

Sheltered Rocky Shore Investigation

Aim: To investigate the distribution and abundance of species on a sheltered rocky shore

Site: Jetty Beach

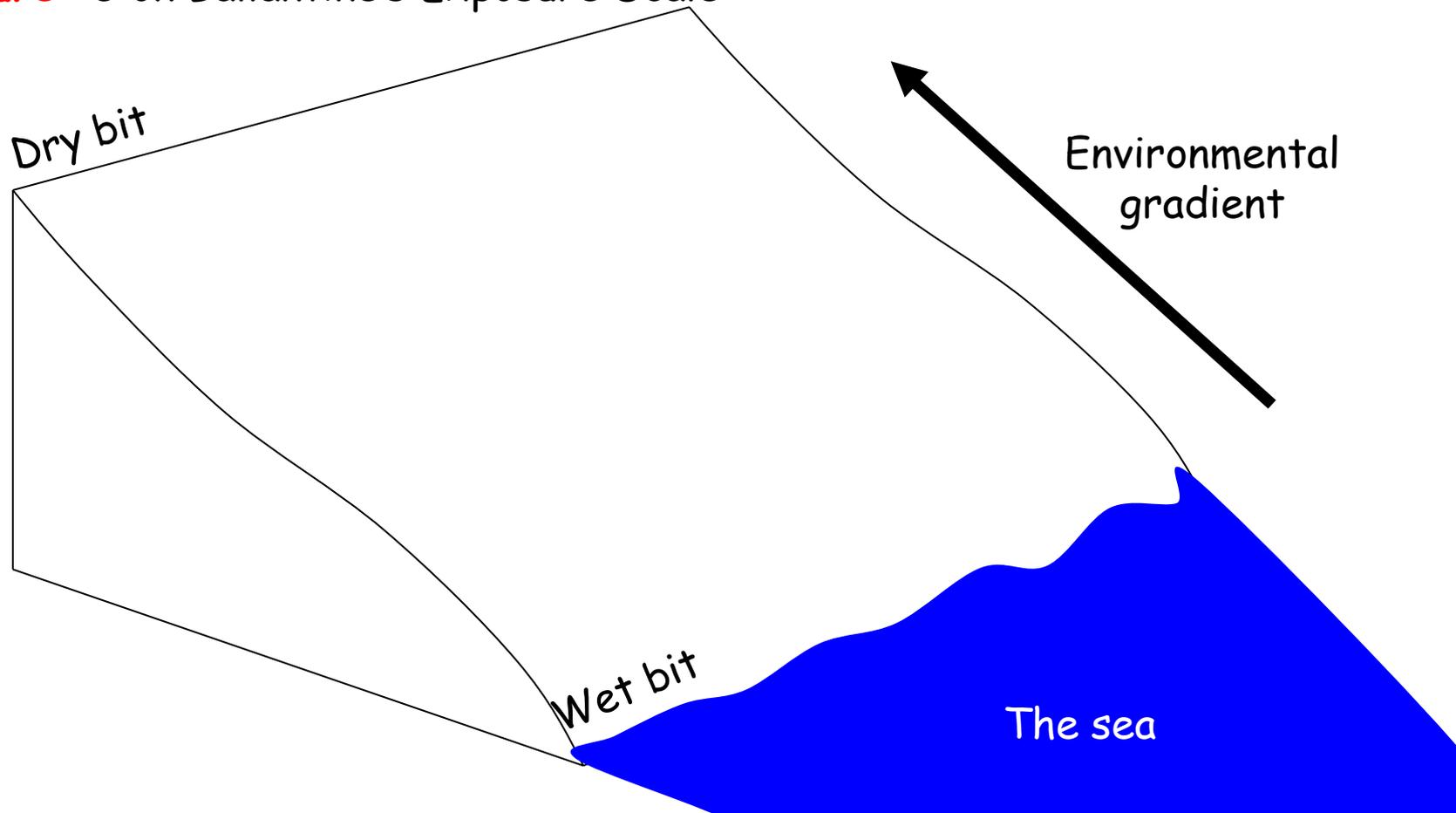
Grid reference: SM 819 023

Aspect: North-North-East

Low tide: 1.80m at 08.59

Date: 23.05.14

Exposure: 5 on Ballantine's Exposure Scale



Sheltered Rocky Shore Investigation

Aim: To investigate the distribution and abundance of species on a sheltered rocky shore

