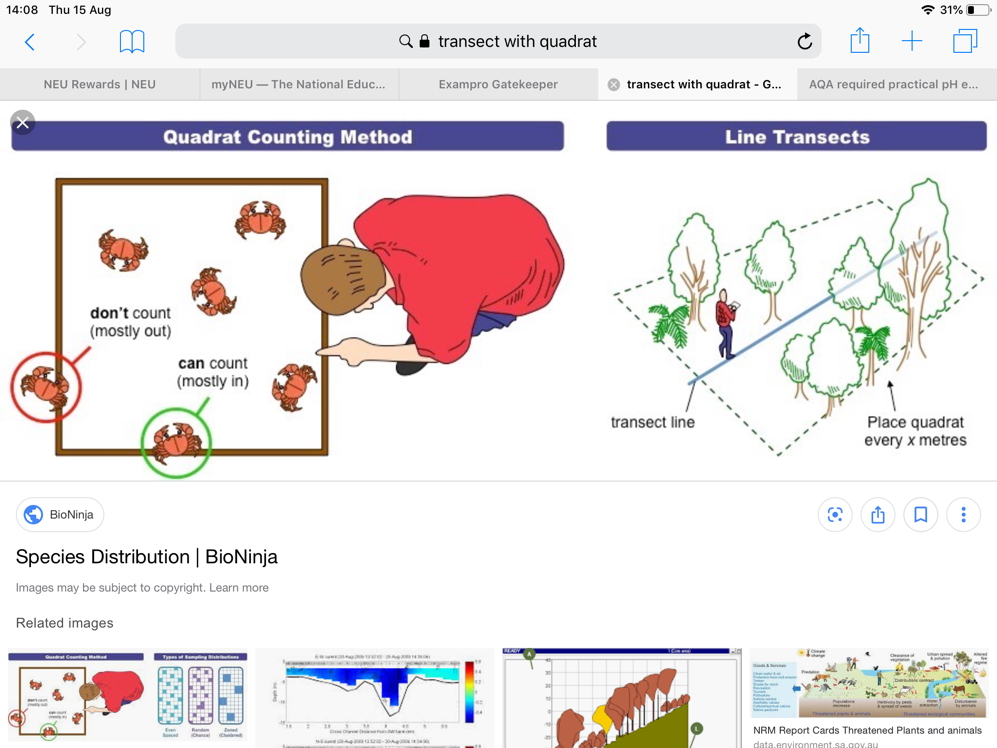
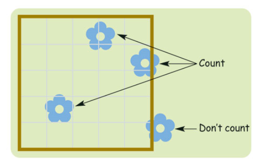
**AQA Biology**

******Required Practical 9- Field Investigations**

**Method 1- Transect**

1. Stretch a 20m tape measure from the base of a tree to an open area of ground.
2. Place the quadratic at exactly 2m on the tape measure,
3. Count and record the number of plants of the species being investigated.
4. Record the light intensity at this point on the transect using a light meter.
5. Repeat measurements every 2m along the tape measure.

**Method 2- Random Sampling**

1. Place two 20cm tape measures at right angles to each other to form the sides of a 20m2 square area.
2. Put 2 sets of cards in a bag with numbers 1-20 and randomly pull out 2 numbers. These are the x and y coordinates to use.
3. Place the quadrat at these co-ordinates.
4. Count and record the number of plants of the species being investigated within the quadrat.
5. Repeat steps 2-4 until you have sampled 10 quadrats.

List 3 biotic and 3 abiotic factors which can affect distribution of plant species.

**Biotic**

1.

2.

3.

**Abiotic**

1.

2.

3.

***Aims***

* To investigate the population size of a plant species in a habitat.
* To accurately measure length and area.
* To calculate an estimate of a total population of a species

**Estimated population = total area X Number of individuals counted**

**Area sampled**

**Glossary**

Quadrat-

Transect-

Habitat-

Distribution-

Mean-

Median-

Mode-

**Exam Practice**

A student used a 75cm by 75cm quadrat to randomly sample daisies in the school field. The field measured 30m x 75m.

|  |  |
| --- | --- |
| **Quadrat Number** | **Number of Daisies** |
| 1 | 12 |
| 2 | 21 |
| 3 | 13 |
| 4 | 89 |
| 5 | 24 |
| 6 | 19 |
| 7 | 10 |
| 8 | 29 |
| 9 | 21 |
| 10 | 16 |

1. Calculate the mean and median number of daisies (2 marks)

**Mean= Median= .**

1. Use the data collected to estimate the population size. (5 marks)

……………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………..………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………..

Estimate of population size = daisies

c) In one area of the field there is a lot of grass growing in the same area as dandelions.

Suggest why the dandelions may not grow well in this area. (4 marks)

……………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………..………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………..

……………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………..……………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………….