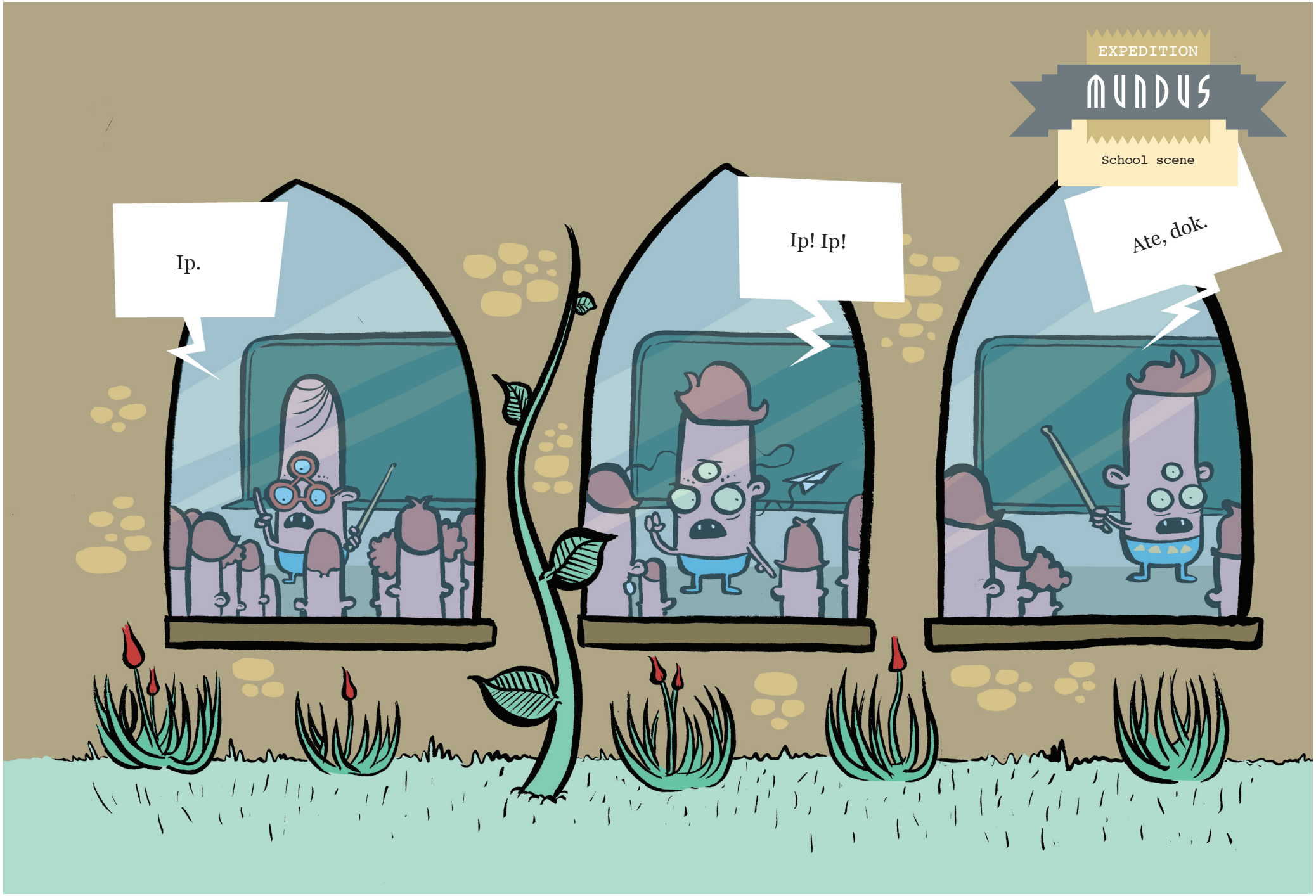
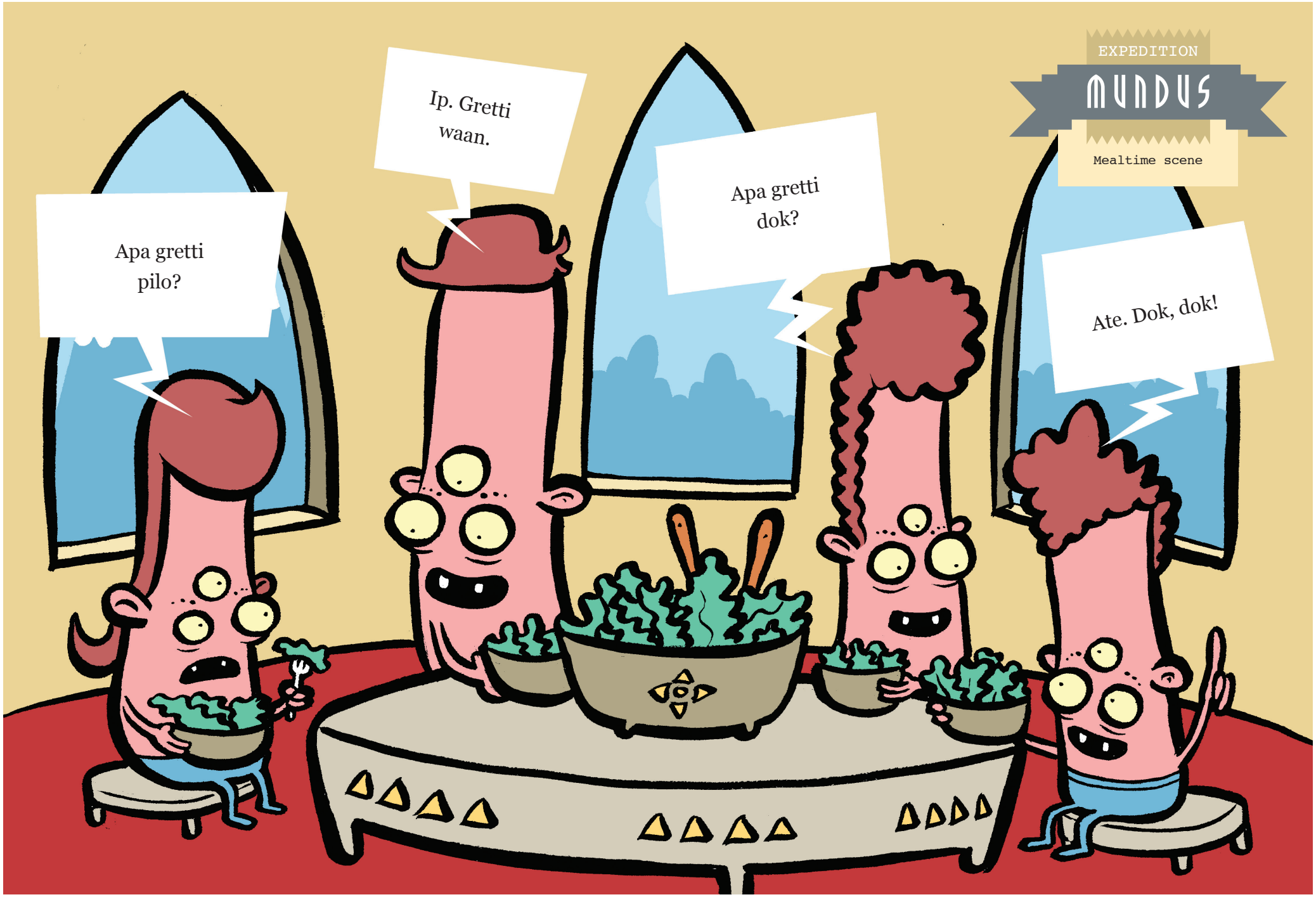
EXPEDITION
MUNDUS
Kapuki maya yanna dok.
Pi! Pi! Pilo steppe gol.
Fofi fofi og deffe.
Deffe!
Apa pilo bozo?
Waan.
Fofi!
Pilo pilo.
Pluk!
Tedep!
Tedep! Apa yanna dok?
Ate. Yanna dok.
Pi. Blof tomi tomi.
Yanna blof...
Pi!

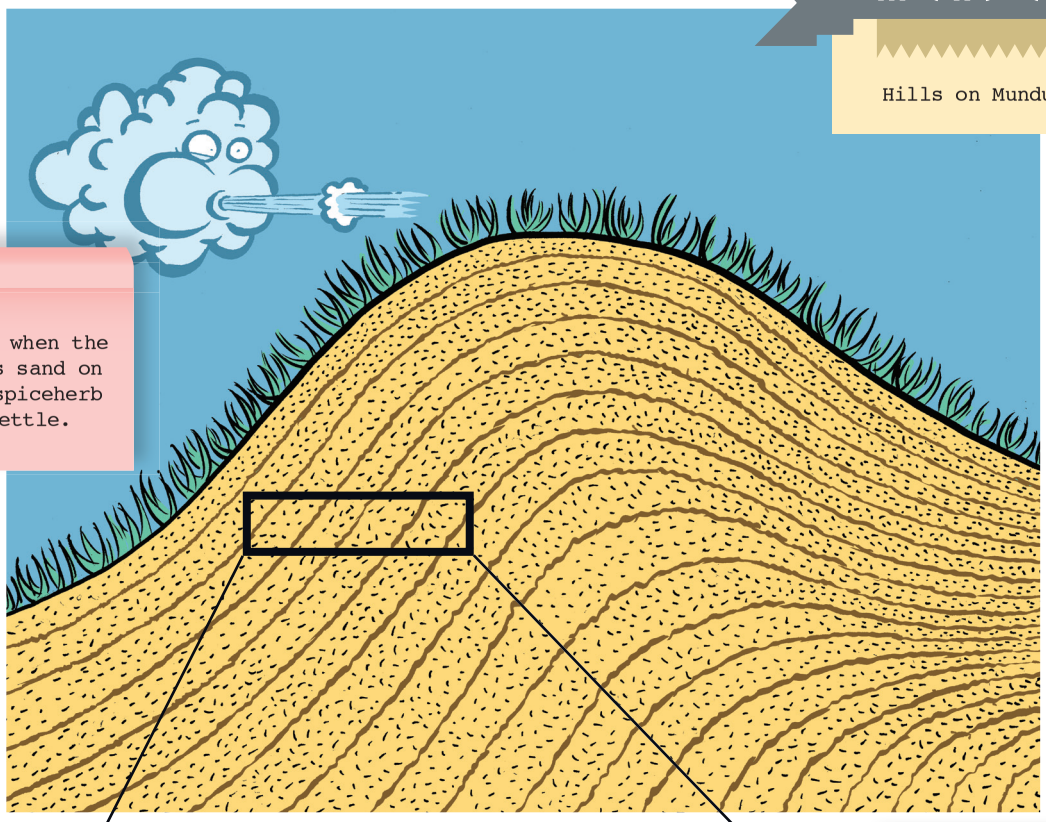

EXPEDITION
MUNDUS
School scene
Ip.
Ip! Ip!
Ate, dok.


EXPEDITION
MUNDUS
Mealtime scene
Apa gretti pilo?
Ip. Gretti waan.
Apa gretti dok?
Ate. Dok, dok!