Site: Castle Beach

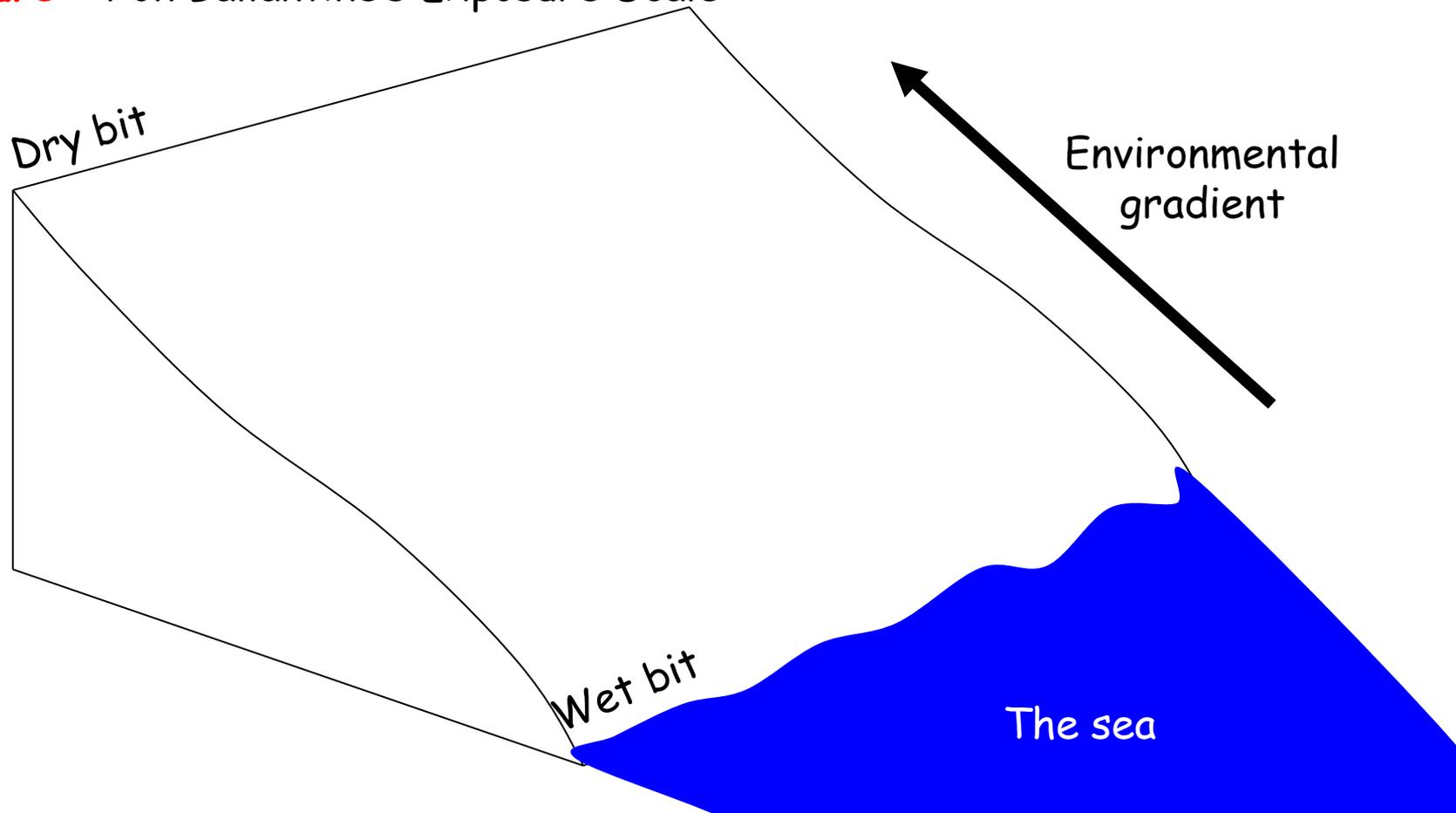
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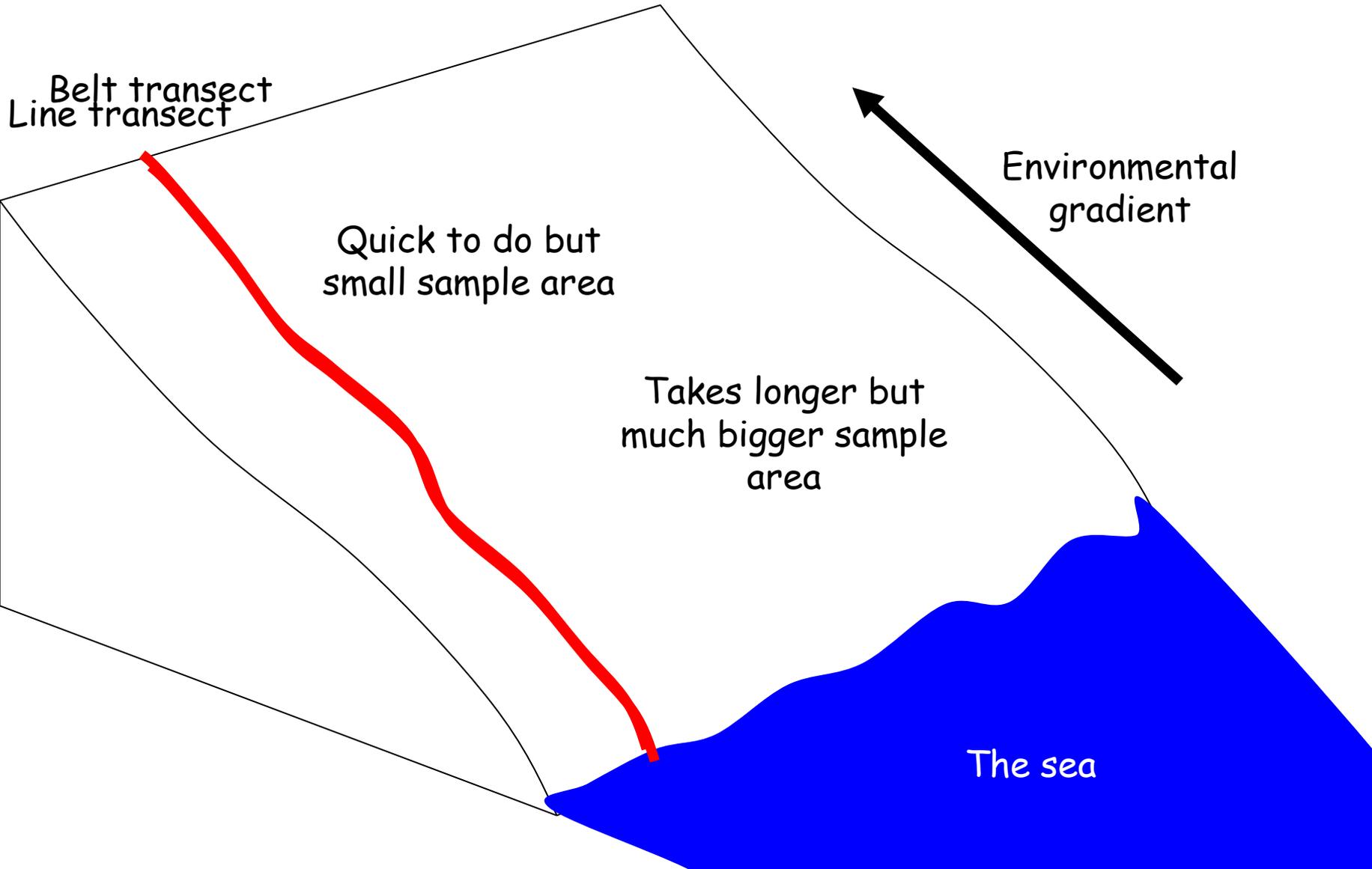
Aspect: ???

