

ACTIVITY GUIDE AT-A-GLANCE

Take an adventure-filled journey to learn about science!

1. & 2. SCHEDULING OPTIONS

Choose from a grid-style schedule (1) or a list-style schedule (2). Either way, these scheduling options will make planning your weekly science adventure a snap! These schedule sheets include a summary of the chapter in case your students are reading the novel or listening to the audiobook on their own.

READ

3. READING ASSIGNMENTS

Know what to read each week in the corresponding Sassafras Science novel. Plus, get options for additional encyclopedia pages to read and for books to check out from the library. The novel contains the essential information for each week, but if you want to dig deeper, we've got you covered!

WRITE

4. SCIDAT LOGBOOK INFO

Have confidence that your students are grasping the key points from the reading with the information in the notebooking section. Here, you will find the scientific details that were shared in the chapter, which could be included in your students' narrations or list of facts.

5. RELEVANT VOCABULARY

Build your students' science vocabulary with words relevant to the topics the students are studying.

6. COPYWORK

Use these selections as memory work, copywork, or dictation—it's up to you!

| CHAPTER 2: GRID SCHEDULE | | | | |
|--|---|--|---|--|
| Supplies Needed | | | | |
| Demo • Teller paper tube, Foli, Rubber bands, Construction paper, Flashlight | | | | |
| Projects • Poster board or Sheelton, Paper plate, Fluorescent | | | | |
| Chapter Summary | | | | |
| The chapter opens with Blaise and Tracy arriving at their first stop in the African grasslands. They join Nicholas Muri and four other guests on a photo safari through Kenya. The group spots a pride of lions and Nicholas shares more about them. They also see several cheetahs on the hunt and their guide tells more about the animals. All the while, the narcoleptic Hank will fall asleep and the comical couple, Fred and Pam, will make their characteristic blunders and mistakes. The chapter ends with the mysterious Man with No Eyebrows stealing the jeep, leaving the group stranded in Elephant Valley. | | | | |
| Weekly Schedule | | | | |
| | Day 1 | Day 2 | Day 3 | Day 4 |
| Read | <input type="checkbox"/> Read the section entitled "Look... a Lion!" of Chapter 2 in <i>SSA Volume 1: Zoology</i> . | <input type="checkbox"/> Read the section entitled "Cheating Cheetahs" of Chapter 2 in <i>SSA Volume 1: Zoology</i> . | <input type="checkbox"/> (Optional) Read one or all of the assigned pages from the encyclopedia of your choice. | <input type="checkbox"/> (Optional) Read one of the additional library books. |
| Write | <input type="checkbox"/> Fill out the Animal Record Sheet on SL p. 9 for the lion. <input type="checkbox"/> Go over the vocabulary words and enter them into the Zoology Glossary on SL pp. 93-94. | <input type="checkbox"/> Fill out the Animal Record Sheet on SL p. 10 for the cheetah. <input type="checkbox"/> Add to the Habitat Information Sheet on SL p. 7 for the African Grasslands. | <input type="checkbox"/> (Optional) Write a narration on the Zoology Notes Sheet on SL p. 13. <input type="checkbox"/> (Optional) Do the copywork or dictation assignment and add it to the Zoology Notes sheet on SL p. 13. | <input type="checkbox"/> (Optional) Do the copywork or dictation assignment and add it to the Zoology Notes sheet on SL p. 13. |
| Do | <input type="checkbox"/> (Optional) Make a Handprint Lion. | <input type="checkbox"/> (Optional) Make a Cheetah Mask or have a Face Race. <input type="checkbox"/> (Optional) Have a Face Race. | <input type="checkbox"/> Do the demonstration entitled "Cat's Eyes." | <input type="checkbox"/> (Optional) Add the animals studied this week to the food chart and habitat poster. |

CHAPTER 2: LIST SCHEDULE

CHAPTER SUMMARY

Blaise and Tracy arrive at their first stop in the African grasslands. They join Nicholas Muri and four other guests on a photo safari through Kenya. The group spots a pride of lions and Nicholas shares more about them. They also see several cheetahs on the hunt and their guide tells more about the animals. All the while, the narcoleptic Hank will fall asleep and the comical couple, Fred and Pam, will make their characteristic blunders and mistakes. The chapter ends with the mysterious Man with No Eyebrows stealing the jeep, leaving the group stranded in Elephant Valley.