EXPEDITION

MUNDUS

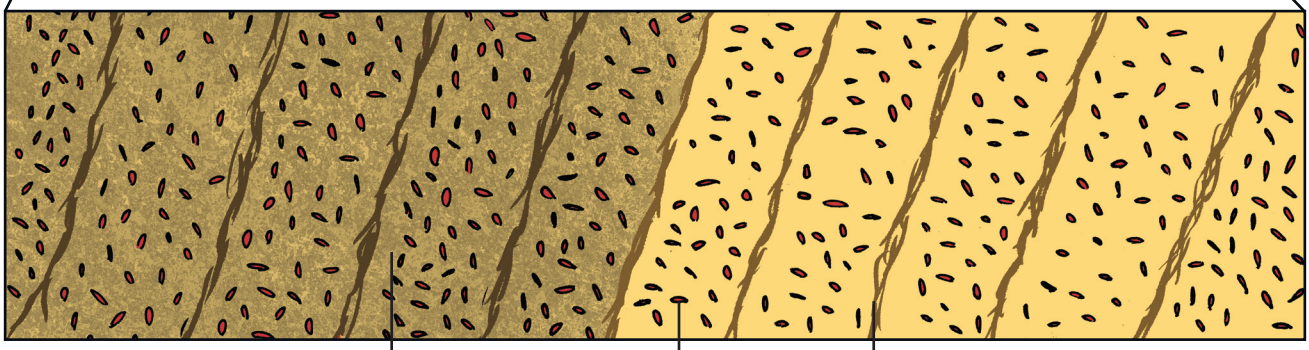
Hills on Mundus



Hills grow when the wind blows sand on them and spiceherb seeds settle.