Low tide: 1.80m at 08.59

Date: 23.05.14

Exposure: 4 on Ballantine's Exposure Scale





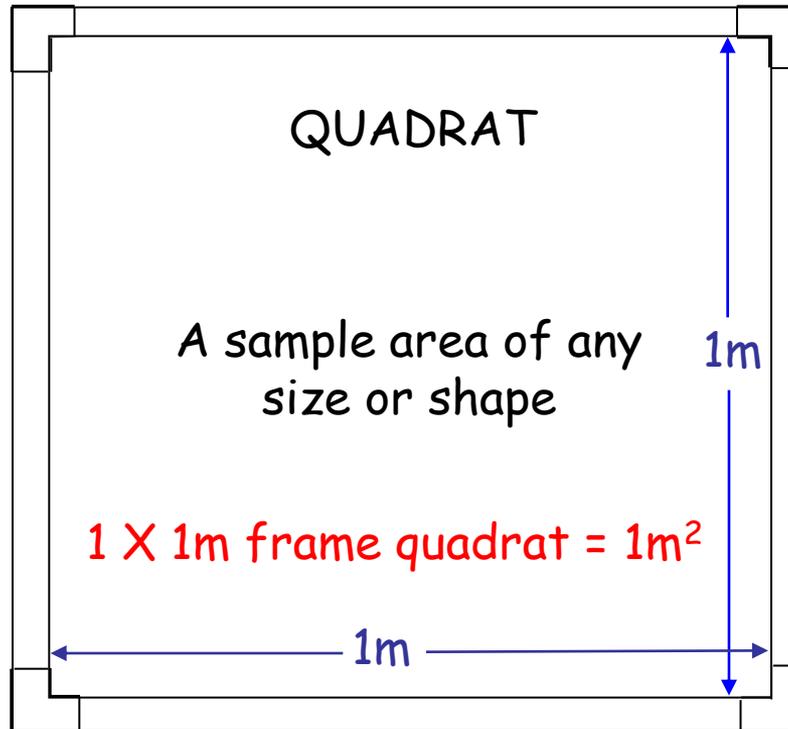
Belt transect
Line transect

Quick to do but
small sample area

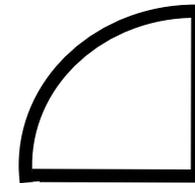
Takes longer but
much bigger sample
area

