# NATURAL SCIENCES

## GRADE 7 TERM 1

## Tracker

# COVID – 19 INFORMATION:

**What is COVID-19?**
COVID-19 is a disease caused by a new strain of coronavirus. 'CO' stands for corona, 'VI' for virus, and
'D' for disease. Formerly, this disease was referred to as '2019 novel coronavirus' or '2019-nCoV.'
The COVID-19 virus is a new virus linked to the same family of viruses as Severe Acute Respiratory Syndrome (SARS) and some types of common cold.

**What are the symptoms of COVID-19?**
Symptoms can include fever, cough and shortness of breath. In more severe cases, infection can cause pneumonia or breathing difficulties. More rarely, the disease can be fatal. These symptoms are similar to the flu (influenza) or the common cold, which are a lot more common than COVID-19. This is why testing is required to confirm if someone has COVID-19.

## PSYCHOSOCIAL SUPPORT

It is natural for children to feel stress, anxiety, grief, and worry during an ongoing pandemic like COVID-19. Fear and anxiety about their own health and the health of loved ones can be overwhelming and cause strong emotions. In today's digital world, children also access different kinds of information and news through social media and digital platforms, some of them may not be factually true, causing further stress and anxiety. It is enhanced when children are not able to go out, play, attend school or interact freely. For those children and families who are subjected to quarantine or isolation there may be an increased risk of violence and abuse. When stress levels go up for adults and children, there is a greater risk of gender based violence and other forms of violence against children.
Role as parent or caregiver:
• To promote an environment where children can grow up and develop their full potential having fun and being safe and healthy.
• To facilitate a space where children are listened to, they can express their thoughts and feelings, and are free to ask any question and are answered honestly.

| Week 1 | | | | | | | | | | | | |
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| **CAPS Concepts and Activities** | CAPS Page no. | Year: | | | | | Year: | | | | | |
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| **Week 1 Lesson A** | | | | | | | | | | | | |
| **Topic: The biosphere**<br>**Content and Concepts: The concept of the biosphere**<br>• The biosphere is where life exists and includes the lithosphere (soil and rocks), hydrosphere (water), and atmosphere (gases)<br>• It also includes all living organisms, and dead organic matter | 17 | | | | | | | | | | | |
| **Week 1 Lesson B** | | | | | | | | | | | | |
| **Topic: The biosphere**<br>**Content and Concepts: The concept of the biosphere**<br>• There are many different kinds of living things including plants, animals, microorganisms<br>• All living things can carry out all the seven life processes: nutrition (feeding), growth, reproduction, respiration (energy production), excretion, sensitivity (to the environment), movement | 17 | | | | | | | | | | | |
| **Week 1 Lesson C** | | | | | | | | | | | | |
| **Topic: The biosphere**<br>**Content and Concepts: Requirements of sustaining life**<br>• Living things need energy, gases, water, soil and favourable temperatures<br>• Living things are suited (adapted) to the environment in which they live, such as fish have fins to move easily through water | 17 | | | | | | | | | | | |

| **Reflection** | |
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| Week 2 | | | | | | | | | | | |
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| **Week 2 Lesson A** | | | | | | | | | | | |
| **Topic: Biodiversity**<br>**Content and Concepts: Classification of living things**<br>• Plants, animals and microorganisms, and their habitats make up the total biodiversity of the Earth<br>• Living organisms are sorted and classified according to their shared characteristics | 17 | | | | | | | | | | |
| **Week 2 Lesson B** | | | | | | | | | | | |
| **Topic: Biodiversity**<br>**Content and Concepts: Classification of living things**<br>• Living organisms are sorted and classified according to their shared characteristics<br>• Scientists have grouped the organisms into a classification system<br>• The five main groups (called Kingdoms) of living organisms include Bacteria, Protista, Fungi, Plants and Animals<br>• Basic differences in processes such as movement, nutrition and reproduction, distinguishes plants from animals<br>• Kingdoms are further subdivided into Phyla/Divisions, then Classes, then Families, then Orders, then Genera, and the smallest group is Species | 17 | | | | | | | | | | |
| **Week 2 Lesson C** | | | | | | | | | | | |
| **Topic: Biodiversity**<br>**Content and Concepts: Diversity of animals**<br>• Animals are classified as either vertebrates (animals with backbones) or invertebrates (animals without backbones)<br>• Vertebrates are subdivided into five classes on the basis of distinguishing characteristics: Fish, Amphibians, Reptiles | 18 | | | | | | | | | | |