the sand appears to be mixed with volcanic ash in layers 72 to 150

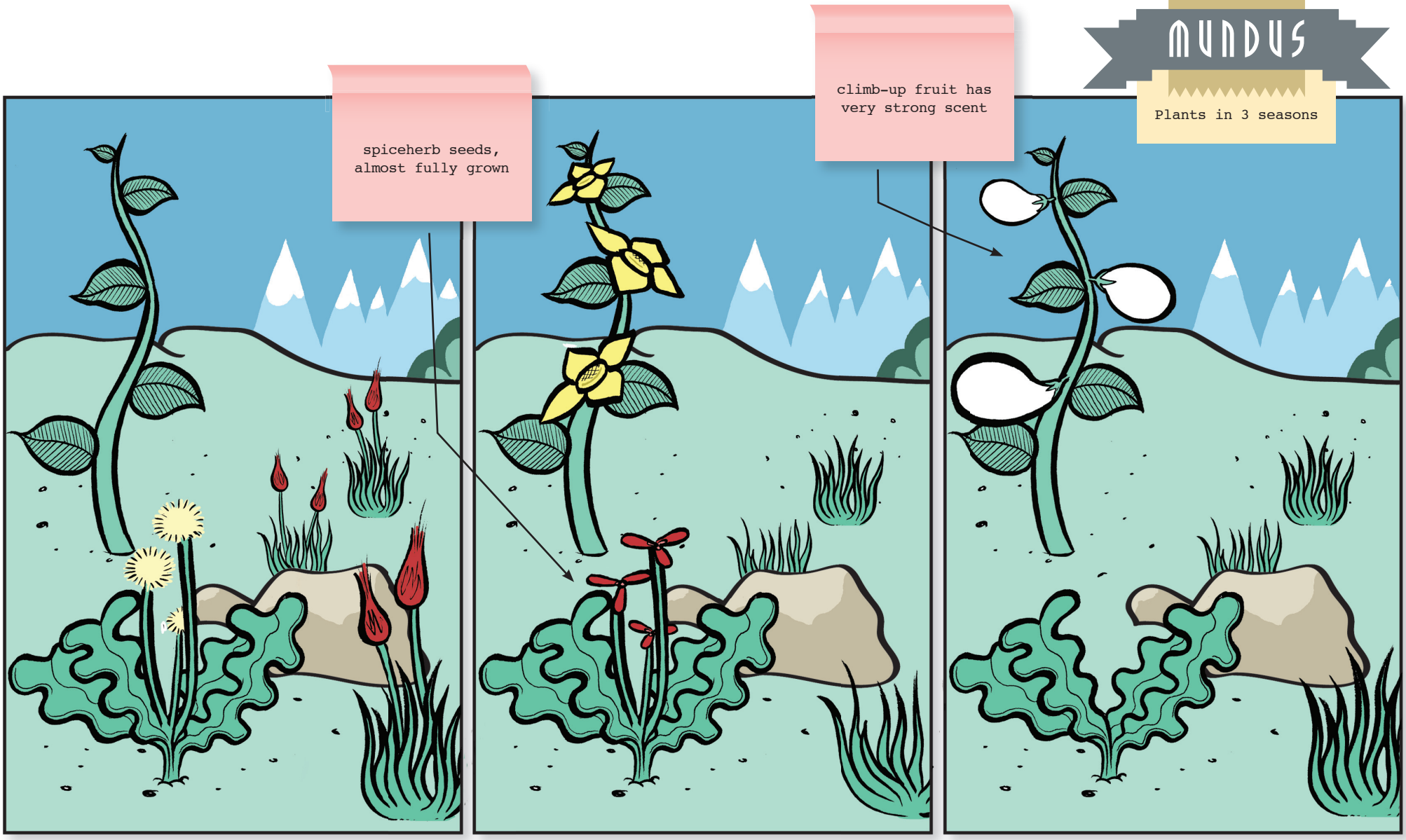
Detail of cross-section



EXPEDITION

MUNDUS

Plants in 3 seasons



klang tomi

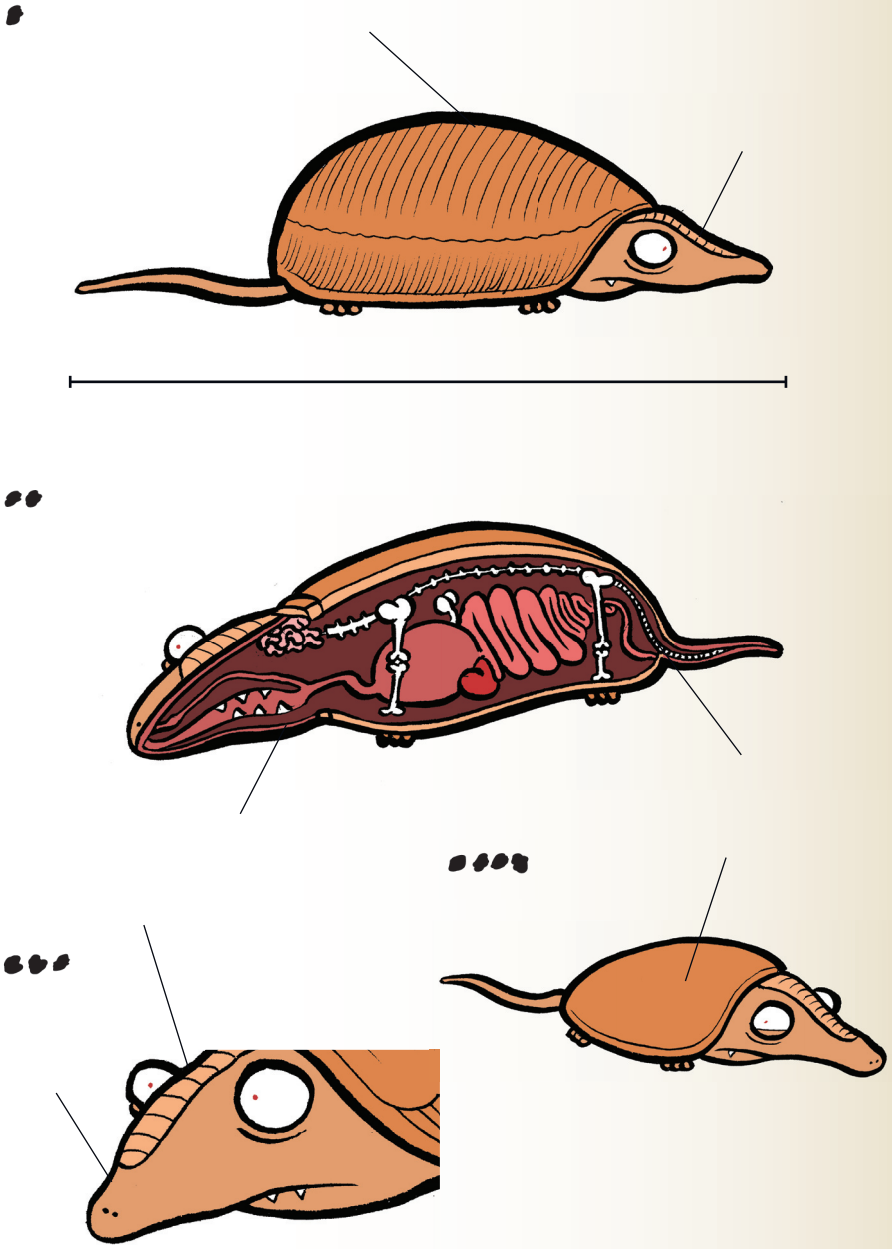
klang raf raf

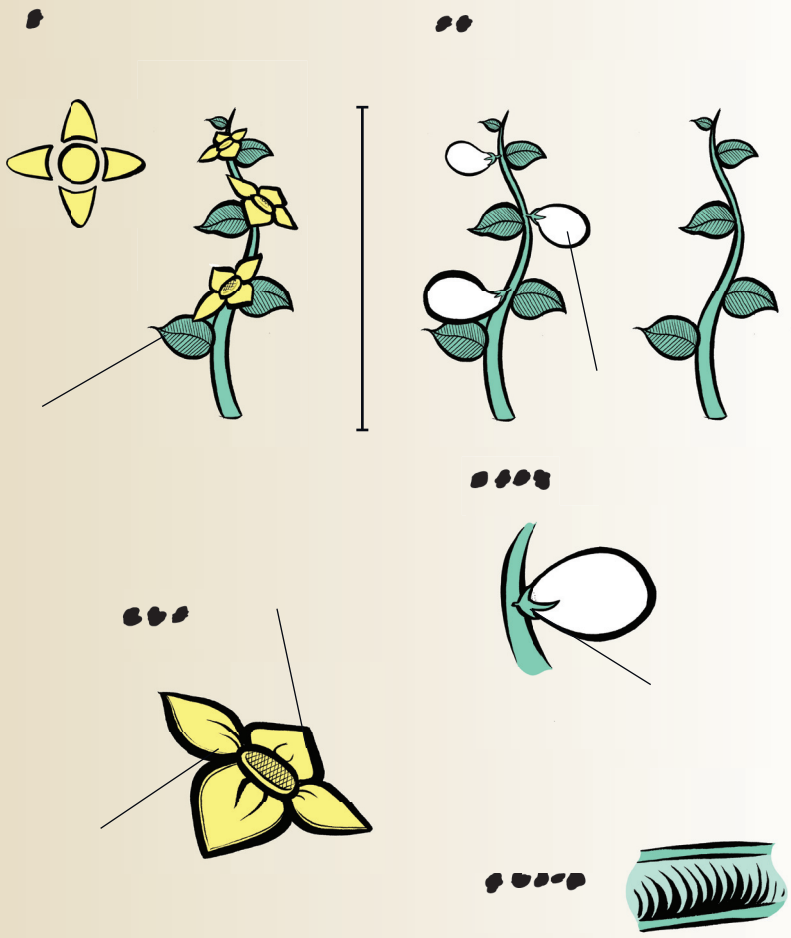
klang blof

EXPEDITION

MUNDUS

page from a biology book

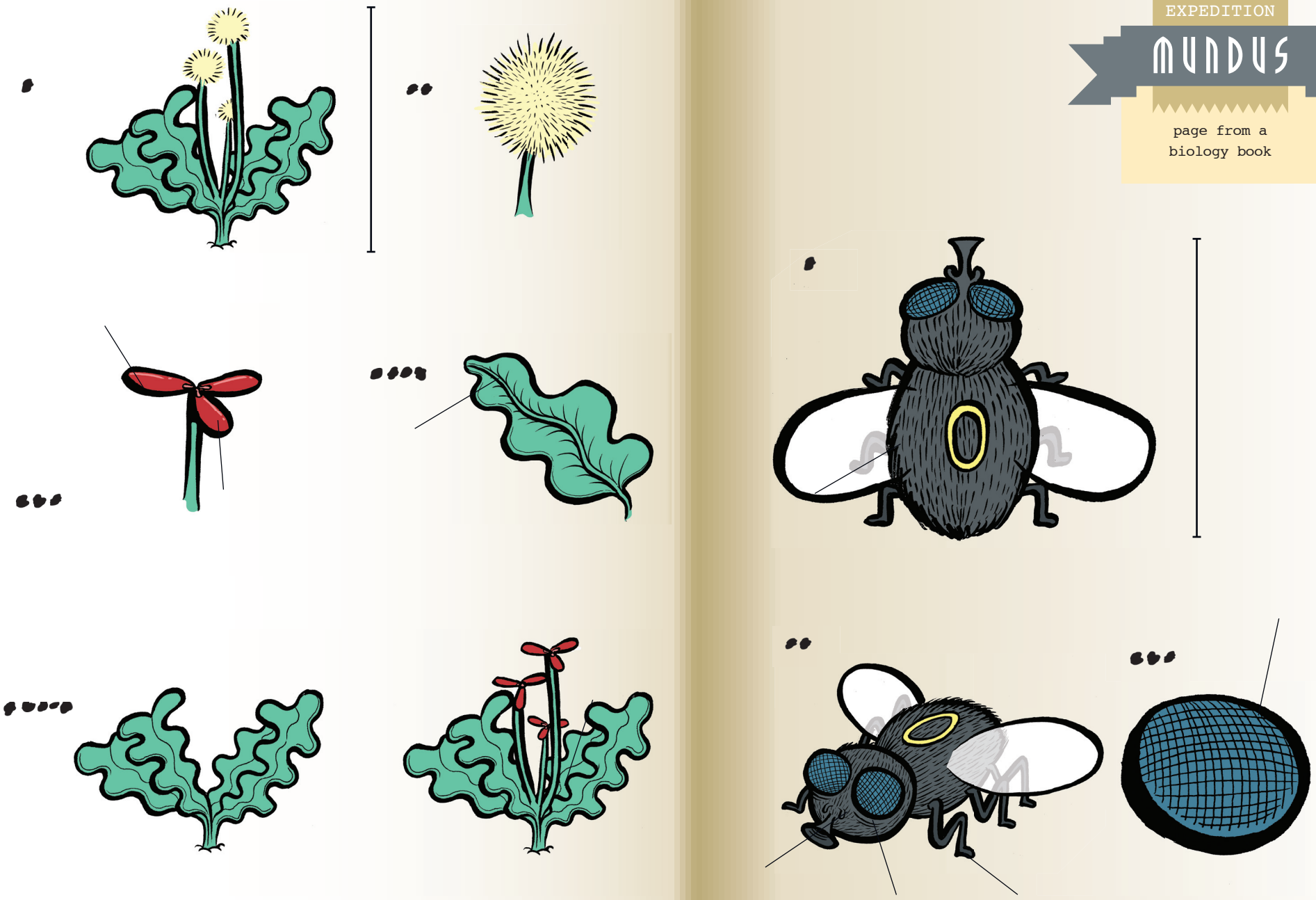




EXPEDITION

MUNDUS

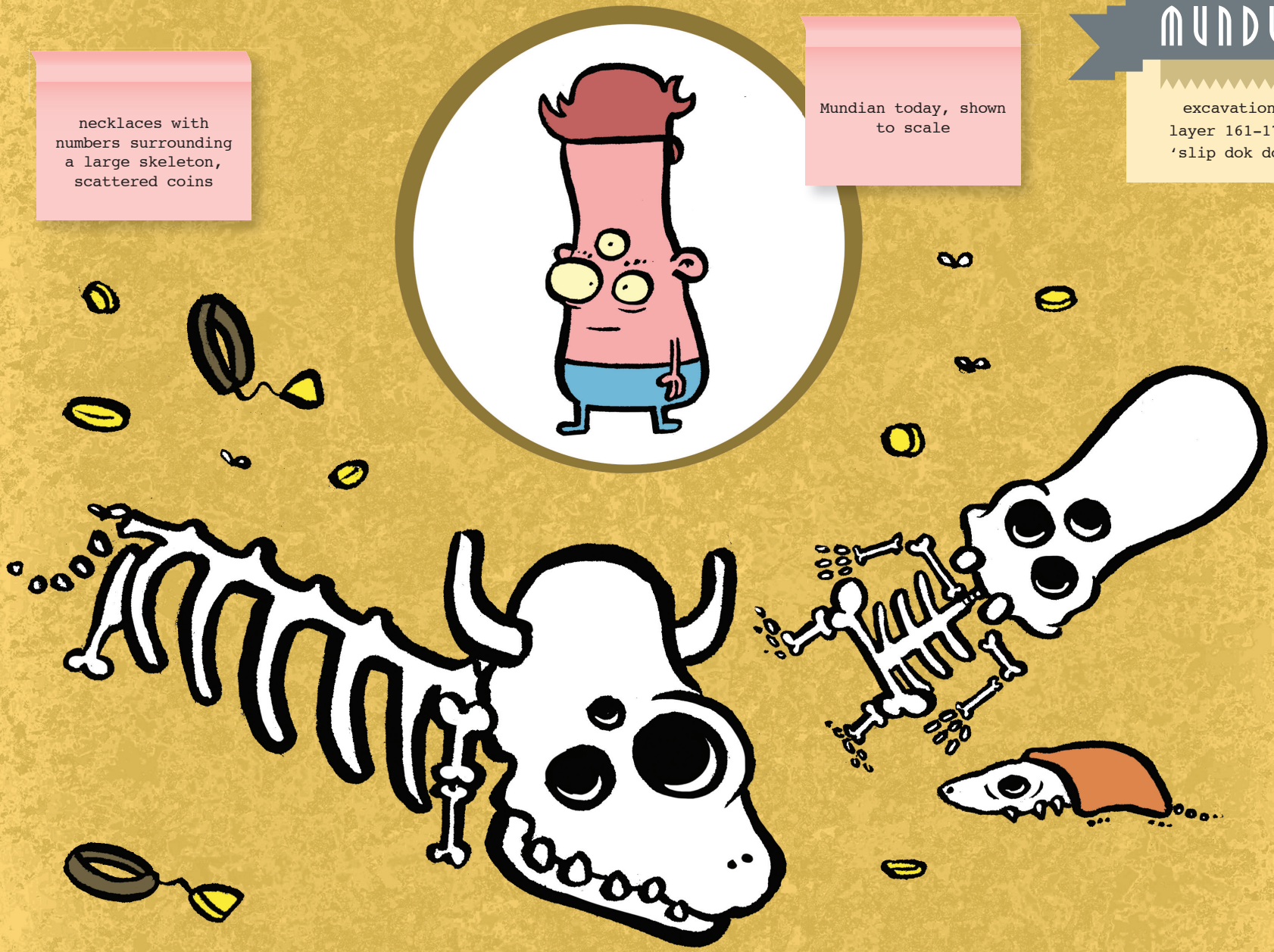
page from a biology book



EXPEDITION

MUNDUS

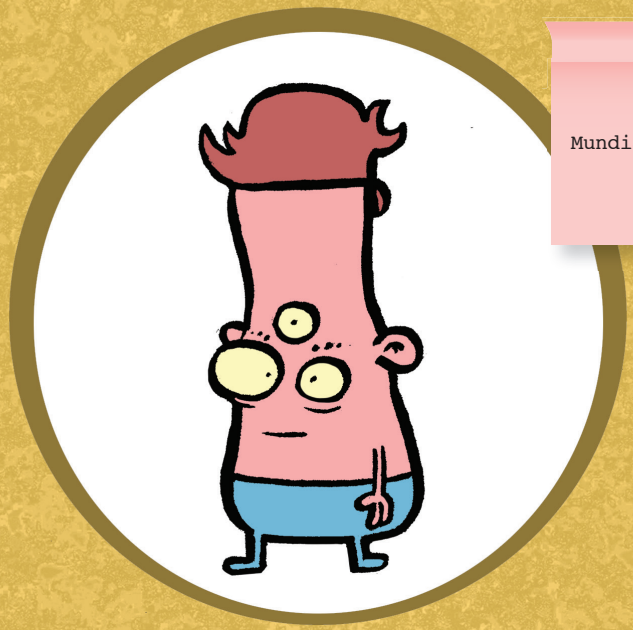
excavation,
layer 161-176,
'slip dok dok'



EXPEDITION

MUNDUS

excavation,
layer 93-108,
'slip kara'

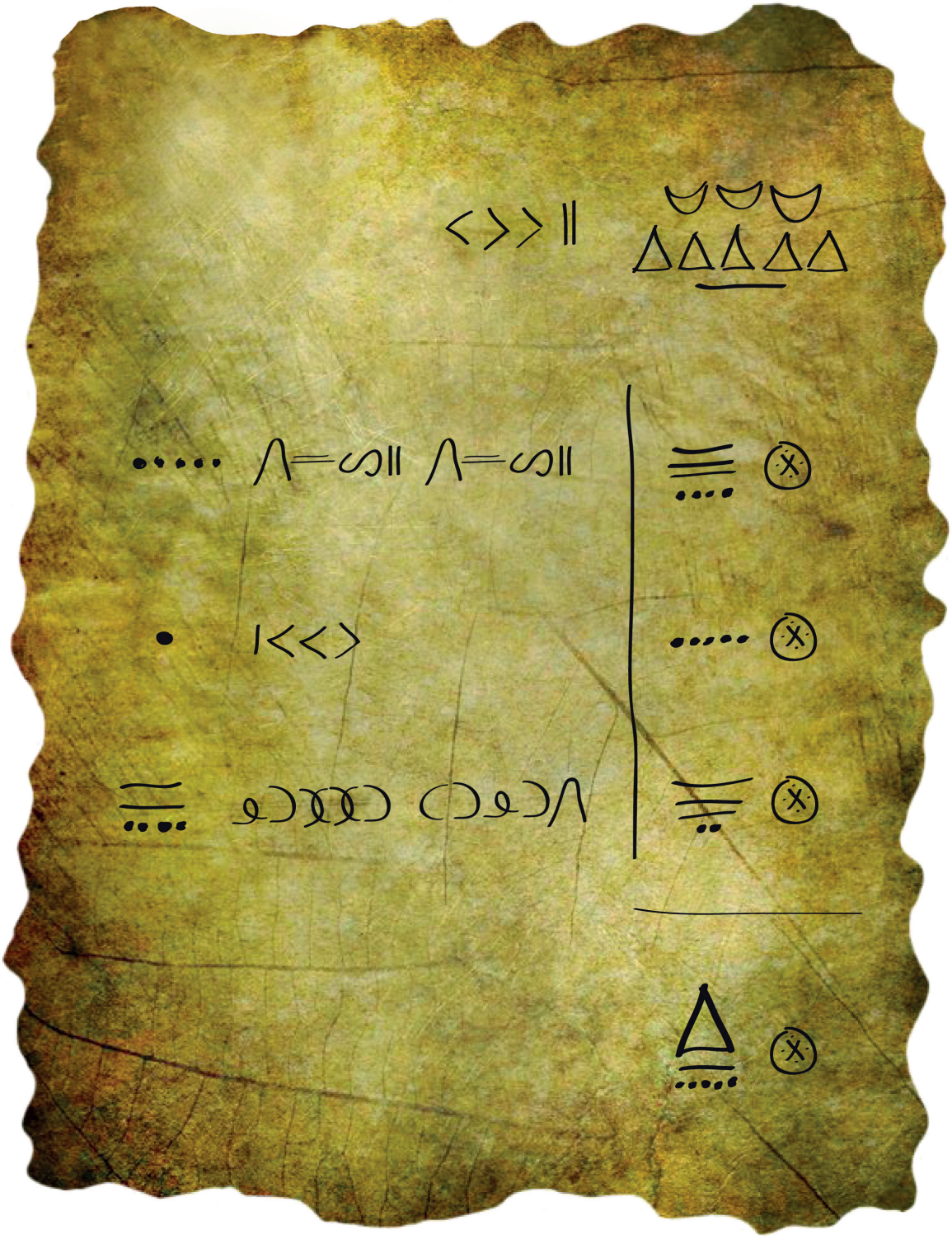


Mundian today, shown to scale

EXPEDITION

MUNDUS

document x1



EXPEDITION

MUNDUS

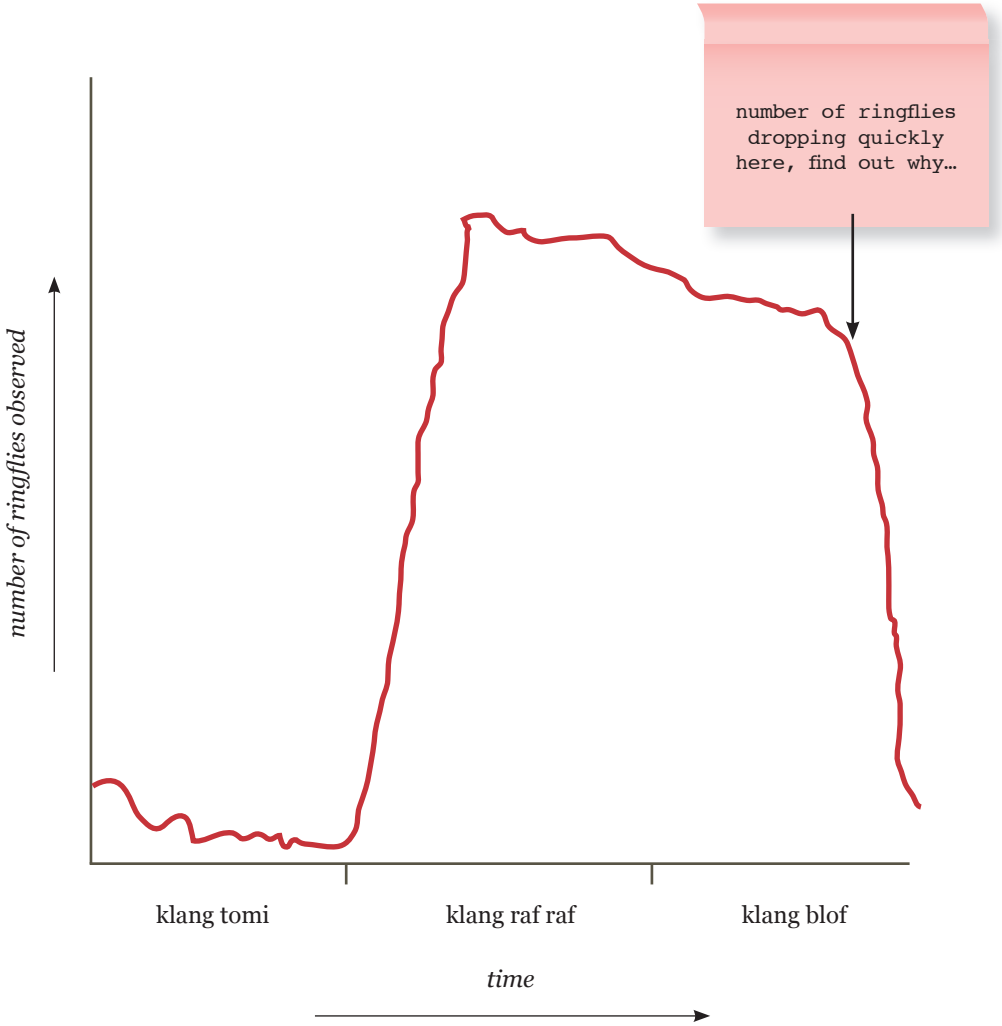
document x2

EXPEDITION MUNDUS

number of ringflies and shellbeasts

NUMBER OF RINGFLIES AND SHELLBEASTS

observations in three seasons
observations recorded at five different observation stations across Mundus