Environmental
gradient

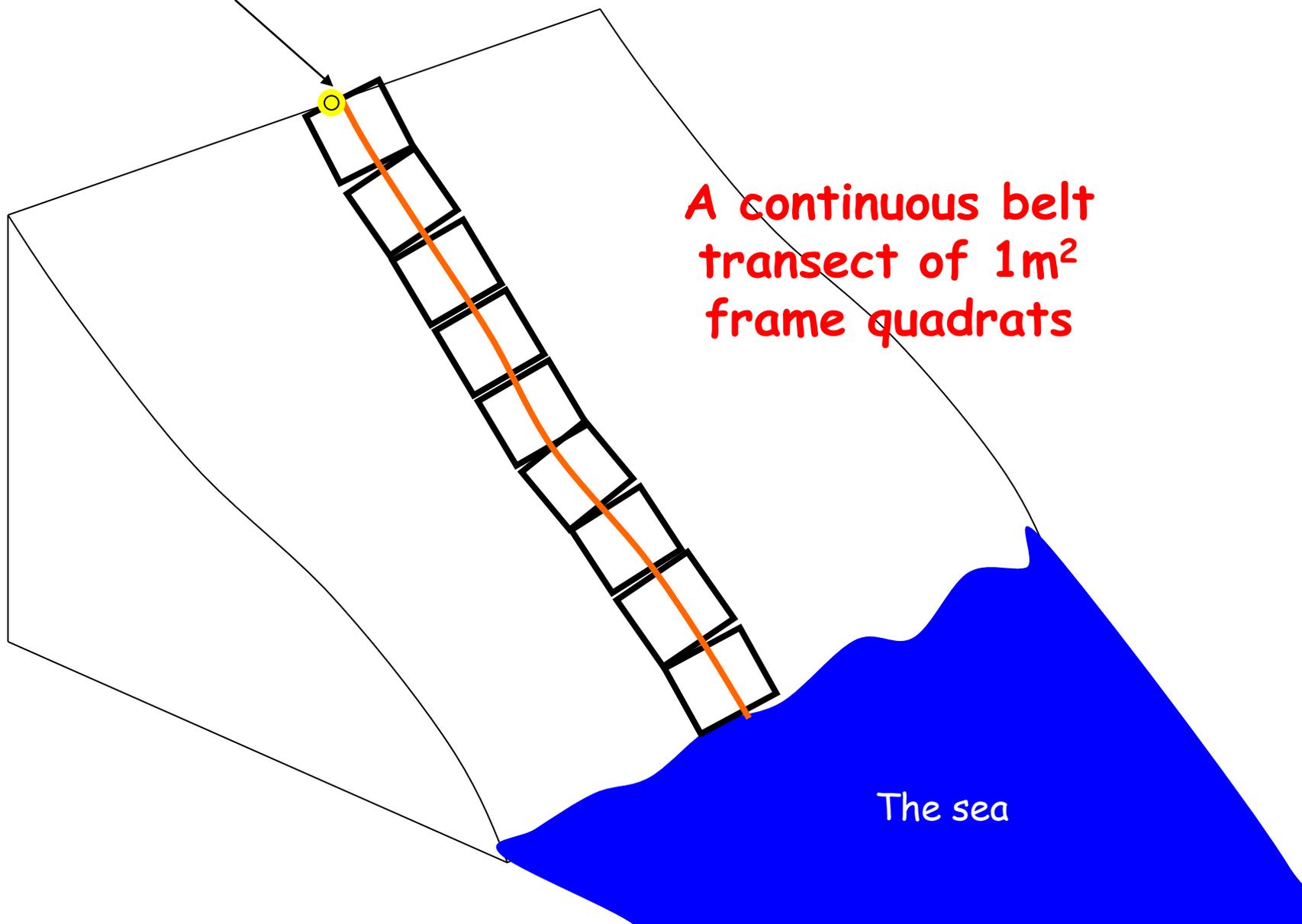
The sea



Quadrant: A $\frac{1}{4}$ of the circumference of a circle



30m tape to mark out transect



**A continuous belt
transect of 1m²
frame quadrats**

The sea

Identifying species

Look at the organism you are trying to identify.
You can't see small creatures if you are standing up