ESSENTIAL TO-DO'S

Read "Look... a Lion!" of Chapter 2 in *SSA Volume 1: Zoology*.
Read "Cheating Cheetahs" of Chapter 2 in *SSA Volume 1: Zoology*.

Fill out SL p. 9 for the lion.
Fill out SL p. 10 for the cheetah.
Fill out SL p. 7 for the African Grasslands.
Fill out the demonstration on SL p. 13.

Do "Cat's Eyes."

OPTIONAL EXTRAS

Read library books.
Add pages from the encyclopedia of your choice.

Write

- ☐ Write a narration on the Zoology Notes Sheet on SL p. 13.
- ☐ Complete the copywork or dictation assignment and add it to the Zoology Notes sheet on SL p. 13.

Do

- ☐ Make a Handprint Lion.
- ☐ Make a Cheetah Mask or have a Face Race.
- ☐ Add the animals studied this week to the food chart and habitat poster.

THE SASSAFRAS GUIDE TO ZOOLOGY - CHAPTER 2

| CHAPTER 2: THE AFRICAN GRASSLANDS | |
|--|--|
| READ: SCIENCE-ORIENTED BOOKS | |
| OPTIONAL ADDITIONAL LIBRARY BOOKS | |
| OPTIONAL ADDITIONAL LIBRARY BOOKS | |
| WRITE: NOTEBOOKING | |
| SCIDAT LOGBOOK SHEETS | |
| This week, you can have the students begin to fill out a Habitat Information Sheet for the African Grasslands and a logbook page for lions and cheetahs. The students could use the following information: | |
| Habitat Information Sheet - Grasslands | |
| HABITAT: Grasslands (Tropical) | |
| LOCATION AND LOCAL EXPERIENCE: Nicholas Muri | |
| AVERAGE RAINFALL: "The grasslands receive an average of 10 to 30 inches per year." | |
| AVERAGE TEMPERATURE: "The grasslands usually have warm winters and hot summers." | |
| MAIN CHARACTERISTICS: "There are few trees, vast grassy fields, and some rolling hills." | |
| ANIMALS FOUND THERE: "Add the cheetah and lion (The students could also add zebras and wildebeest)." | |

THE SASSAFRAS GUIDE TO ZOOLOGY - CHAPTER 2

| | |
|---|--|
| SCIDAT | |
| AFRICAN GRASSLANDS | |
| FINED | |
| live on family in the plains of Africa, Asia, and Australia. | |
| animals larger predators are made up of several females and with a few males one of which is the dominant male. | |
| they and rest during the day. | |
| they that they can kill, but usually they eat zebras and wildebeest. | |
| spots, large manes around their necks. | |
| front and rear with their paws in front. | |
| Cheetah | |
| small animal | |
| AFRICAN GRASSLANDS | |
| FINED | |
| muscular bodies with long legs that allow them to move with speed and flexibility. | |
| to help them balance while leaping, running, and | |

- They can reach speeds of over sixty miles per hour, but only for short distances.
- They are found in the plains of Africa, south of the Sahara, but once they lived in North Africa, the Middle East and India.
- Female cheetahs can have up to four babies at a time.
- Cheetah babies are born with a coat of long gray hair so that they look more like a honey badger, which is an aggressive animal. This is a form of camouflage.
- They are endangered animals.

VOCABULARY

Have the older students look up the following words in the appendix on pp. 149-150 or in a science encyclopedia. Then, have them write a blank index card or into their SCIDAT logbook.

- ➔ **FOOD CHAIN** - A chain of lions, cheetahs, and zebras.
- ➔ **GRASSLAND** - A habitat characterized by grassy fields.

