

**Third Grade Science Standards**

**3rd Grade**

**Course Overview:** This science course covers many different science topics through the use of class discussion and observation, along with many hands-on learning activities. Students learn about habitats of animals and plants, and focus on two specific types of habitats. Students also learn about plants and gardening, and the importance that water plays, as well as how a large source of our food comes from plants. Another unit covers one of our basic needs of shelter. Students discover the importance of shelter for animals and humans, and how to create a shelter that is both safe and efficient. Another unit covers movement of animals and humans, and how transportation has changed over the years. Our sound unit discovers how sound is produced, how humans are able to hear sound, and how we can amplify sound. The last unit teaches students the importance of protecting our most sacred item, our Earth.

**Unit 1 Beginning Science (30 days)**

**Description:** In this unit, the students will explore what a scientist does and how to be a safe scientist.

**Standards**

1. The students will explain what a scientist’s responsibilities are and give examples of scientific contributions to our society. H.4.3
2. The students will explain the importance of science to society. H.4.1
3. The students will identify and demonstrate basic science safety skills. C.4.4
4. The students will use their five senses to conduct experiments and make observations. A.4.1
5. The students will recognize and use science tools. C.4.4
6. The students will describe the purpose of each science tool. C.4.4
7. The students will sign a science safety contract. C.4.4
8. The students will record their observations during science explorations and experiments. A.4.3
9. The students will recognize and identify the six steps of the scientific method and explain the reasoning behind why scientists use it. C4.2
10. The students will classify objects based on similar characteristics. D.4.2

**Unit 2 Habitats (30 days)**

**Description:** The unit on habitats focuses on teaching students what is a habitat, and what adaptations plants and animals have that enable them to survive in their habitat. The unit takes a closer look at two types of habitats and the plants and animals that live there.

**Standards**

1. The students will explain what a habitat is. C.4.1
2. The students will identify what all deserts have in common.
3. The students will describe the characteristics of a desert. C.4.2
4. The students will describe some typical desert plants and animals.
5. The students will explain how desert plants and animals survive in an arid climate. C.4.2, F.4.1
6. The students will conduct explorations and experiments to discover important characteristics of a desert. B.4.1, C.4.2
7. The students will describe how light energy heats the air. D.4.8
8. The students will explain how the temperature of places and objects varies. E.4.5
9. The students will describe how rain affects desert plants and animals.
10. The students will define important vocabulary words related to habitats. C.4.2
11. The students will determine what factors affect the rate of evaporation. D.4.3, D.4.4
12. The students will describe the characteristics of a forest.
13. The students will explore a typical mixed forest.
14. The students will describe the characteristics of forest plants and animals that enable them to survive through the seasons. F.4.1
15. The students will explain how people and other living things survive in different habitats. C.4.2

**Unit 3 Finding Shelter (30 days)**

**Description:** The shelter unit explores the basic need of animals and humans for shelter. Students learn why shelter is important, and how animals and humans make shelters. Students also take a closer look at what tools and simple machines people and animals use to make creating a shelter easier.

**Standards**

1. The students will discover that natural resources can be used to build a shelter.
2. The students will explain why people need shelters. A.4.2
3. The students will explain how natural resources provide building materials. E.4.7, E.4.8
4. The students will determine how building materials differ. E.4.7
5. The students will explain why and how animals build shelters. F.4.1
6. The students will describe how settlers used natural resources to build shelters. A.4.5, E.4.7
7. The students will discover that heat travels. D.4.8
8. The students will compare and contrast insulators and conductors.
9. The students will determine what kinds of materials are good insulators. D.4.2, D.4.3
10. The students will describe fuels people use to heat their homes. E.4.8
11. The students will explain how people can keep heat from entering and leaving their homes.
12. The students will summarize why it is important to conserve energy.
13. The students will explain how simple machines help people. C.4.2, G.4.4
14. The students will define the terms “force” and “work.” D.4.7
15. The students will explain how the beaks and teeth of some animals are like wedges and levers. F.4.1
16. The students will explain how the claws of some animals are like wedges and levers. F.4.1

**Unit 4 Moving (30 Days)**

**Description:** Could an animal live without moving a muscle? Not for long! Animals need to keep moving in order to survive. In this unit, students will find out why animals are always on the move. Students will also see how plants and objects are able to get around. And students will learn how people's ways of traveling have changed.