Use dichotomous keys, or if this fails ask

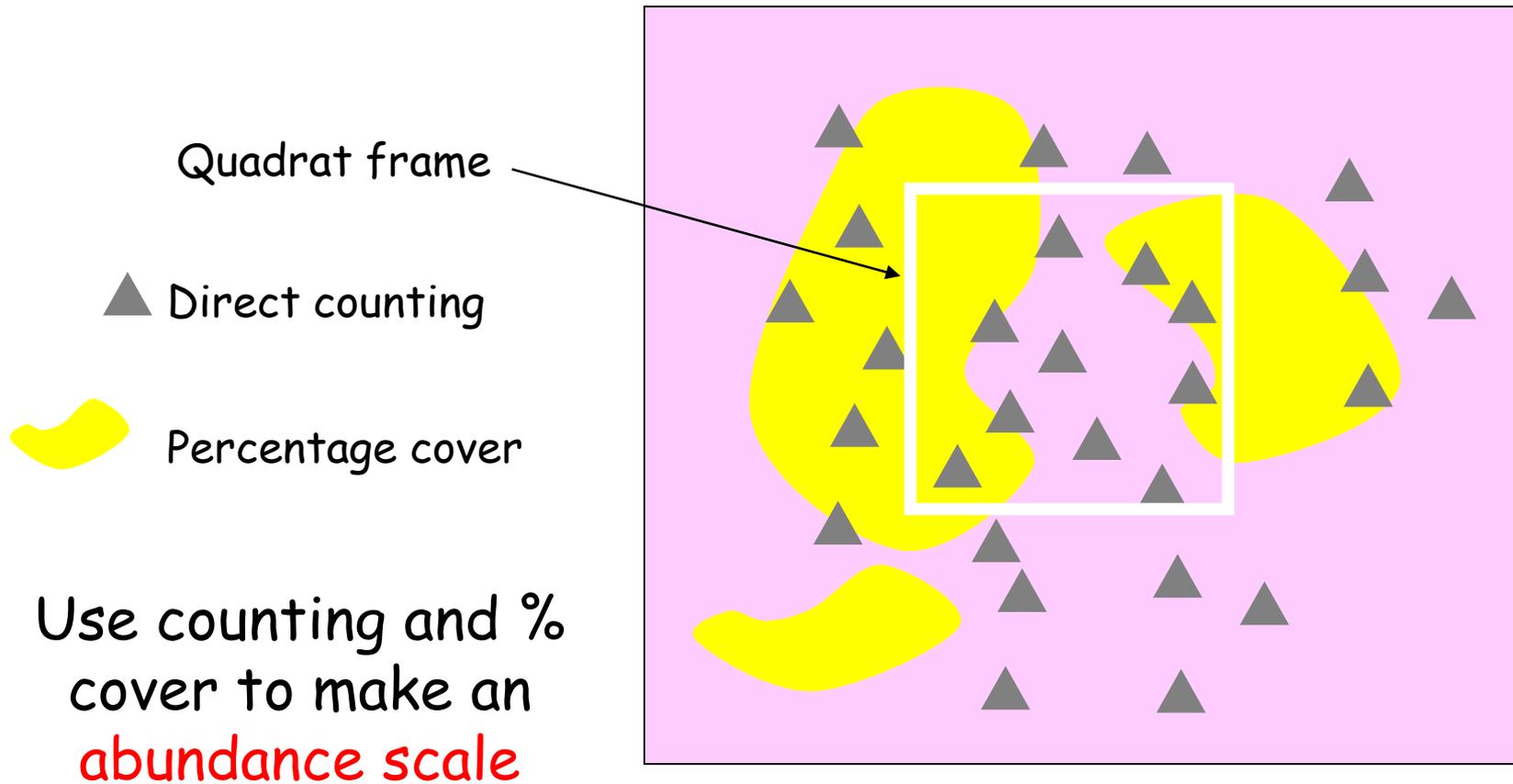
Please do not rip creatures up from the rocks and bring them to your tutor he/she is happy to walk to where you are and advise you