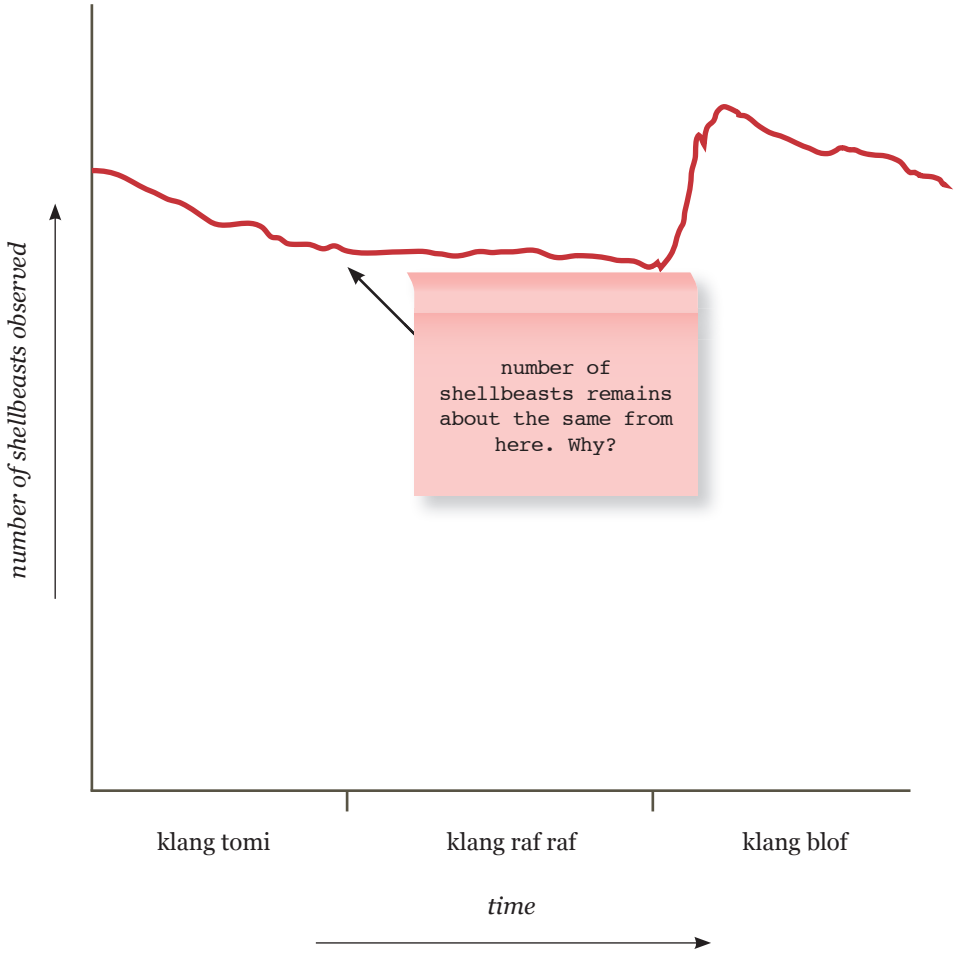
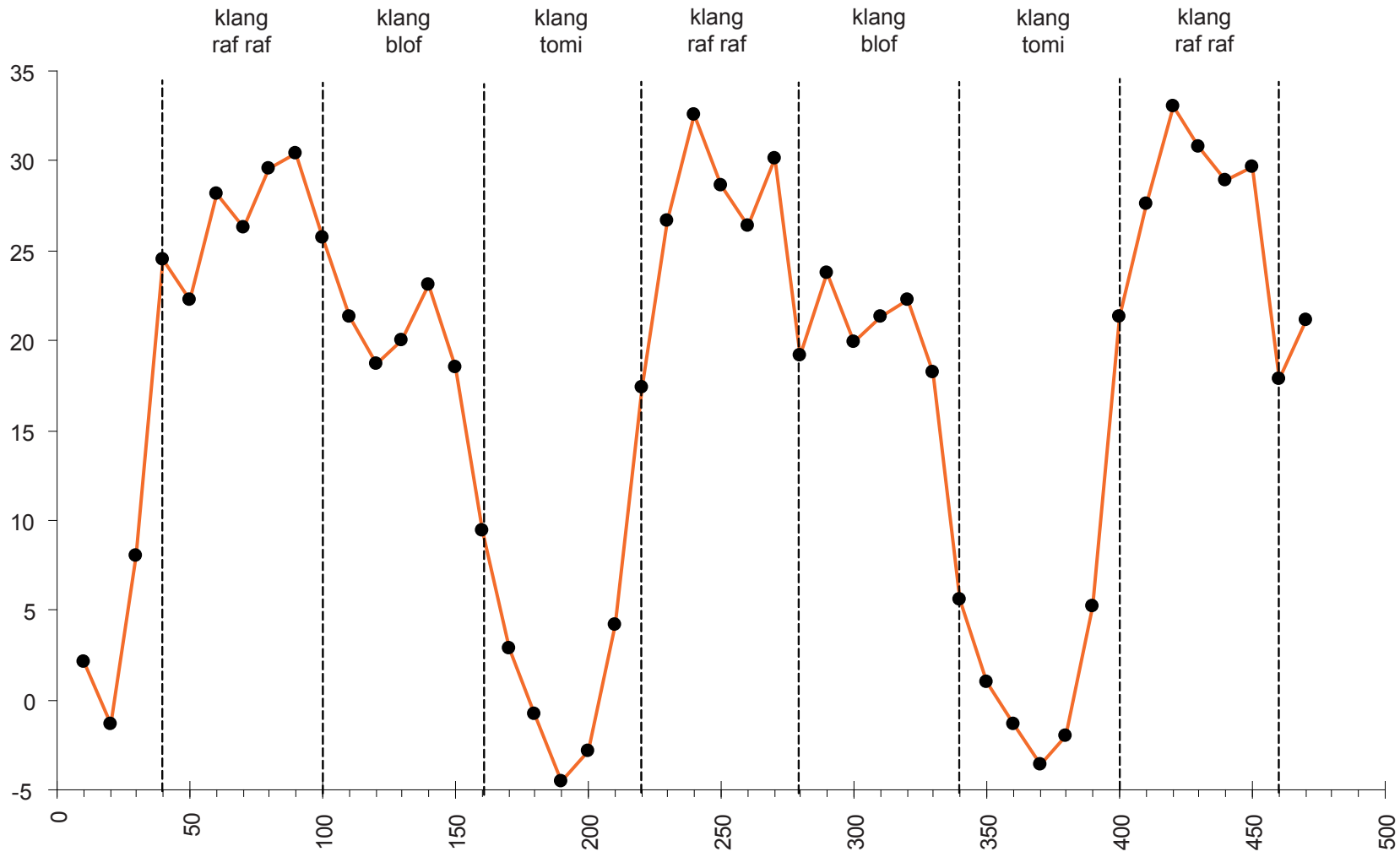