THE SASSAFRAS GUIDE TO ZOOLOGY - CHAPTER 2

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ACTIVITY GUIDE AT-A-GLANCE

DO

7. RELATED SCIENTIFIC DEMONSTRATIONS

Know what materials you will need to do a weekly hands-on science activity that coordinates with the topic. This section lists the supplies you will need, provides easy-to-follow steps, and explanations to make it a snap to complete the scientific demonstration.

8. COORDINATING STEAM* ACTIVITIES

Add in a bit of STEAM with these optional activity ideas. You will find ideas for projects that last throughout the novel and ones specific to the chapter (week) you are on.

9. TEMPLATES AND MORE

In the guide's appendix, you will find templates for the projects, a full glossary, and a set of quizzes to use along the journey.

*STEAM: Science, Technology, Engineering, Art, and Math

THE SCIDAT* LOGBOOK

Don't forget the SCIDAT logbook for your students!!

The SCIDAT logbook will serve as a record of your students' journey! It contains all the pages the students will need as they follow like Blaine and Tracey. Each page has been attractively illustrated for you so you don't have to track down pictures for the students to use! Get it all at:

<https://elementalscience.com/collections/sassafras-science>

*SCIDAT: Scientific Data



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QUICK START GUIDE

Welcome to your super, scientific journey with the Sassafras Twins!! The information and activities in this guide will help you turn a simple adventure novel into a complete science program for your elementary students. Let's start by answering three pressing questions!

WHAT WILL WE LEARN?

Students will learn about zoology, which is the study of animals. See p. 11 for a list of the topics explored in this program.

WHAT DO I NEED?

In addition to this activity guide, you will need the following materials:

1. **Novel** – All the main reading assignments are from *The Sassafras Science Adventures Volume 1: Zoology*. You can get the paperback novel, the Kindle version, or the audiobook.
2. **Student Materials** – You can have your students use a blank notebook or you can purchase *The Official Sassafras SCIDAT Logbook: Zoology Edition* for each student. Get a glimpse of this option on p. 7. (SCIDAT stands for scientific data and it comes from the Sassafras Twins' journey.)
3. **Demonstration Supplies** – See p. 12 for a full list, or save yourself time and get the *Sassafras Science Year 1 Experiment Kit*, which includes the materials for both volume 1 and volume 2.

If you want more information than what is already in the novel, the following encyclopedias are scheduled in this guide:

- 📖 *First Encyclopedia of Animals, Kingfisher First Reference* (best for grades K through 3)
- 📖 *DK Encyclopedia of Animals* (best for grades 3 through 6)

If you want to add more fun with optional STEAM* projects, you can find a list of the project supplies on p. 13.

*STEAM: Science, Technology, Engineering, Art, and Math

WHAT WILL A WEEK LOOK LIKE?

Each week you and your students will:

- 📖 **Read** scientific information from an adventure-filled novel, also known as a living book, and discuss what you read.
- 📖 **Write** down what the students have learned and seen in a way that is appropriate for their skills by keeping a notebook, or rather a SCIDAT Logbook.
- 📖 **Do** hands-on science through demonstrations using the directions found in this guide.

You can also add in the optional copywork, library books, and STEAM projects if you want to dig deeper into a topic. For a more detailed explanation of the components in each lesson, we highly recommend checking out the peek inside this guide on pp. 6-7 and reading the introduction on pp. 8-10. The chapter lessons begin on p. 17.



THE SASSAFRAS GUIDE TO ZOOLOGY

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THE SASSAFRAS GUIDE TO ZOOLOGY

INTRODUCTION

Our living books method of science instruction was first proposed in *Success in Science: A Manual for Excellence in Science Education*. This approach is centered on living books that are augmented by notebooking and scientific demonstrations. The students read (or are read to) from a science-oriented living book, such as *The Sassafras Science Adventures Volume 1: Zoology*. Then, they write about what they have learned and complete a related scientific demonstration or hands-on project. If time and interest allow, the teacher can add in non-fiction books that coordinate with the topic, do an additional activity, or memorize related information. If you want to learn more about how this works, you can listen to this free conference session on using living books for science:

🎧 Inspiring your students to love science through living books: <https://youtu.be/Dvk1LfYGONw>

The books in *The Sassafras Science Adventures* series are designed to give you the tools you need to employ the living books method of science instruction with your elementary students. For this reason, we have written an activity guide and a logbook that corresponds to each novel. This particular activity guide contains 18 chapters of activities, reading assignments, scientific demonstrations, and so much more for studying zoology.

