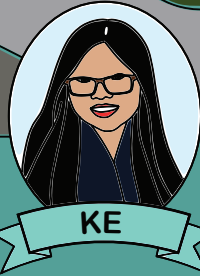
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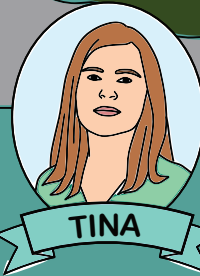
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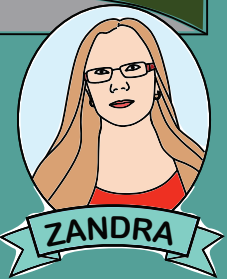
JESSIE



KE



TINA



ZANDRA

Advenchaz eena

ARCHAEOLOGICAL SAIYENS

Colorin buk

Laan how archaeologistz ahn scientistz werk tageda fi ansa kweschan bowt di hyooman paas! jain wi az wi eksplayn hoo wi ahn weh wi stodi, fram di originz a hyoomanz tu medieval plaguez. Laan bowt aynshent migrationz ahn radiocarbon datin. Si how scientistz reconstruct aynshent dietz fram microscopic plaant remainz. Uneart domesticayshan fun factz ahn di saiyens bihain dairy foodz. Explore aynshent diseasez ahn epidemicz ahn fain di ancestral hyooman microbiome.

Mi projoos bai scientistz da di maks planck institute fi evolutionary anthropology

Chranslated eena Kriol by Rafael A. Guerra



RAFAEL