# Year 5: Busy Biologists

| 1. Terms | Definitions |
|---|---|
| **Mammal** | An animal that breathes air, has a backbone (**vertebrate**), and grows hair at some point during its life. |
| **Amphibian** | A cold-blooded vertebrate that spends some time on land but must breed and develop into an adult in water. |
| **Gestation** | The time in which prenatal development takes place before birth. In humans this is 9 months. |
| **Embryo** | An embryo is the earliest stage in the development of a fertilised egg (the zygote) in the **gestation** period. |
| **Foetus** | An foetus is the stage that follows on from the **embryo** in the development of a fertilised egg (the zygote) in the **gestation** period. |
| **Asexual reproduction** | The process where one parents produces new life |
| **Sexual reproduction** | The process where two parents produce new life |
| **Adolescence** | The social and emotional stage between childhood and adulthood. If you are a teenager, you are an adolescent. |
| **Puberty** | The physical stage of **development** (changing/growing) between childhood and adulthood |

## 5. Human development

Infancy
- When babies are young, they grow rapidly.
- They learn to walk and talk.

Childhood
- They learn skills and become more independent.

Adolescence
- They go through puberty – the transition from childhood to adulthood.

Early adulthood
- The human body is at its peak of strength and fitness.
- Most able to reproduce.

Middle adulthood
- Less able to reproduce.
- Hair may go grey.

Late adulthood
- There can be a decline in health and fitness.

## 2. Reproduction in Animals

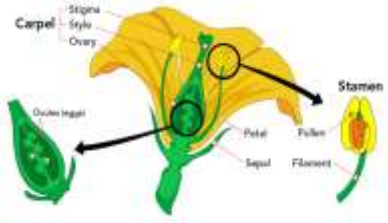

- Most animals reproduce sexually (two parents where the sperm from the male fertilises the female egg).
- Animals, including humans, have offspring which grow into adults.
- In humans and some animals, these offspring will be born live, such as babies or kittens, and then grow into adults.
- In other animals, such as chickens or snakes, there may be eggs laid that hatch to young, which then grow to adults.
- Some young undergo a further change before becoming adults e.g. caterpillars to butterflies: this is called a **metamorphosis.**

## 3. Reproduction in Plants

- Plants reproduce both sexually and asexually.
- Most plants contain the male sex cell (pollen) and the female sex cell (ovules); however, most plants cannot fertilise themselves.

**Asexual reproduction (only one parent)**
- Strawberry plants, potatoes, spider plants and daffodils use asexual reproduction.
- Gardeners may force plants to reproduce asexually by taking cuttings

**Sexual reproduction (two parents)**
- This occurs through pollination, usually involving wind or insects.
- Pollen from the stamen of one plant is transferred to the stigma of another.
- The pollen then travels down a tube through the style and fuses with an ovule.




## 4. Reproduction specifically in Mammals

- **Mammals** use sexual reproduction to produce their **offspring.**
- The male sex cell, called the sperm, fertilises the female sex cell, called the egg.
- The fertilised egg divides into different cells, which will eventually form a baby.
- The baby will grow inside the mother until the end of the **gestation** period.
- The gestation period for humans is 9 months.

**Did you know, a scientist who studies animals and plants is called a naturalist?**