**Standards**

1. The students will determine what forces can move an object. D.4.4
2. The students will explain how scattering seeds can help plants. F.4.1, F.4.2
3. The students will describe how wind, moving water, and animals can scatter seeds.
4. The students will discover how seeds are spread.
5. The students will explain how muscles work in pairs and how the skeleton and muscles work together.
6. The students will describe some of the different ways that animals move.
7. The students will discover how an animal without legs moves.
8. The students will explain that animals move to meet their survival needs. F.4.1
9. The students will explore different ways animals move to meet their needs. F.4.1
10. The students will discover various animal migration patterns.
11. The students will explore different reasons for animal migration. F.4.1
12. The students will explore different means of moving from place to place.
13. The students will discover how the energy from animals and machines is used to help people move.
14. The students will compare and classify various modes of transportation. A.4.5
15. The students will explore modern modes of transportation. A.4.5
16. The students will discover how a heat engine works.
17. The students will explain problems associated with burning fuels such as gasoline. A.4.4, A.4.5

**Unit 5 Sounds All Around (30 Days)**

**Description:**  Just about everything around us can make a sound. We live in a world of sounds. Birds chirp, leaves rustle, car horns honk, school bells ring, and people talk. In this unit, students will discover what sound is, how it is made, how it travels, and how it helps keep both people and animals safe. Students will learn how science has helped people communicate across great distances.

**Standards**

1. The students will observe and describe how sounds are alike and different.
2. The students will explain how sound is produced.
3. The students will explain why sounds have different volumes and pitches.
4. The students will discover how sound is created.
5. The students will explain how sound travels through matter by causing particles in the matter to vibrate. C .4.2
6. The students will describe what echoes are.
7. The students will compare how sound travels through various states of matter.
8. The students will explain how humans and other animals make sounds.
9. The students will describe some reasons why humans and other animals make sounds.
10. The students will listen to, record, and compare various sounds.
11. The students will explain the process of hearing. C.4.2
12. The students will describe some of the different kinds of ears animals have.
13. The students will identify objects by the sounds they make.
14. The students will discover how distance affects the ability to hear.
15. The students will explain how a megaphone directs sound.
16. The students will hypothesize how megaphones increase perceived volume.
17. The students will discover various ways to enhance sound.
18. The students will explain how bullhorns work.
19. The students will describe some electrical devices that amplify sound. C.4.2
20. The students will discover how to amplify sound.

**Unit 6 Protecting the Earth (30 Days)**

**Description:** People share the earth with billions and billions of living things. Like us, they need clean water, clean air, and space in which to live. But sometimes people add harmful things to the earth's water, air, and living spaces. In this unit, students will find out how people change the earth and what they can do to help protect it.

**Standards**

1. The students will determine a way to separate oil from water.
2. The students will explain why water is our most important natural resource. C.4.2
3. The students will summarize how water pollution affects plants and animals.
4. The students will discover the effects of water pollution on the growth of a water plant.
5. The students will explain how sewage treatment plants treat sewage to clean the water. H.4.1, H.4.3
6. The students will explain how farmers, factories, and governments can help prevent water pollution. C.4.2
7. The students will determine how groundwater gets into food.
8. The students will talk about ways to reduce trash.
9. The students will list what makes up most trash.
10. The students will explain how air pollution from incineration can be reduced.
11. The students will describe a sanitary landfill and how it functions. H.4.1
12. The students will determine what kind of trash breaks down naturally and which do not.
13. The students will list some ways you can reduce the trash you throw out.
14. The students will describe ways in which some items can be recycled.
15. The students will explain the effect that building a house has on the land.
16. The students will list ways that people change the environment. H.4.1
17. The students will explain how changes to a habitat caused by people’s activities affect the populations in a community. H.4.1
18. The students will explain the terms “endangered” and “extinct” giving examples of two animals in each group.
19. The students will explain how people can help protect plants and animals.
20. The students will list some living things that have been saved from extinction.