chart naturally doesn't apply to ara nuki, it's always tomi tomi there

EXPEDITION MUNDUS

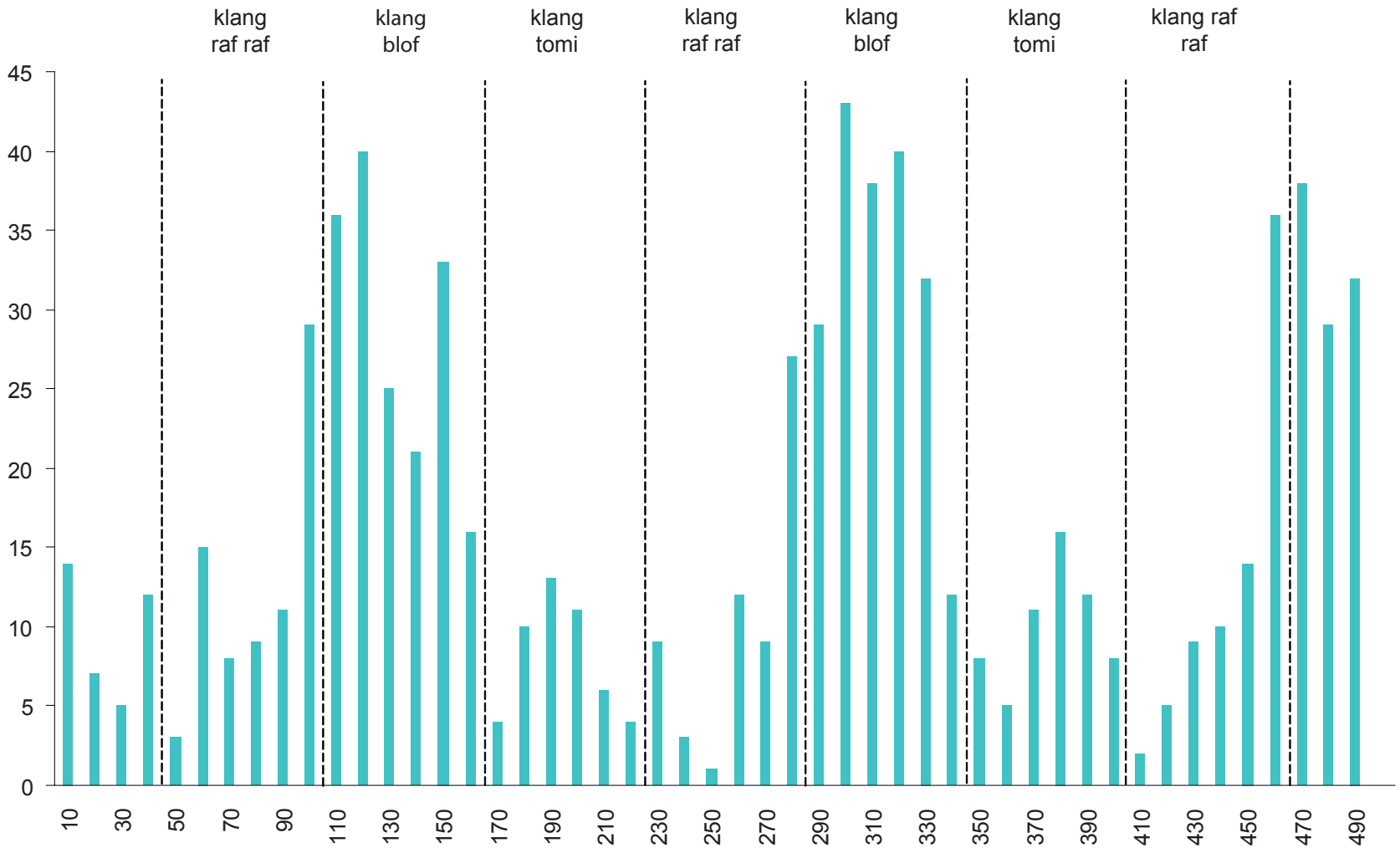
weather chart 1



EXPEDITION

MUNDUS

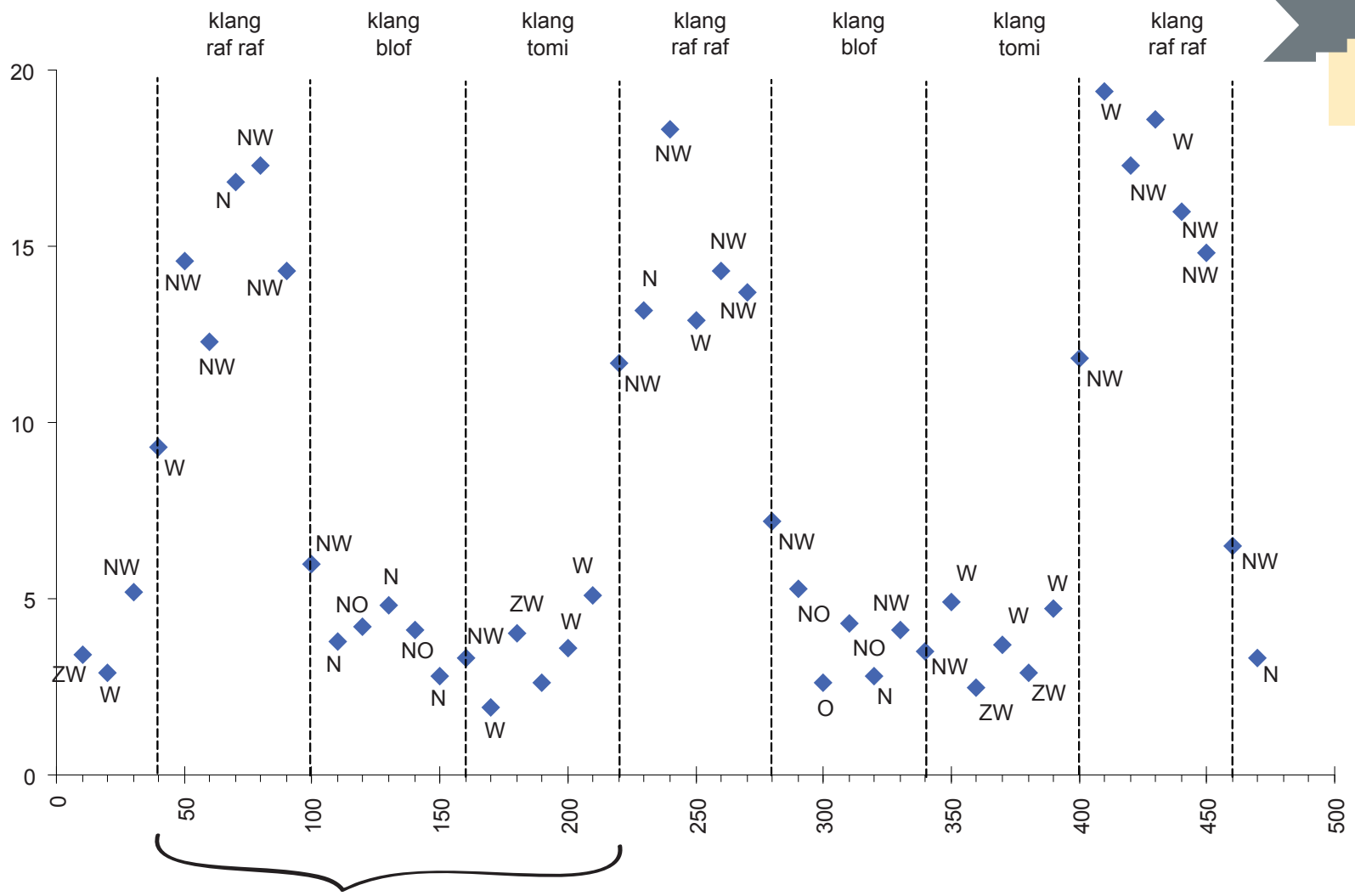
weather chart 2



EXPEDITION

MUNDUS

weather chart 3

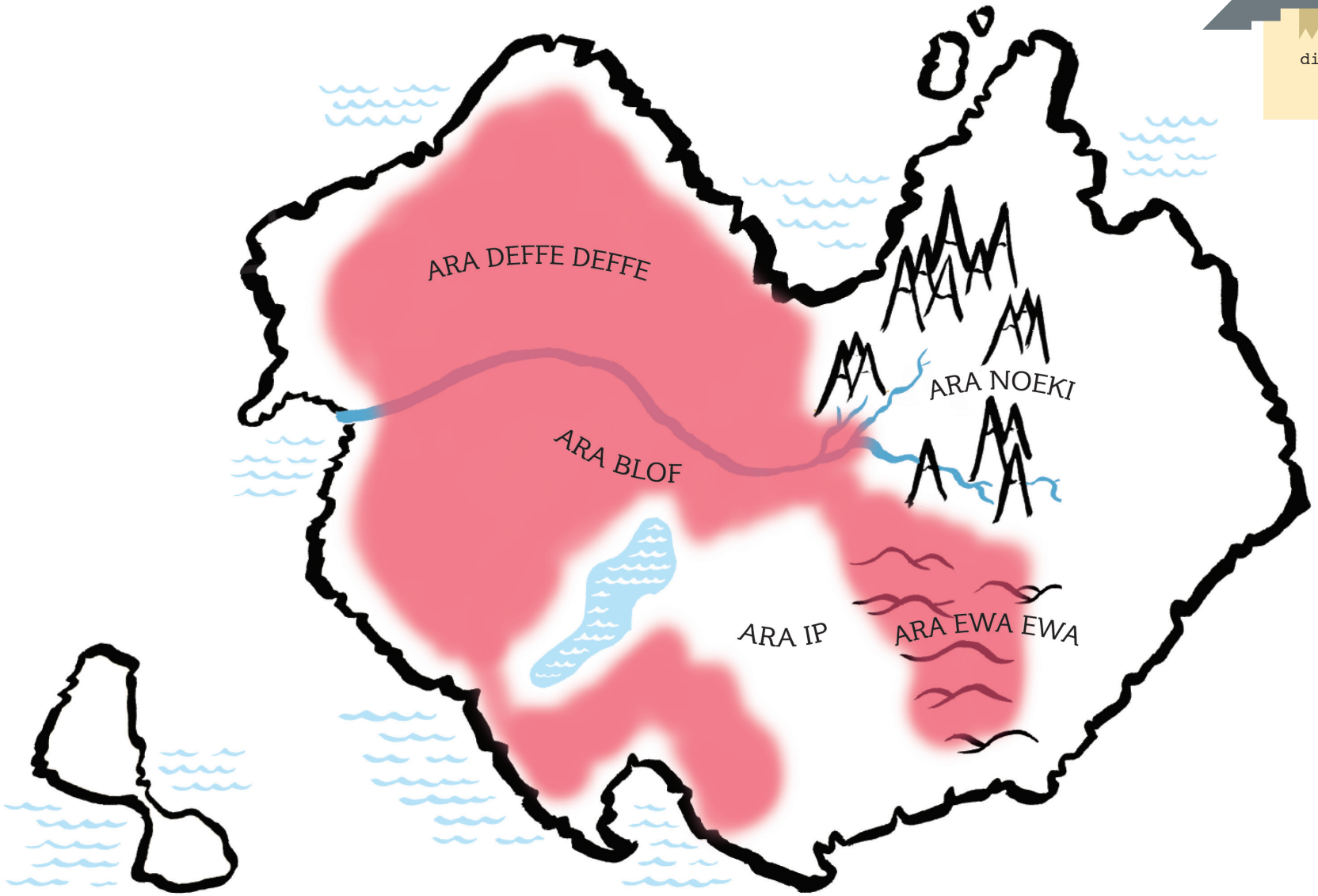


together one year

EXPEDITION

MUNDUS

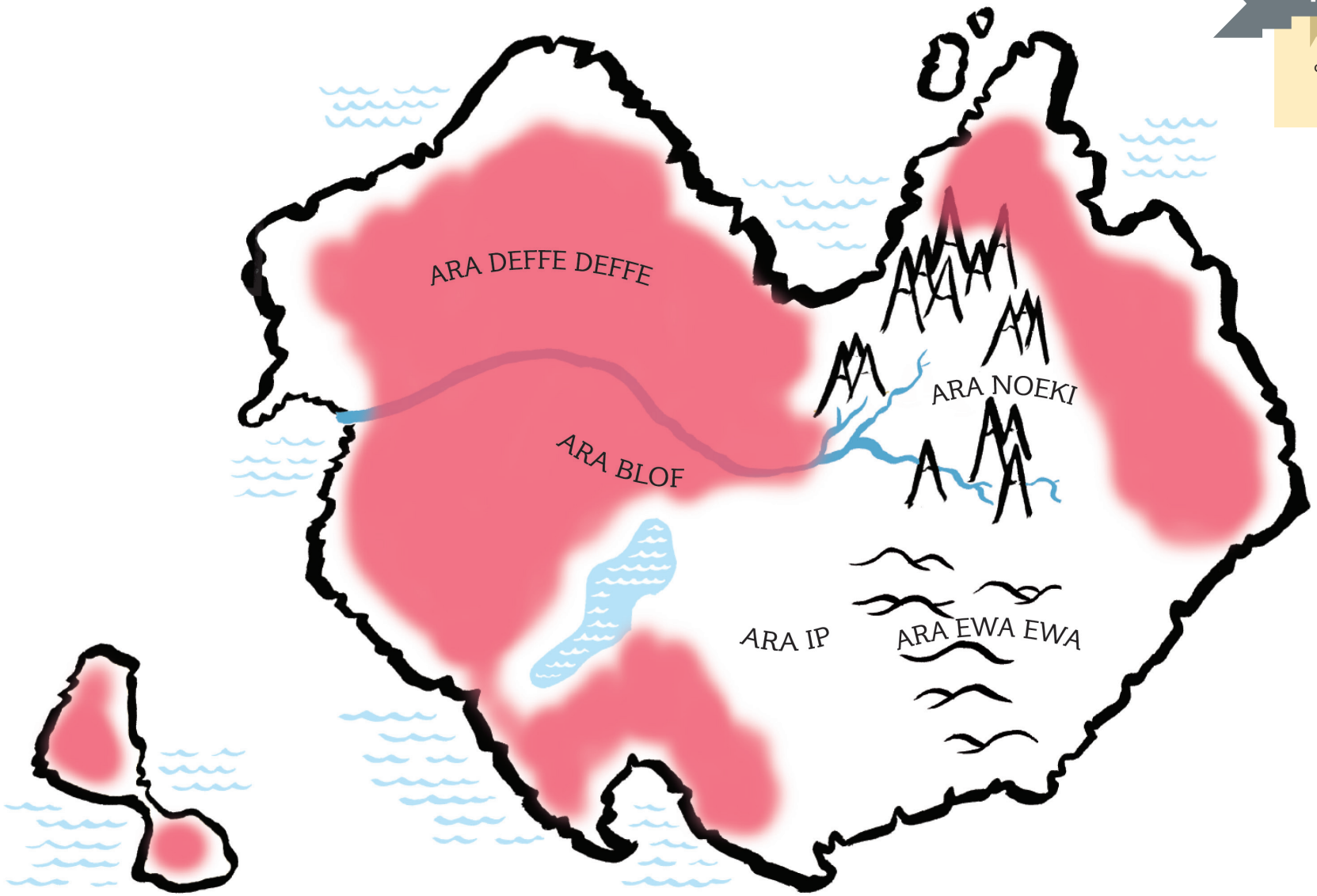
distribution of shellbeasts



EXPEDITION

MUNDUS

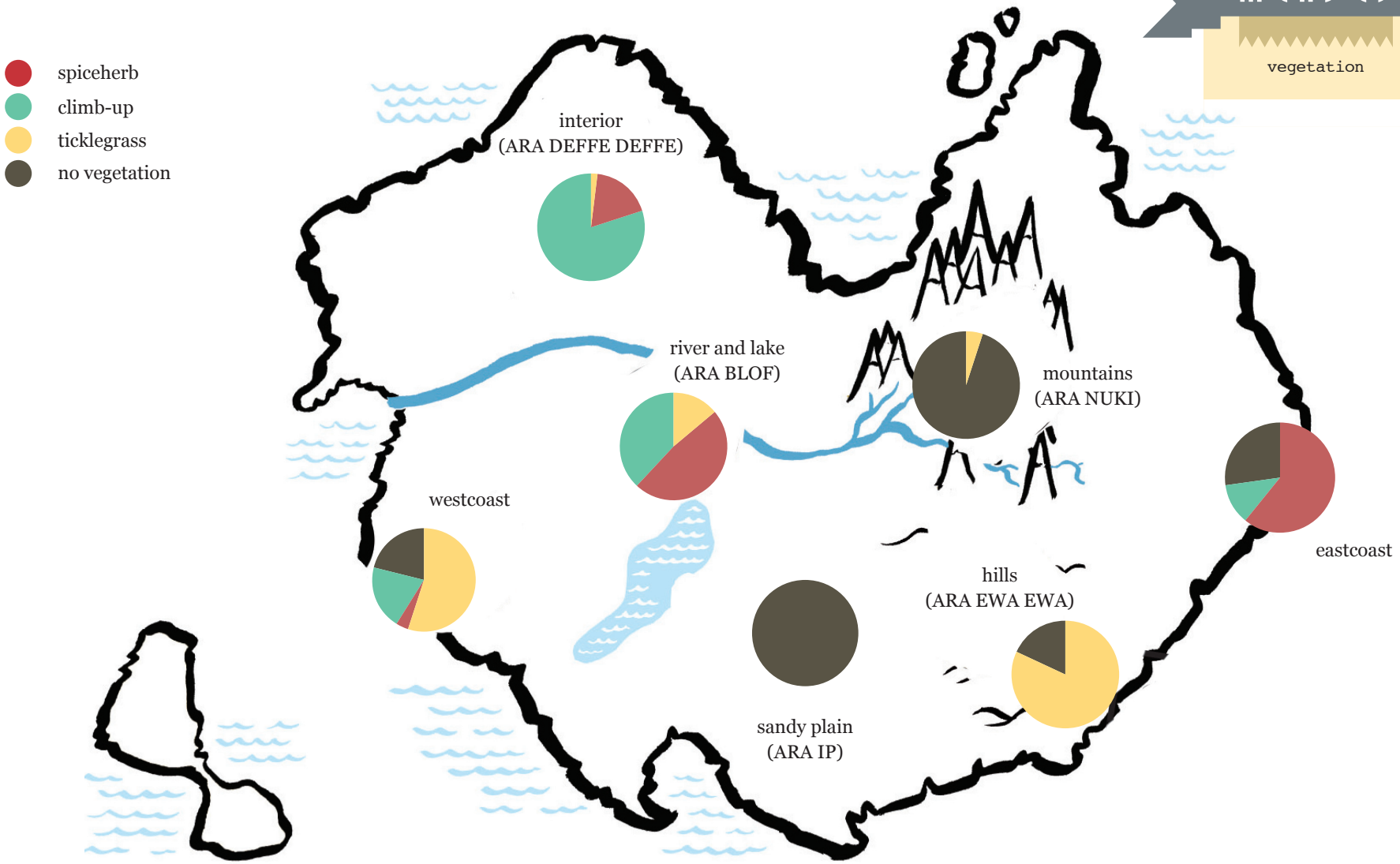