Don't forget to look under rocks and please put them back the way you found them

And put them back gently

Treat the seashore and its inhabitants with care

Estimating the abundance of species



ACFOR {
A = Abundant
C = Common
F = Frequent
O = Occasional
R = Rare

**Plants, barnacles and
colonial animals**

A = > 50% cover

C = 25-50% cover

F = 10-25% cover

O = 2-10% cover

R = 1% cover

Animals

A = > 50 per m²

C = 25-50 per m²

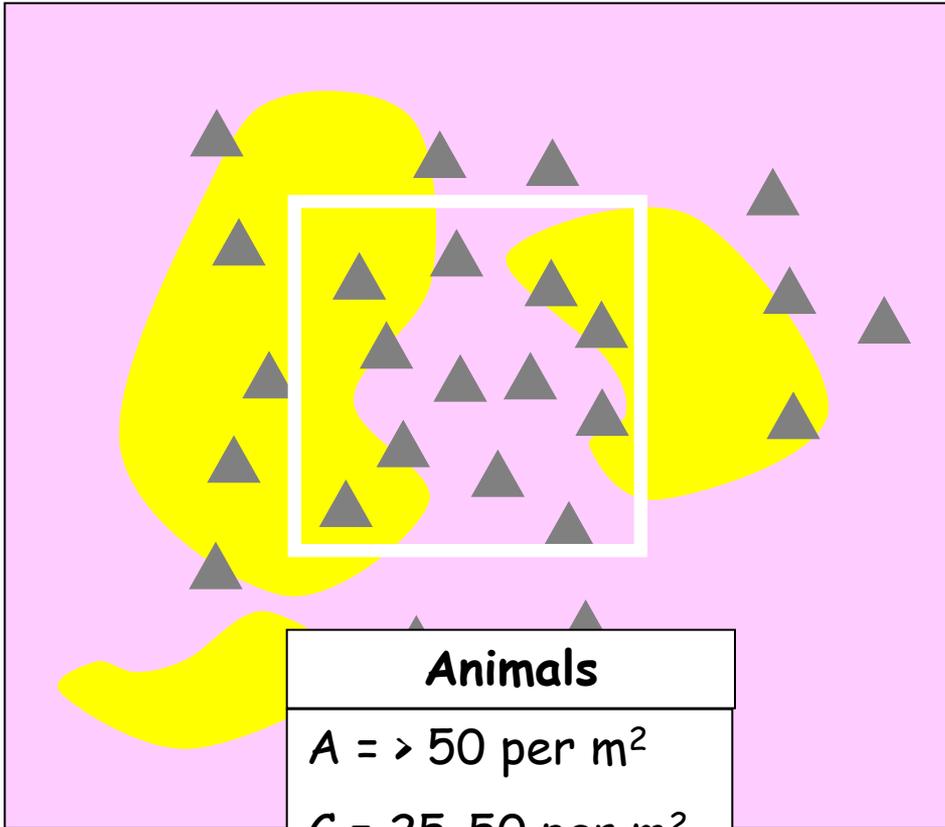
F = 10-25 per m²

O = 2-10 per m²

R = 1 per m²

Semi-quantitative **ACFOR** abundance scale

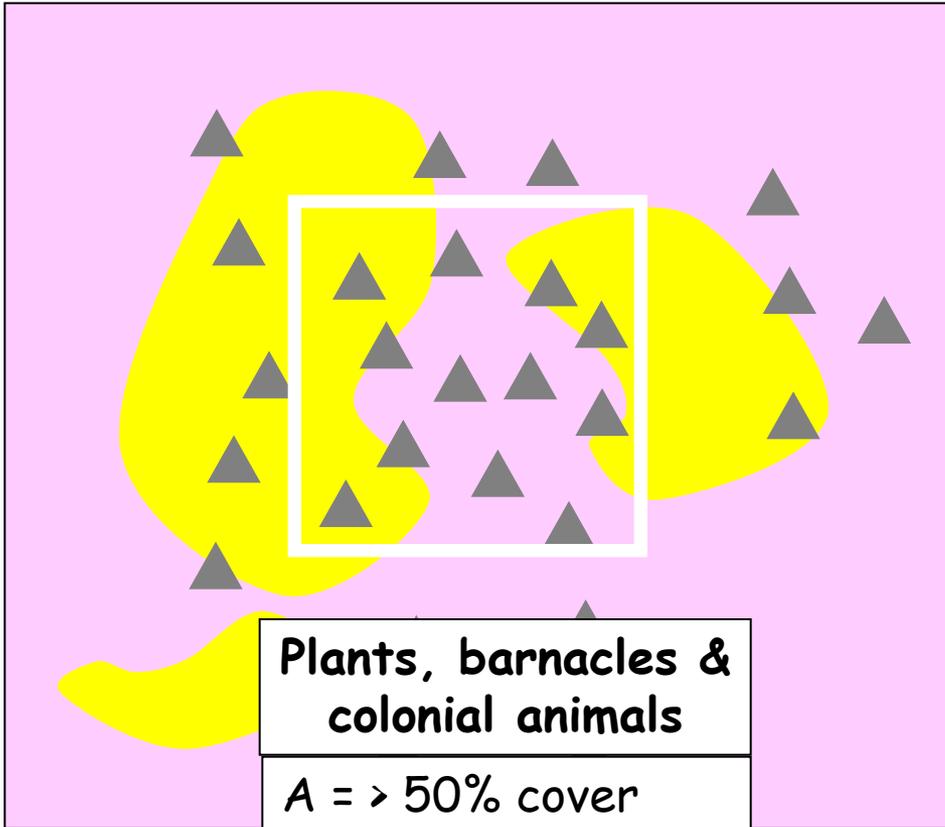
Recording the data



Animals
A = > 50 per m ²
C = 25-50 per m ²
F = 10-25 per m ²
O = 2-10 per m ²
R = 1 per m ²

