**Dihybrid Crosses**

**Cornell notes Turner style**

**Instructions**

* Cut out the notes on the right hand side and **paste** into the **right hand side** of your notebook page.
* **Include** the **vertical black line** **or redraw this line** – giving yourself a large left hand margin
* **Read** the notes several times
* **Ask** yourself **three** **questions**:

1. Can I recognise all the content (information) in the notes?
2. In the notes is there a process or procedure I need to know?
3. Do I understand the idea/meaning/argument outlined in the notes. That is: do I “get it”?

* **Do the following**

1. Within the notes themselves, **underline** all the **content** you should learn or memorise.
2. In the left margin **label** each section of the notes as either a **definition**, **example**, **explanation**, **process**, or **evidence** (and you could make up your own categories)
3. With each label in step b, write a key word or phrase which tells us what the label is referring to. An example would be…

(note – the example is

not for these notes

* The key words are highlighted)

1. At the end of the notes **write a summary underneath the notes**. The summary should be **short** – it is to **demonstrate your understanding** of the notes, not rehash the content. Often you should try to draw a diagram or mind map.

Definition of **chemical reaction**

**label**

**Key words**

Dihybrid crosses are used to predict the outcome of a mating or cross when two separate genes, controlling separate traits are being investigated. A much larger punnet square is needed as two genes are being analysed for patterns of inheritance

**Example**:

If a male who is homozygous dominant for tongue-rolling, and heterozygous for brown eyes had offspring with female who was heterozygous for both tongue-rolling and hetero-brown eyes, what are the ratio of possible phenotypes and genotypes in the children?

**Parent 1** **Parent 2**

Genotype – TTBb Genotype – TtBb

Possible gametes

Possible gametes

TB Tb TB Tb TB Tb tB tb

Every parent will have a maximum of 4 possible gametes.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **TB** | **Tb** | **TB** | **Tb** |  | |
| **TB** | **TTBB** | **TTBb** | **TTBB** | **TTBb** |  | ⅛ TTBB 12.5%  ¼ TTBb 25%  ⅛ TTbb 12.5%  ⅛ TtBB 12.5%  ¼ TtBb 25%  ⅛ Ttbb 12.5% |
| **Tb** | **TTBb** | **TTbb** | **TTBb** | **TTbb** |
| **tB** | **TtBB** | **TtBb** | **TtBB** | **TtBb** |
| **tb** | **TtBb** | **Ttbb** | **TtBb** | **Ttbb** |

⅛ TTBB 12.5% 100% Tongue Rolling

¼ TTBb 25% 50% Homo Tongue Rolling

⅛ TTbb 12.5% 50% Hetero Tongue Rolling

⅛ TbBb 25% 25% Homo Brown Eyes

¼ TtBb 25% 50% Hetero Brown Eyes

⅛ Tbbb 12.5% 25% Homo Blue Eyes