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| **Week 3 Lesson A** | | | | | | | | | | | |
| **Topic: Biodiversity**<br>**Content and Concepts: Diversity of animals**<br>• Animals are classified as either vertebrates (animals with backbones) or invertebrates (animals without backbones)<br>• Vertebrates are subdivided into five classes on the basis of distinguishing characteristics: Birds, Mammals | 18 | | | | | | | | | | |
| **Week 3 Lesson B** | | | | | | | | | | | |
| **Topic: Biodiversity**<br>**Content and Concepts: Diversity of animals**<br>• Animals are classified as either vertebrates (animals with backbones) or invertebrates (animals without backbones)<br>• Invertebrates are subdivided into the Phyla Arthropoda and Mollusca, on the basis of distinguishing characteristics<br>• Mollusks are soft bodied animals such as snails | 18 | | | | | | | | | | |
| **Week 3 Lesson C** | | | | | | | | | | | |
| **Topic: Biodiversity**<br>**Content and Concepts: Diversity of animals**<br>• Animals are classified as either vertebrates (animals with backbones) or invertebrates (animals without backbones)<br>• Invertebrates are subdivided into the Phyla Arthropoda and Mollusca, on the basis of distinguishing characteristics<br>• Arthropods have a hard-outer covering (exoskeleton) and jointed legs, such as Insects (locust), Arachnids (spider), Crustaceans (crab) | 18 | | | | | | | | | | |

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| **Week 4 Lesson A** | | | | | | | | | | | |
| **Topic: Biodiversity**<br>**Content and Concepts: Diversity of animals**<br>• Animals are classified as either vertebrates (animals with backbones) or invertebrates (animals without backbones)<br>• Invertebrates are subdivided into the Phyla Arthropoda and Mollusca, on the basis of distinguishing characteristics<br>• Arthropods have a hard-outer covering (exoskeleton) and jointed legs, such as Insects (locust), Arachnids (spider), Crustaceans (crab) | 18 | | | | | | | | | | |
| **Week 4 Lesson B** | | | | | | | | | | | |
| **Topic: Biodiversity**<br>**Content and Concepts: Diversity of plants**<br>• Plants are classified as plants with seeds (such as maize) or plants without seeds (such as ferns) | 18 | | | | | | | | | | |
| **Week 4 Lesson C** | | | | | | | | | | | |
| **Topic: Biodiversity**<br>**Content and Concepts: Diversity of plants**<br>• Plants with seeds are Angiosperms (flowering plants) and Gymnosperms (cone bearing plants such as the cycad)<br>• Plants can produce their seeds in flowers (Angiosperms) or in cones (Gymnosperms) | 18 | | | | | | | | | | |

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| Week 5 | | | | | | | | | | | |
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| **Week 5 Lesson A** | | | | | | | | | | | |
| **Topic: Biodiversity**<br>**Content and Concepts: Diversity of plants**<br>• Angiosperms consist of two major groups, dicotyledons and monocotyledons. These groups differ with respect to their roots, stems, leaves, flowers, fruits and seeds<br>[Note: Emphasise local and other South African examples] | 18 | | | | | | | | | | |
| **Week 5 Lesson B** | | | | | | | | | | | |
| **Topic: Sexual reproduction**<br>**Content and Concepts: Sexual reproduction in Angiosperms**<br>• Seeds are produced in flowers, which are the sexual organs of Angiosperms<br>• The components of a flower usually include:<br>o male structures called stamens for producing pollen (containing male sex cells)<br>o female structures called stigma (for receiving pollen), style and ovary (for producing female sex cells)<br>o petals (for attracting pollinators)<br>o sepals (for protecting the flower bud) | 19 | | | | | | | | | | |

| Week 5 Lesson C | | | | | | | | | | | |
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| **Topic: Sexual reproduction**<br>**Content and Concepts: Sexual reproduction in Angiosperms**<br>• Pollination and fertilisation are essential processes for flowers to produce seeds<br>• Pollination is the transfer of pollen between plants of the same species for the purpose of fertilisation<br>• Wind and water can facilitate pollination<br>• Fertilisation is the fusion of the male and female sex cells to produce seeds<br>• During fertilization the following happens: each mature pollen grain contains two male sex cells. When the pollen attaches to the stigma of a flower from the same species, the pollen produces a pollen tube, which grows down the neck of the style, transporting the male sex cells to the ovule. Within the embryo sac of the ovule, one male sex cell fertilizes the egg, which develops into a seed. The other male sex cell unites with two cells in the embryo sac and this results in the development of the endosperm, the starchy food that feeds the developing seed. The ovary enlarges and becomes a fruit. | 19 | | | | | | | | | | |