Recording sheet				
Quadrat number	1	2	3	etc
Height				
Species				
▲	F			
■				

Recording the data



Plants, barnacles & colonial animals

A = > 50% cover

C = 25-50% cover

F = 10-25% cover

O = 2-10% cover

R = 1% cover

Recording sheet				
Quadrat number	1	2	3	etc
Height				
Species				
	F			
	C			

Measuring the
MANIPULATED/INDEPENDENT
variable

HEIGHT

Determines period of

IMMERSION



Time spent
under the
water

and

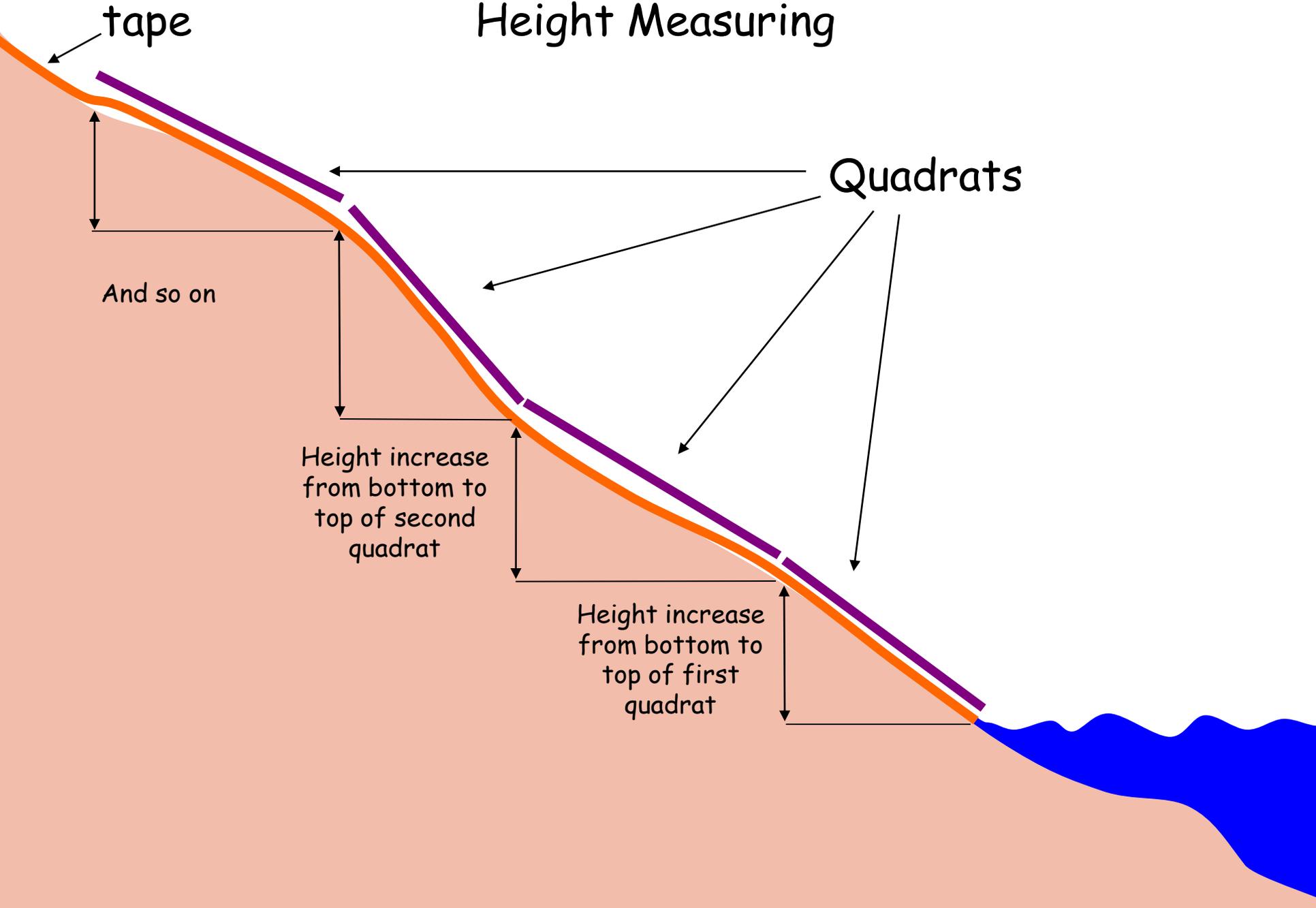
EMERSION



Time spent
out of the
water

The dependent variable is?

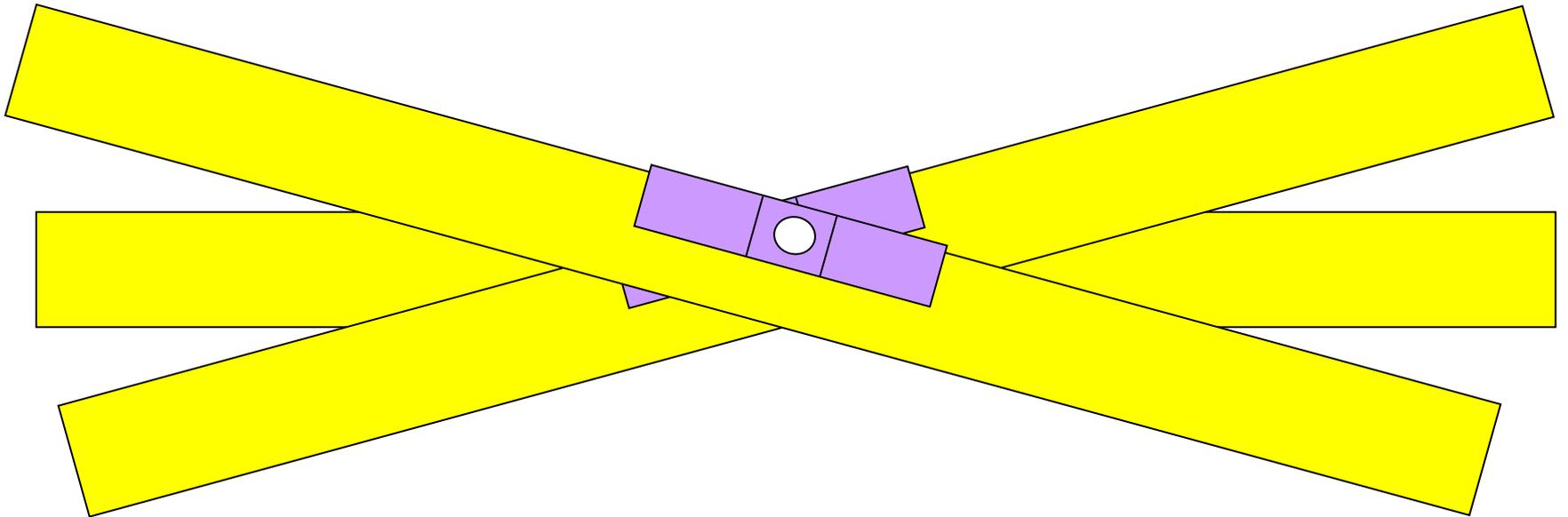
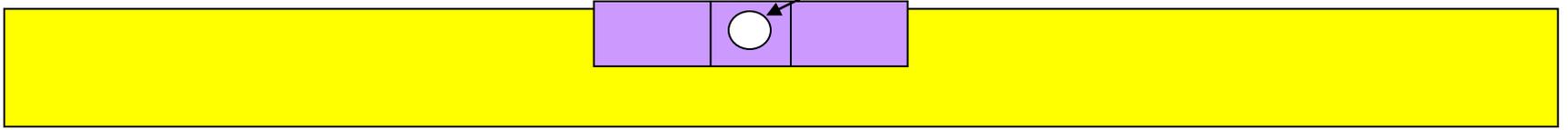
Height Measuring