distribution of ringflies



EXPEDITION

MUNDUS

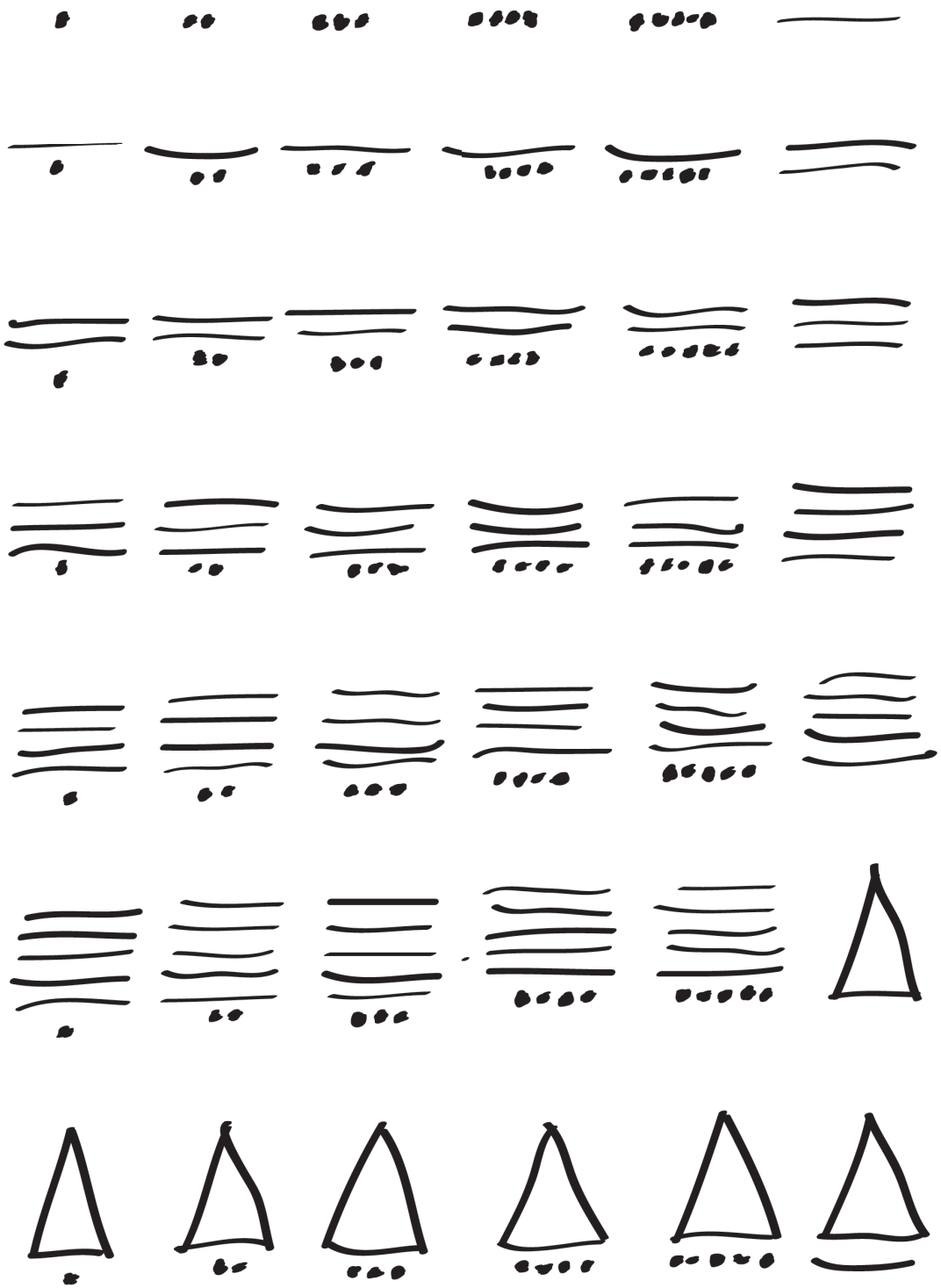
vegetation



EXPEDITION

MUNDUS

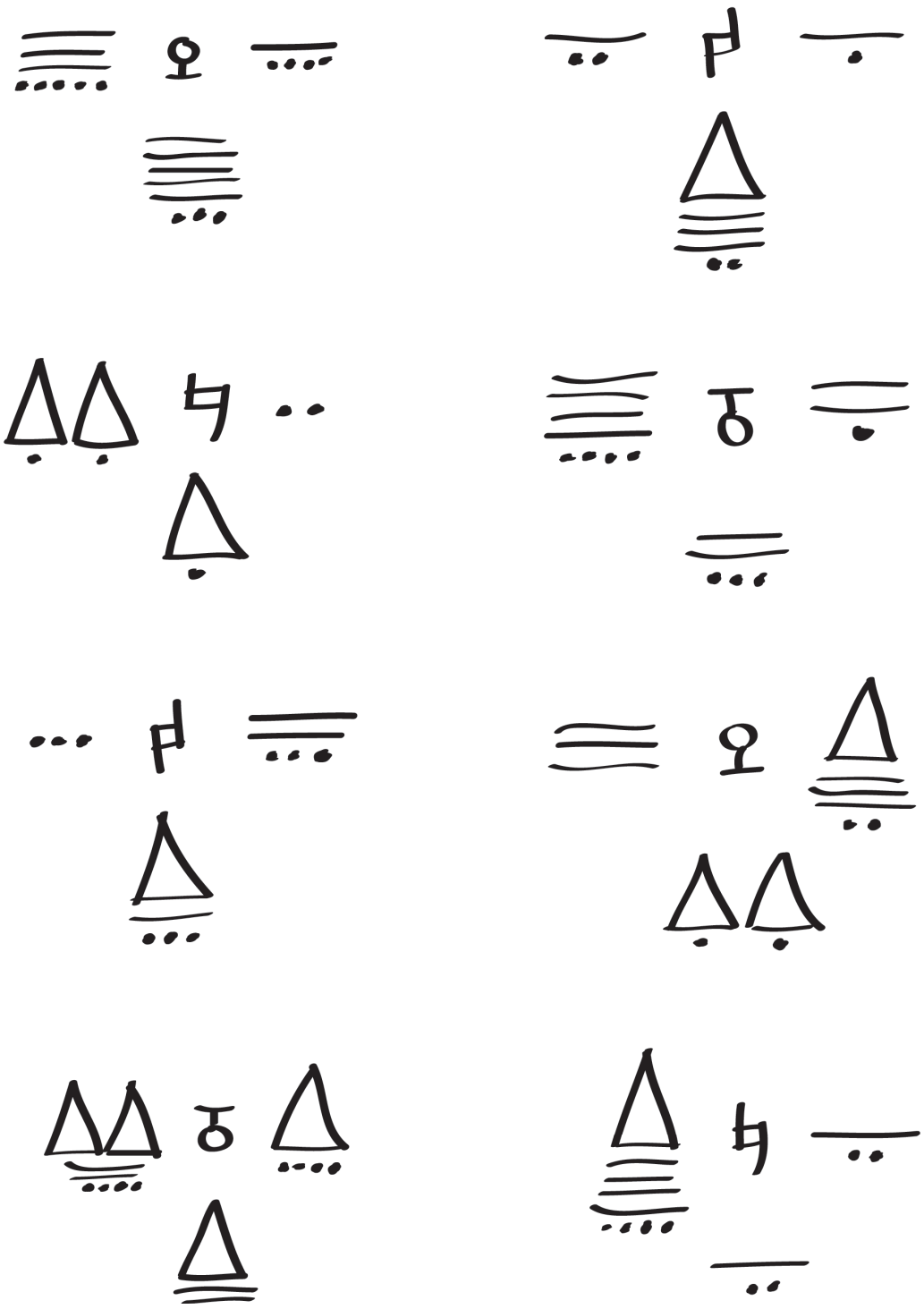
number system



EXPEDITION

MUNDUS

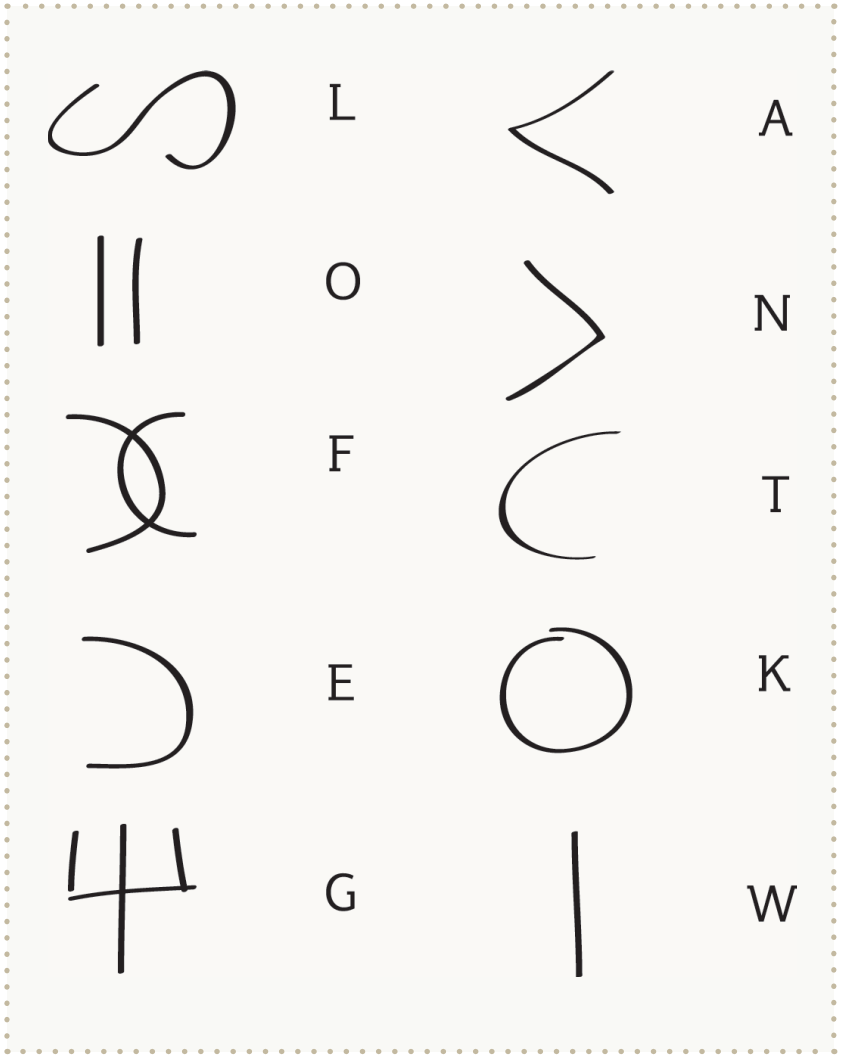
problems from arithmetic notebook



EXPEDITION

MUNDUS

Mundian words and symbols



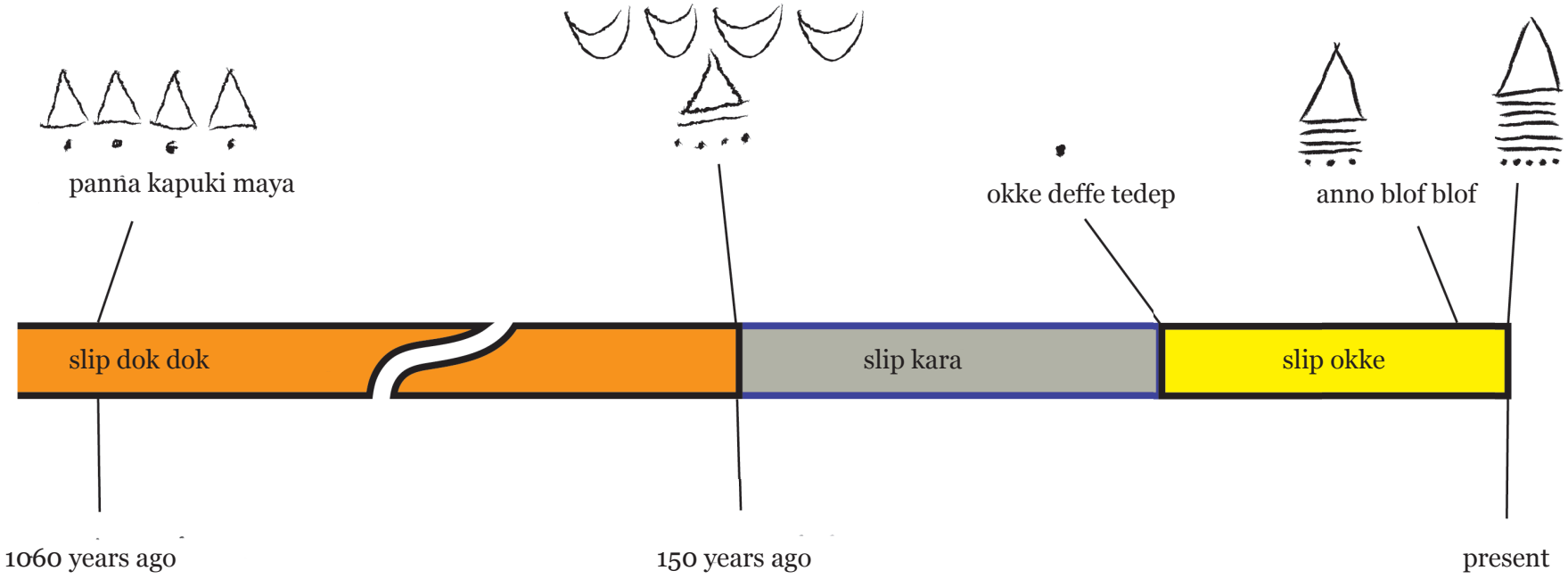
affu	*love*
anno	*year*
bog	*house*
bozo	*nice*
do	*I*
ewa	*hill*
yanna	*be*
gol	*fast*
lo	*you*
kaf	*seed*