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| Week 6 | | | | | | | | | | | |
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| **Week 6 Lesson A** | | | | | | | | | | | |
| **Topic: Sexual reproduction**<br>**Content and Concepts: Sexual reproduction in Angiosperms**<br>• Pollination can also be aided by pollinators such as insects, birds, mammals<br>• Flowers have special adaptations to promote pollination, such as large colourful petals, scent and sweet nectar to attract insects and birds<br>• Pollinators play an important role in the production of food crops (such as maize) for humans | 19 | | | | | | | | | | |
| **Week 6 Lesson B** | | | | | | | | | | | |
| **Topic: Sexual reproduction**<br>**Content and Concepts: Sexual reproduction in Angiosperms**<br>• Fertilisation is the fusion of the male and female sex cells to produce seeds<br>• The seeds are contained in fruit<br>• Fruits and seeds are dispersed in various ways | 19 | | | | | | | | | | |
| **Week 6 Lesson C** | | | | | | | | | | | |
| **Topic: Sexual reproduction**<br>**Content and Concepts: Human reproduction**<br>• Puberty is the stage in the human life cycle when sexual organs mature for reproduction<br>• Humans also experience drastic physical and emotional changes during this stage | 20 | | | | | | | | | | |

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| Week 7 | | | | | | | | | | | | |
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| **Week 7 Lesson A** | | | | | | | | | | | | |
| **Topic: Sexual reproduction**<br>**Content and Concepts: Human reproduction**<br>• The main purpose of reproduction is for the sperm (male sex cell) and egg (female sex cell) to combine, develop and produce a baby<br>• The female reproductive organs include the vagina, uterus, ovaries (contain egg cells/ ova) | 20 | | | | | | | | | | | |
| **Week 7 Lesson B** | | | | | | | | | | | | |
| **Topic: Sexual reproduction**<br>**Content and Concepts: Human reproduction**<br>• The main purpose of reproduction is for the sperm (male sex cell) and egg (female sex cell) to combine, develop and produce a baby<br>• The male reproductive organs include the penis and the testis (produces sperm cells) | 20 | | | | | | | | | | | |
| **Week 7 Lesson C** | | | | | | | | | | | | |
| **Topic: Sexual reproduction**<br>**Content and Concepts: Human reproduction**<br>• The main purpose of reproduction is for the sperm (male sex cell) and egg (female sex cell) to combine, develop and produce a baby<br>• Fertilisation is a process when the sperm fuses with the egg<br>• The uterus develops a thick layer of blood in preparation for a fertilised egg<br>• If fertilisation does not take place, menstruation occurs. The thick layer of blood breaks down and is released through the vagina<br>• If fertilisation takes place, the fertilised egg is embedded (implanted) in the blood lining of the uterus. This leads to pregnancy | 20 | | | | | | | | | | | |

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| **Week 8 Lesson A** | | | | | | | | | | | |
| **Topic: Sexual reproduction**<br>**Content and Concepts: Human reproduction**<br>• If fertilisation takes place, the fertilised egg is embedded (implanted) in the blood lining of the uterus. This leads to Pregnancy<br>• Pregnancy can be prevented by using contraceptives such as condoms to prevent the sperm reaching the egg | 20 | | | | | | | | | | |
| **Week 8 Lesson B** | | | | | | | | | | | |
| **Topic: Sexual reproduction**<br>**Content and Concepts: Human reproduction**<br>• If fertilisation does not take place, menstruation occurs. The thick layer of blood breaks down and is released through the vagina | 20 | | | | | | | | | | |
| **Week 8 Lesson C** | | | | | | | | | | | |
| **Topic: Sexual reproduction**<br>**Content and Concepts: Human reproduction**<br>• Pregnancy can be prevented by using contraceptives such as condoms to prevent the sperm reaching the egg<br>• Condoms also prevent the transmission of HIV/AIDS and other STDs (sexually transmitted diseases), if used effectively [Note: It is important that learners understand that early sexual activity can have serious consequences. Learners need to know enough about this topic to be able to make informed decisions and responsible choices | 20 | | | | | | | | | | |

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| **Week 9 Lesson A** | | | | | | | | | | | | |
| **Topic: Variation**<br>**Content and Concepts: Variations exists within a species**<br>• A species is a category within the classification system<br>• Living things of the same type belong to the same species. For example, humans are one species and dogs are another species<br>• Individuals of the same species can reproduce to make more individuals of the same species<br>• All people are human (Homo sapiens) and belong to the same species | 21 | | | | | | | | | | | |
| **Week 9 Lesson B** | | | | | | | | | | | | |
| **Topic: Variation**<br>**Content and Concepts: Variations exists within a species**<br>• Differences between living things of the same species is called variation<br>• Variation amongst humans can be inherited. Some inherited characteristics are height and tongue-rolling | 21 | | | | | | | | | | | |
| **Week 9 Lesson C** | | | | | | | | | | | | |
| **Topic: Variation**<br>**Content and Concepts: Variations exists within a species**<br>• Differences between living things of the same species is called variation | 21 | | | | | | | | | | | |

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