A spirit level

Spirit filled tube

Air bubble



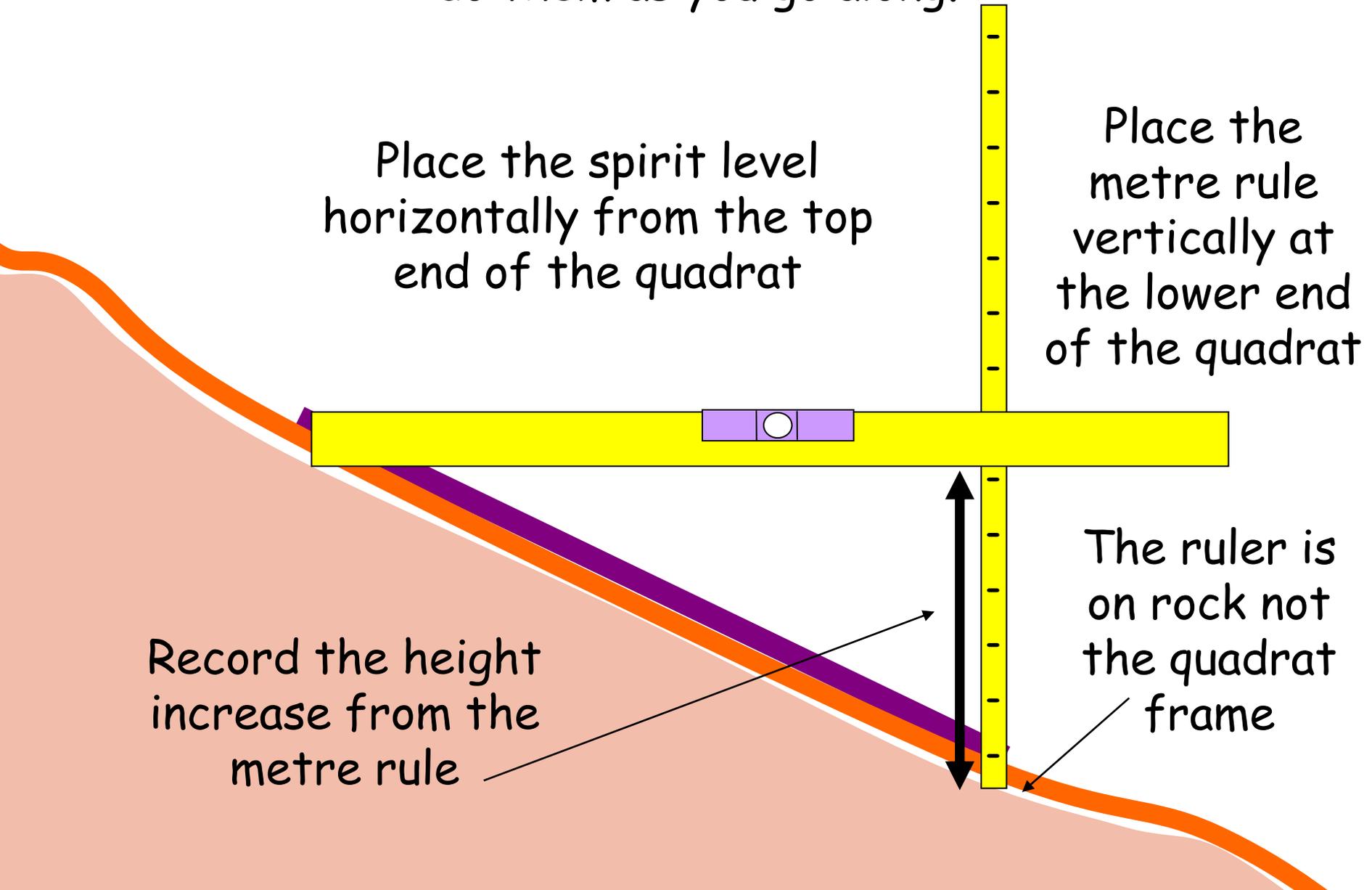
You will have a height measurement for each quadrat, do them as you go along.

Place the spirit level horizontally from the top end of the quadrat

Place the metre rule vertically at the lower end of the quadrat

Record the height increase from the metre rule

The ruler is on rock not the quadrat frame



Equipment needed per group:

One metre rule,

One spirit level,

One 1m² quadrat frame,

One ACFOR abundance scale,

One recording sheet for animals

One recording sheet for plants (Protoctistans),

One dichotomous key to animals,

One dichotomous key to plants (Protoctistans)

(+ pencil, clipboard (+ plastic bag?), shoes you're happy in on rocks, ladders, and a positive attitude because you're at the seaside (even if it is raining))