kalif	*animal*
kapuki	*maze*
kara	*dark*
klang	*season*
maya	*large*
panna	*make*
Mundion	*Mundian*
nuki	*mountain*
okke	*new*
steppe	*walk*
terep	*sun*

EXPEDITION MUNDUS timeline

OLD MUNDIAN CALENDAR

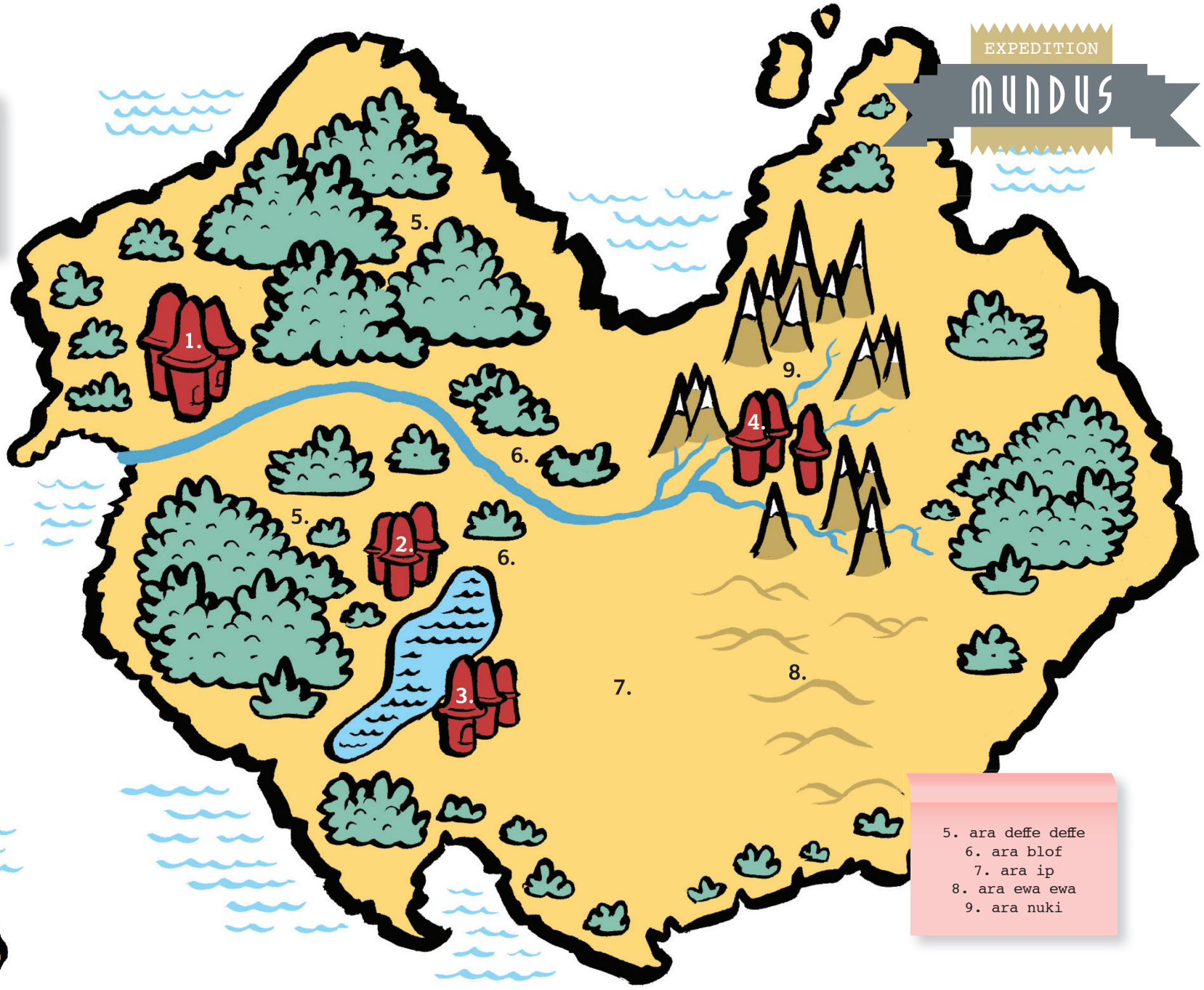
NEW MUNDIAN CALENDAR



EXPEDITION

MUNDUS

1. laka-wom
2. blof-wom*
3. blof-wom**
4. nuki-wom



5. ara deffe deffe
6. ara blof
7. ara ip
8. ara ewa ewa
9. ara nuki

RESULTS OF EXPERIMENT: LIVING WITH A MUNDIAN FOR 40 DAYS

EXPEDITION MUNDUS

Day	Description of Mundian's activities				
1	after breakfast (30 minutes) school (3 hours): lessons include arithmetic and biology	after school, working in garden (4 hours)	sleeping 2 hours	eating (1 hour) and talking to brother (1 hour)	sleeping 6.5 hours
2	after breakfast (30 minutes) school (3 hours): lessons include arithmetic, drawing and history (probably)	after school, working in garden (5 hours)	sleeping 1.5 hours	eating (1 hour) and hanging around (1 hour)	sleeping 6 hours
3	after breakfast (30 minutes) school (3 hours): lessons include arithmetic	after school, working in garden (4 hours)	sleeping 2 hours	eating (1 hour) and talking to other Mundians (1 hour)	sleeping 6.5 hours
4	after breakfast (30 minutes) school (3 hours): lessons include biology and history (probably)	after school, working in garden (4 hours)	sleeping 2 hours	eating (1 hour) and talking to other Mundians (1 hour)	sleeping 6.5 hours
5	after breakfast (30 minutes) school (3 hours): lessons include arithmetic	after school, working in garden (5 hours)	sleeping 1.5 hours	eating (1 hour) and swimming (1 hour)	sleeping 6 hours
6	after breakfast (30 minutes) school (3 hours); lessons include arithmetic and biology	after school, working in garden (4 hours)	sleeping 2 hours	eating (1 hour) and walking around in the maze (1 hour)	sleeping 6.5 hours
7	after breakfast (30 minutes) school (3 hours); lessons include arithmetic, drawing and history (probably)	after school, working in garden (5 hours)	sleeping 1.5 hours	eating (1 hour) and talking to other Mundians (1 hour)	sleeping 6 hours
8	after breakfast (30 minutes) school (3 hours); lessons include biology and history (probably)	after school, working in garden (4 hours)	sleeping 2 hours	eating (1 hour) and hanging around (1 hour)	sleeping 6.5 hours
9	after breakfast (30 minutes) school (3 hours): lessons include arithmetic	after school, working in garden (4 hours)	sleeping 2 hours	eating (1 hour) and talking to other Mundians (1 hour)	sleeping 6.5 hours
10	after breakfast (30 minutes) school (3 hours); lessons include arithmetic and biology	after school, working in garden (5 hours)	sleeping 1.5 hours	eating (1 hour) and trying to pick climb-up flowers (1 hour)	sleeping 6 hours
11	after breakfast (30 minutes) school (3 hours); lessons include arithmetic, drawing and history (probably)	after school, working in garden (5 hours)	sleeping 1.5 hours	eating (1 hour) and talking to other Mundians (1 hour)	sleeping 6 hours
12	sleeping in (2 hours)	eating breakfast (1 hour)	talking, hanging around (4 hours)	eating (1.5 hours) and going for a walk (1.5 hours)	sleeping 8 hours
13	after breakfast (30 minutes) school (3 hours); lessons include arithmetic and biology	after school, working in garden (5 hours)	sleeping 1.5 hours	eating (1 hour) and hanging around (1 hour)	sleeping 6 hours
14	after breakfast (30 minutes) school (3 hours); lessons include biology and history (probably)	after school, working in garden (5 hours)	sleeping 1.5 hours	eating (1 hour) and talking to other Mundians (1 hour)	sleeping 6 hours
15	after breakfast (30 minutes) school (3 hours); lessons include arithmetic and biology	after school, working in garden (4 hours)	sleeping 2 hours	eating (1 hour) and hanging around (1 hour)	sleeping 6.5 hours
16	after breakfast (30 minutes) school (3 hours); lessons include arithmetic and biology	after school, working in garden (4 hours)	sleeping 2 hours	eating (1 hour) and talking to other Mundians (1 hour)	sleeping 6.5 hours
17	after breakfast (30 minutes) school (3 hours): lessons include arithmetic	after school, working in garden (4 hours)	sleeping 2 hours	eating (1 hour) and talking to other Mundians (1 hour)	sleeping 6.5 hours
18	after breakfast (30 minutes) school (3 hours); lessons include biology and history (probably)	after school, working in garden (5 hours)	sleeping 1.5 hours	eating (1 hour) and hanging around (1 hour)	sleeping 6 hours
19	after breakfast (30 minutes) school (3 hours); lessons include arithmetic, drawing and history (probably)	after school, working in garden (4 hours)	sleeping 2 hours	eating (1 hour) and talking to other Mundians (1 hour)	sleeping 6.5 hours

