**Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

HYPOTHESIS:

**Table 1: Phenotype Prediction**: Looking at the photos, who might be the father of each kitten?

| KITTEN  | POTENTIAL DAD | EXPLAIN REASONING |
| --- | --- | --- |
| 1: Molasses |  |  |
| 2: Cream |  |  |
| 3: Ginger |  |  |
| 4: Sugar |  |  |

**Table 2: Gel Loading Order**

| Well  | Tube  | DNA Sample | NOTES (problems, loss of samples, etc) |
| --- | --- | --- | --- |
| 2 | P  | Tom (Dad #1) |  |
| 3 | Q | Molasses (Kitten #1) |  |
| 4 | R  | Cream (Kitten #2) |  |
| 5 | S | Honey (Mom) |  |
| 6 | T | Ginger (Kitten #2) |  |
| 7 | U | Sugar (Kitten #4) |  |
| 8 | V  | Butch (Dad #2) |  |

ANALYSIS:

Record the band patterns in **Table 3** below.

**Table 3: DNA banding results**

| **Tube**  | **P**  | **Q** | **R** | **S**  | **T** | **U** | **V** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Colour** **Band** | **Tom** **Dad #1** | **Cream****Kitten 1** | **Molasses****Kitten 2** | **Honey** **Mom** | **Ginger****Kitten 3** | **Sugar****Kitten 4** | **Butch** **Dad #2** |
| **Blue** |  |  |  |  |  |  |  |
| **Blue****Pink** |  |  |  |  |  |  |  |
| **Orange** |  |  |  |  |  |  |  |
| **Yellow** |  |  |  |  |  |  |  |

**Table 4: Paternity Assignment and Justification**

| **Kitten** | **Father based on Visual** | **Father based on DNA** | **Justification/Rationale** |
| --- | --- | --- | --- |
| Cream Kitten 1 |  |  |  |
| MolassesKitten 2 |  |  |  |
| GingerKitten 3 |  |  |  |
| SugarKitten 4 |  |  |  |

**Extra points:**

**Are there any other conclusions you could make based on the DNA banding patterns?**