

## Diversity of Living Things

### Materials:

- Red & Blue Play-Doh!
- 5 copies each of blood smears for an: amphibian, mammal, reptile, bird, fish.
- 5 copies each of a photo of an: amphibian, mammal, reptile, bird, fish.

!

### Introduction:

1. What do scientists do?!
2. Where do you find scientists?!
3. What is a scientist? What is a biologist?!
4. How does this type of science affect your life? What about other types?!

!

### Things on Earth:

1. Can you list some living and non-living things? *Try to get things like water and soil into the discussion as non-living.!*
2. Today we will be discussing 5 Major Types of Life. *Have them try to guess the 5 kingdoms; should get plants and animals, may have the help with monera, protista, and fungi.!*
3. Can you guess how many types of creatures there are on Earth? *Roughly 10*

2. What sorts of characteristics do these animals have? *These are all vertebrates; they all have a backbone and are highlighted in blue in the next slide.!*

!

### **Animal Kingdom Groups:!**

1. Go through the **invertebrates** briefly to familiarize students with the concept (highlighted in green). Point out more familiar creatures to make the connection (jellyfish, earthworms).!

!

### **How Can We Distinguish?!**

1. What are some differences between the Animal Kingdom Groups?!
  - a. Skeleton: *Some creatures have an internal skeleton, while others (insects and crustaceans primarily) have an exoskeleton to support them.!*
  - b. Hearts: *The number of hearts an animal has differs; fish have two chambered-hearts, reptiles and amphibians have three chambers and mammals have four.!*
  - c. Body Temperature: *Some animals are cold-blooded and some are warm.!*
  - d. Red Blood Cells: *Are different in form and function depending on the animal.!*

!

### **Blood!**

1. The 6 functions of blood!
  - a. Carries oxygen from lungs (or gills, skin) to tissues!
  - b. Carries carbon dioxide from tissues to lungs (or gills, skin)!
  - c. Protection from disease!
  - d. Moving nutrients through the body to feed tissues!
  - e. Moving hormones through the body!
  - f. Some blood components produce a natural "patch kit"!
2. What molecule lets blood cells carry oxygen? *Haemoglobin!*

!

### **Blood Activity:**

1. Split the class into five teams, and hand out a large piece of both blue and red Play-Doh to each group to be shared.!
2. Have them make models of the human blood cells.!
3. Ask them to describe the shape: *Two (bi) inward dents (concave) on a disk... Biconcave disk.!*
4. Why did we give you both red and blue Play-Doh? *The red illustrates blood with oxygen attached to the haemoglobin, while blue represents blood without. Have students look at their veins and show them that they have blue blood too. If*

*people aren't getting enough oxygen, that's why their lips appear blue. Explain that when we have cuts, the air bond to any blood making it red right away!!*

!

### **What Does Blood Do?**

- 1.