***CONCEPT 1: REPRODUCTION ENSURES THAT LIFE EXISTS BEYOND ITS PRESENT GENERATION.***

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| --- | --- |
|  | Sustainability***:*** |
|  | Reproduction: |
|  | Continuity |

Explain how these three terms are related to each other.

***\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_***

**CONCEPT 2: REPRODUCTION TRANSFERS GENETIC INFORMATION FROM PARENTS TO OFFSPRING.**

Every species has its own strategies for reproduction. See the examples below:

|  |  |  |
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| **Image result for hummingbird pollen** | **Image result for bird courtship displays** | **Image result for binary fission** |
| *Plants have colours and scents that attract animals that can pick up and transfer pollen to other flowers* | *Many animals have courtship rituals.* | *Bacteria reproduce on their own splitting in two.* |

Despite these differences, there are just two basic ways that living things reproduce:

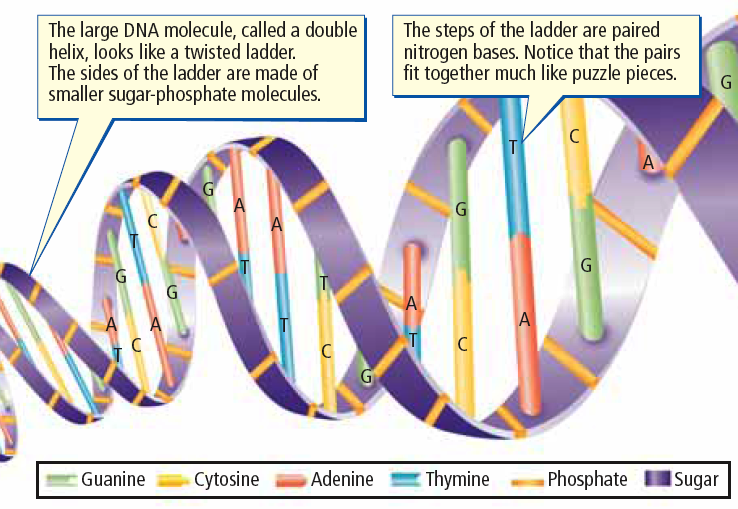
\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ reproduction: offspring come from a \_\_\_\_\_\_\_\_\_\_\_ parent. Each offspring receives a copy of the parent’s genetic material. Offspring are genetically \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to their parent and each other.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ reproduction: offspring come from \_\_\_\_\_\_\_ parents who each contribute half of the offspring’s genetic material. Offspring are genetically \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ than their parent and each other (unless they’re identical twins!).

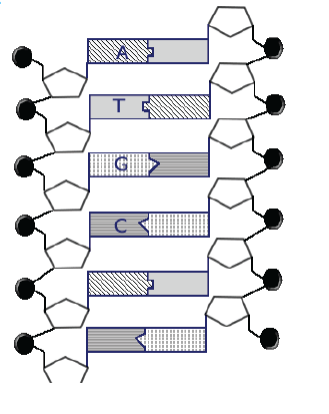
In both asexual and sexual reproduction, the genetic material/information is passed on to offspring through a molecule called \_\_\_\_\_\_\_\_\_\_\_\_\_.

**DNA carries the master set of instructions for cell function**

* Stores the \_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of an organism
* Genetic information determines how an organism \_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_, and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.



**DNA: Structure**

* Two long strands shaped like a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Consists of many copies of four different chemical building blocks called *\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*: adenine (A), thymine (T), cytosine (C), guanine (G)
* DNA sequence: The specific order of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_; the “code” that holds the genetic information.

*Use the image at the right to complete the follow:*

*Circle a nucleotide.*

*Label the sugar and phosphate.*

*Label the bases that are not already labeled*

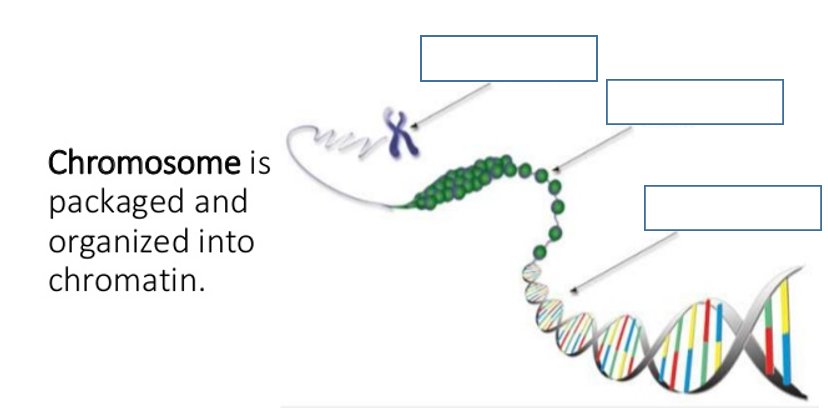
**DNA: Function**

* Stores the \_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of an organism
* An organism’s DNA is stored in each of its \_\_\_\_\_\_\_\_\_\_\_\_\_.
* DNA molecules coil and compact into a condensed form called *\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_* to fit into the cells
* Just before reproduction: DNA condenses further into structures called ***\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_***
* During reproduction: Copies of chromosomes (and therefore DNA) are transferred the

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

[**https://www.youtube.com/watch?v=xUrlreMaUrs**](https://www.youtube.com/watch?v=xUrlreMaUrs)

Label the diagram below using the terms: ***chromosome***, ***DNA*** and ***chromatin***

[](https://www.youtube.com/watch?v=xUrlreMaUrs)

HYPERLINK "https://www.youtube.com/watch?v=xUrlreMaUrs"