20	after breakfast (30 minutes) school (3 hours); lessons include arithmetic and biology	after school, working in garden (5 hours)	sleeping 1.5 hours	eating (1 hour) and talking to other Mundians (1 hour)	sleeping 6 hours
21	after breakfast (30 minutes) school (3 hours): lessons include arithmetic	after school, working in garden (5 hours)	sleeping 1.5 hours	eating (1 hour) and trying to pick climb-up flowers (1 hour)	sleeping 6 hours
22	after breakfast (30 minutes) school (3 hours); lessons include arithmetic, drawing and history (probably)	after school, working in garden (5 hours)	sleeping 1.5 hours	eating (1 hour) and talking to other Mundians (1 hour)	sleeping 6 hours
23	after breakfast (30 minutes) school (3 hours); lessons include arithmetic and biology	after school, working in garden (5 hours)	sleeping 1.5 hours	eating (1 hour) and painting a picture of a climb-up flower (1 hour)	sleeping 6 hours
24	sleeping in (2 hours)	eating breakfast (1 hour)	talking, hanging around (4 hours)	eating (1.5 hours) and going for a walk (1.5 hours)	sleeping 8 hours
25	after breakfast (30 minutes) school (3 hours); lessons include biology and history (probably)	after school, working in garden (4 hours)	sleeping 2 hours	eating (1 hour) and finishing painting (1 hour)	sleeping 6.5 hours
26	after breakfast (30 minutes) school (3 hours); lessons include arithmetic and biology	after school, working in garden (4 hours)	sleeping 2 hours	eating (1 hour) and talking to other Mundians (1 hour)	sleeping 6.5 hours
27	after breakfast (30 minutes) school (3 hours): lessons include arithmetic	after school, working in garden (5 hours)	sleeping 1.5 hours	eating (1 hour) and talking to other Mundians (1 hour)	sleeping 6 hours
28	after breakfast (30 minutes) school (3 hours); lessons include arithmetic, drawing and history (probably)	after school, working in garden (4 hours)	sleeping 2 hours	eating (1 hour) and hanging around (1 hour)	sleeping 6.5 hours
29	NO OBSERVATIONS			NO OBSERVATIONS	
30	NO OBSERVATIONS			NO OBSERVATIONS	
31	after breakfast (30 minutes) school (3 hours): lessons include arithmetic	after school, working in garden (5 hours)	sleeping 1.5 hours	eating (1 hour) and talking to other Mundians (1 hour)	sleeping 6 hours
32	after breakfast (30 minutes) school (3 hours): lessons include arithmetic and drawing	after school, working in garden (4 hours)	sleeping 2 hours	eating (1 hour) and talking to other Mundians (1 hour)	sleeping 6.5 hours
33	after breakfast (30 minutes) school (3 hours); lessons include biology and history (probably)	after school, working in garden (4 hours)	sleeping 2 hours	eating (1 hour) and hanging around (1 hour)	sleeping 6.5 hours
34	after breakfast (30 minutes) school (3 hours): lessons include arithmetic	after school, working in garden (4 hours)	sleeping 2 hours	eating (1 hour) and hanging around (1 hour)	sleeping 6.5 hours
35	after breakfast (30 minutes) school (3 hours); lessons include arithmetic and biology	after school, working in garden (5 hours)	sleeping 1.5 hours	eating (1 hour) and talking to other Mundians (1 hour)	sleeping 6 hours
36	sleeping in (2 hours)	eating breakfast (1 hour)	talking, hanging around (4 hours)	eating (1.5 hours) and going for a walk (1.5 hours)	sleeping 8 hours
37	after breakfast (30 minutes) school (3 hours): lessons include arithmetic	after school, working in garden (4 hours)	sleeping 2 hours	eating (1 hour) and talking to other Mundians (1 hour)	sleeping 6.5 hours
38	after breakfast (30 minutes) school (3 hours); lessons include arithmetic and biology	after school, working in garden (4 hours)	sleeping 2 hours	eating (1 hour) and talking to other Mundians (1 hour)	sleeping 6.5 hours
39	after breakfast (30 minutes) school (3 hours): lessons include arithmetic	after school, working in garden (5 hours)	sleeping 1.5 hours	eating (1 hour) and hanging around (1 hour)	sleeping 6 hours
40	after breakfast (30 minutes) school (3 hours); lessons include biology and history (probably)	after school, working in garden (4 hours)	sleeping 2 hours	eating (1 hour) and trying to pick climb-up flowers (1 hour)	sleeping 6.5 hours

EXPEDITION

MUNDUS

Notes on an interview with a Mundian

- likes repeating what I say
-
- talks about the ‘dark era’; try to teach him the word ‘dark’, but he has trouble with it; half the time he says ‘rark’ or ‘radk’ or ‘dadk’
-
- says that everything was better before the dark era, talks repeatedly about a large animal and the maze
-
- the dark era began 450 seasons ago; it lasted a long time and life was very hard
-
- the climb-up plant did not flower in the dark era; when the first climb-up flower was found again, people declared it was ‘the new era’
-
- grows a little anxious and nervous when we talk about shellbeasts; warns me to be careful around their nests
-
- tells me that the ‘large animal’ was better and tastier than shellbeasts; one disadvantage of shellbeasts is that they don’t breed in captivity
-
- is in a hurry to finish the interview, because he has to get back to working in the gardens

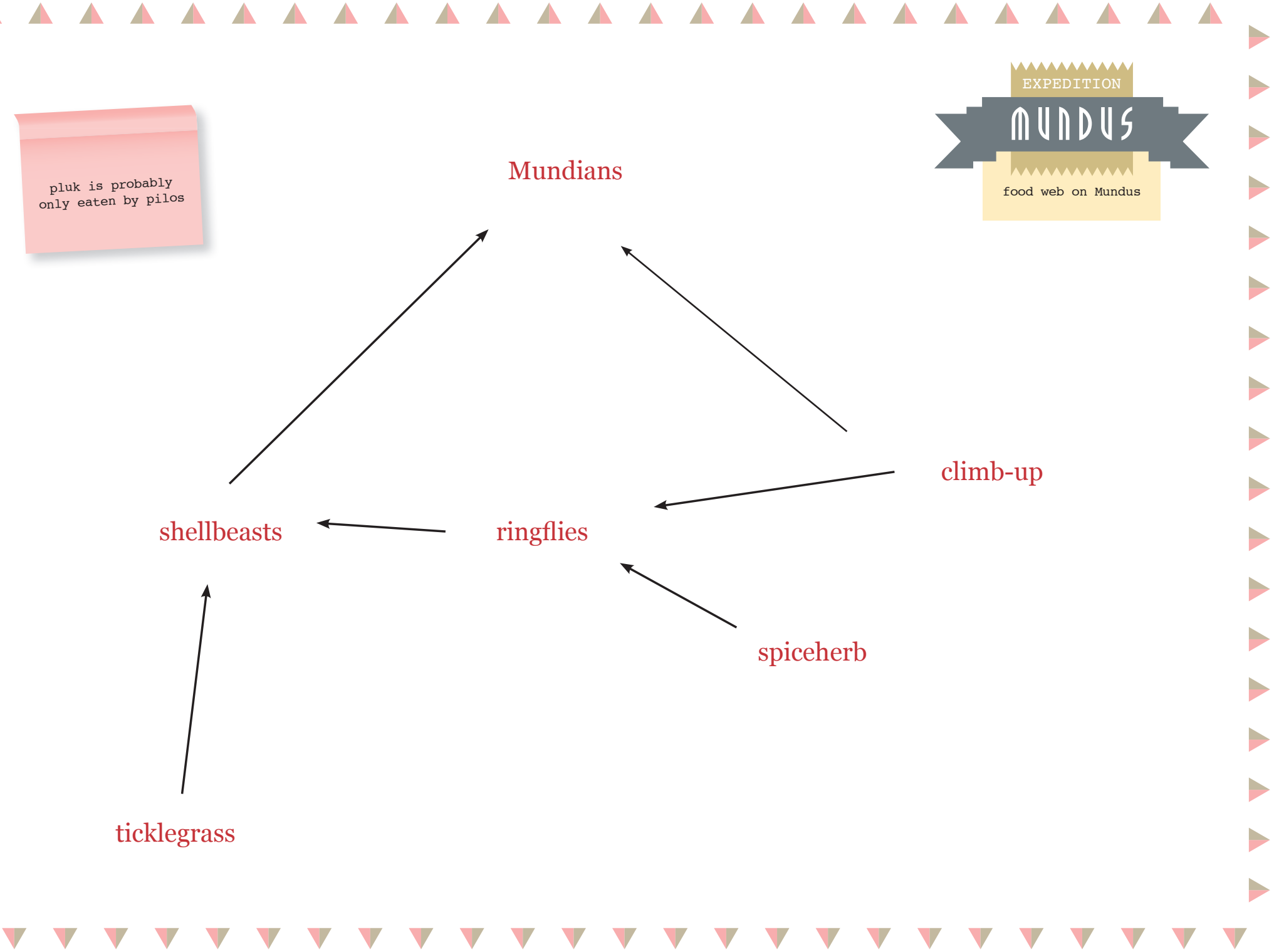
EXPEDITION

MUNDUS

distances between towns

distances measured in Mundus-dos

	Nuki-wom	Laka-wom	Blof-wom*	Blof-wom**
Nuki-wom	-	105 dos	67 dos	76 dos
Laka-wom	105 dos	-	55 dos	77 dos
Blof-wom*	67 dos	55 dos	-	27 dos
Blof-wom**	76 dos	77 dos	27 dos	-


EXPEDITION
MUNDUS
food web on Mundus
pluk is probably only eaten by pilos
Mundians
climb-up
shellbeasts
ringflies
spiceherb
ticklegrass

EXPEDITION
MUNDUS
observation of shellbeast behaviour

Dear colleague,

I first studied which types of behaviour a shellbeast displays throughout the year.

I assigned each type of behaviour its own abbreviation (see the ethogram).

I then observed two shellbeasts (a male and a female) for one whole day in each season.

I wrote down the behaviour I observed over the course of each hour and also noted the sequence of that behaviour (see the protocols).

striking differences between male and female behaviour!

ETHOGRAM (TYPES OF BEHAVIOUR AND ABBREVIATIONS)

bites another shellbeast	bt
bites a Mundian	bm
eats ticklegrass	ea
stands on hind legs	hl
feeds offspring	fo
growls at another shellbeast	gr
scratches another shellbeast	sc
walks slowly	ws
walks quickly	wq
chirps	ch
sleeps in nest	sl
catches ringflies	cr
rubs shell against another shellbeast	rb

EXPEDITION MUNDUS

observation of shellbeast behaviour

PROTOCOL 1 OF A MALE SHELLBEAST (CODE P34)

time	day 1 (in klang tomi)	day 2 (in klang raf raf)	day 3 (in klang blof)
0.00 – 1.00	sl	sl	ws – sl
1.00 – 2.00	sl – ws – sl	sl	sl – fo – sl
2.00 – 3.00	sl	ws – sl	fo – sl – ws – ea - fo – sl
3.00 – 4.00	sl – ws - ea – wq	sl – ea – cr – ea – rb – hl – ch – cr	sl – gr – fo – cr – ea – gr
4.00 – 5.00	ea – wq – ea	ea – cr – ws – cr – sl	hl – sc – wq – bt - wq
5.00 – 6.00	fo – ea – wq – sl – wq – ea	sl – rb – hl – ch – ea - ws	ws – cr – ea – sc – bt – wq – fo
6.00 – 7.00	ea – hl – ea – wq	ea – cr – ea – ws	ws – wq – hl – sc – bt – gr – bt - cr
7.00 – 8.00	ws – sl	ws – gr – wq – ws	fo – cr – ea – gr – ws – fo – bm
8.00 – 9.00	sl – ea – sl	rb – hl – ch – cr – ws - ea	sl – fo – hl – ws
9.00 – 10.00	sl	cr – rb – hl – ch – ea – rb – hl – ch	ea – cr – gr – ea – gr – sc
10.00 – 11.00	wq – ea – hl - ws	wq – ws – ea – cr – sl	wq – ws - sl
11.00 – 12.00	ea – ws	sl – cr – sl	ws – fo – cr – ea – fo – wq
12.00 – 13.00	ws – wq – ws – ea	sl – ea – ws – rb – hl – ch – sl	fo – bm – cr – ea – cr – wq – ws
13.00 – 14.00	ea – sl	sl – bm – ea – cr – ea – cr – ws	ea – gr – bt – hl – sc – bt – wq - sl
14.00 – 15.00	sl – wq – ws	ws – sl – wq – ws	sl – ws – fo – cr – ea
15.00 – 16.00	ws – ea – sl	ea – cr – sl	cr – fo – ea – bt – fo – sl
16.00 – 17.00	sl	ws - sl	sl - fo
17.00 – 18.00	ws - sl	sl	gr – sl

PROTOCOL 2 OF A FEMALE SHELLBEAST (CODE P56)

time	day 1 (in klang tomi)	day 2 (in klang raf raf)	day 3 (in klang blof)
0.00 – 1.00	ea – sl	sl	ea – sl
1.00 – 2.00	sl – ws	sl	sl – gr – sl
2.00 – 3.00	ws – ea – sl	ws – sl	ea – sl – cr – ws
3.00 – 4.00	sl	sl – rb – hl – ch – cr – ea – cr – ea	cr – sl – gr – cr – ea – gr
4.00 – 5.00	sl – wq – ea	sl – cr – sl	hl – sc – wq – bt - wq
5.00 – 6.00	sl – ws – sl	ea – cr – ea – ws – bm	ws – cr – ea – sc – bt – wq
6.00 – 7.00	ws – wq - ea	sl – gr – rb – hl – ch – ws	ea – gr – bt – hl – sc – bt – wq - sl
7.00 – 8.00	ws – hl – wq – ws - ea	wq – ea – gr – ws – ea	ws – hl – wq
8.00 – 9.00	ea – sl	cr – ws – ea – rb – hl – ch	cr – gr – ea – ws
9.00 – 10.00	sl - ws – ea - sl	ws – sl – wq – ws	sl – cr – gr – ea – sc – gr
10.00 – 11.00	ws – ea – bm	wq – ws – ea – cr – sl	wq – ws - sl
11.00 – 12.00	ws – ea – wq – ea	ea – cr – ws – cr – sl	ws – cr – ea – bm – wq
12.00 – 13.00	sl – wq – ws – sl – ea	sl – ea – ws – rb – hl – ch - sl	ea – bm – cr – wq – ws
13.00 – 14.00	ea – sl	cr – ea – wq – cr – wq – ws	ws – wq – hl – sc – bt – gr – bt - cr
14.00 – 15.00	ws – wq – ea – sl	rb – hl – ch – ea – rb – hl – ch – cr	sl – ws – cr – ea
15.00 – 16.00	sl	cr – ea – cr – sl	cr – ea – bt – sl
16.00 – 17.00	ws – ea – sl – ea - sl	sl	sl
17.00 – 18.00	sl	ws - sl	gr – sl