**Inheritance Lesson Ideas**

CfE Links:

* **I recognise that we have similarities and differences but are all unique. HWB 0-47a**
* **By comparing generations of families of humans, plants and animals, I can begin to understand how characteristics are inherited. SCN 1-14a**
* **By investigating the lifecycles of plants and animals, I can recognise the different stages of their development. SCN 2-14a**
* **By exploring the characteristics offspring inherit when living things reproduce, I can distinguish between inherited and non inherited characteristics. SCN 2-14b**

**Whose baby are you?**

A simple matching activity can be used to introduce the idea that offspring often resemble their parents in some way. Give pupils the pictures of parents and offspring and get them to sort them. More able/ older pupils can use the worksheet to list as many differences as they can and as many similarities as they can

* Do the babies look exactly like their parents?
* Do the babies look exactly like each other?

What do we call these differences? VARIATION

**Variation within a population**

Discrete variation - Tongue rolling, blood groups. Genetic control – no other influence. You either have the trait or you don’t!

Continuous variation - Height, weight, hand-span. Can be influenced by environmental factors.

Pupils can use the worksheets to measure height in the class and graph it (numeracy links) to show continuous variation and use the tick worksheet to demonstrate simple yes or no for various discrete traits.

**Making ReeBops – see SSERC bulletin for more information and pictures**

The purpose of this practical work is:

* To examine how characteristics are inherited.
* To show how sexual reproduction is responsible for tremendous variation within a population.
* Investigate the factors that can influence an individual’s characteristics.
* *By exploring the characteristics offspring inherit when living things reproduce, I can distinguish between inherited and non inherited characteristics.* ***SCN 2-14b***

ReeBop recipe (have this on whiteboard or handout so pupils know what to use):

**Head:** green play-doh (both mum, dad and the babies will all have this)

**Body segments**: pink play-doh (Dd) – number will vary in babies

**Humps:** purple play-doh (Mm) – number will vary in babies

**Antenna:** silver pipe cleaners (Aa) – number will vary in babies

**Noses:** red or yellow pipe cleaners (Qq) – colour will vary in babies

**Legs:** red or yellow pipe cleaners (Ll) – colour will vary in babies

**Eyes:** wiggly eyes (Ee) – number will vary in babies

**Tails:** blue pipe cleaners (Tt) – will vary in babies – curly or straight

**Spine:** wooden skewer (one per ree-bop)

|  |  |  |
| --- | --- | --- |
| AA – 1 antenna  QQ – red nose  EE – 2 eyes   DD – 3 body segments  MM – 1 hump  TT – curly tail  LL – blue legs | Aa – 2 antennae | aa – no antenna  qq – yellow nose  ee – 3 eyes   dd – 2 body segments  mm – 3 humps  tt – straight tail  ll – red legs |
| Qq – orange nose |
| Ee – 2 eyes |
| Dd – 3 body segments |
| Mm – 2 humps |
| Tt – curly tail |
| Ll – blue legs |

Table to show possible combinations for each trait



Reebops – mum’s and dad’s chromosomes

**A**

**a**

**Q**

**q**

**E**

**e**

**D**

**d**

**M**

**m**

**T**

**t**

**L**

**l**



The Babies:

* Randomly select one gene from each parent for the 7 characteristics. Combine them on the baby Reebop recording sheet.
* Fill in the pedigree for your new baby by writing down each of its 7 characteristics (e.g. red nose) on the parcel tag.
* Choose a name for your Reebop.
* Collect the materials that you will need for your baby and assemble it.

Ideas for discussion:

* Place your Reebop in the “nursery” along with the other babies
* What do you notice about the features of the babies?
* How much genetic material does each parent provide?
* Where is this genetic material stored in the parent?
* Are there any babies that are identical?
* How many babies are the same as their parents?