Each of the chapters in this guide corresponds directly to the chapters in *The Sassafras Science Adventures Volume 1: Zoology*. They were written to give you the information you need to turn the adventure novel into a full science course for your elementary students. They will provide you with a buffet of options you can use to teach the students about animals. So pick and choose what you know you and your students will enjoy!

WHAT EACH CHAPTER CONTAINS

Each chapter begins with your two scheduling options—a grid schedule and a list schedule. These contain a summary of the corresponding chapter in *The Sassafras Science Adventures Volume 1: Zoology* and the same weekly assignments, but in a different format. These schedules are included to give you an idea of how your week could be organized, so please feel free to alter them to suit your needs. Following the scheduling options, you will find the details for reading, writing, and doing science for the particular chapter. This information is divided into the following sections:

READ: GATHERING INFORMATION

① **LIVING BOOK READING ASSIGNMENT** – This section contains the corresponding chapter in *The Sassafras Science Adventures Volume 1: Zoology*.

📖 **(OPTIONAL) ENCYCLOPEDIA READINGS** – This section contains possible reading assignments from:

- *First Encyclopedia of Animals, Kingfisher First Reference* (best for grades K through 3)
- *DK Encyclopedia of Animals* (best for grades 3 through 6)

You can choose to read them to the students or have the students read them on their own.

📖 **(OPTIONAL) ADDITIONAL LIBRARY BOOKS** – This section contains a list of books that coordinate with what is being studied in the chapter. You can check these books out of your local library.

WRITE: KEEPING A NOTEBOOK

- ☐ **SCIDAT LOGBOOK INFORMATION** – This section has the information that the students could have included in their SCIDAT logbooks. (SCIDAT stands for scientific data and it comes from the Sassafras Twins’ journey.) The students may or may not have the same information on their logbook sheets, which is fine. You want their SCIDAT logbooks to be a record of what they have learned. The logbook information is included as a guide for you to use as you check their work. For more information about notebooking, please read the following article:
 - 🔗 What is notebooking? – <https://elementalscience.com/blogs/news/what-is-notebooking>
 - 🔗 How to use notebooking with different ages – <https://elementalscience.com/blogs/news/notebooking-with-different-ages>
- 📖 **VOCABULARY** – This section includes vocabulary words that coordinate with each chapter. If the students are older, we recommend that you have them create a glossary of terms using a blank sheet of lined paper or the glossary sheets provided in *The Official Sassafras Student SCIDAT Logbook: Zoology Edition*. You can also have them memorize these words and their definitions.
- 📄 **(OPTIONAL) COPYWORK** – This section contains a short copywork passage and a longer dictation passage for you to use. Some students may use the shorter passages for dictation or the longer passages for copywork. Feel free to tailor the selections to your students’ abilities. You can also use the selections as memory work assignments for the students.
- 🕒 **(OPTIONAL) QUIZ** – This section contains the answers for the quizzes included in the appendix. These simple, short quizzes are optional. You can use them as graded quizzes or as review sheets.

DO: PLAYING WITH SCIENCE

- ☑ **SCIENTIFIC DEMONSTRATION** – This section includes a list of materials, the instructions, and an explanation for a scientific demonstration that coordinates with the chapter. There is a blank lab report sheet provided for you in the appendix on pp. 127-128 if you would like the students to do a write-up of the demonstration. If the students are in grade 4 or higher, we recommend that they complete at least one of these activities for this course.
- ✂ **(OPTIONAL) STEAM* PROJECTS** – These sections contain additional STEAM projects and activities that correspond to the topics in the chapter. There are multi-chapter activities that students can do over the course of several chapters or over the full novel. Plus, there are activities that coordinate with each specific chapter. Pick and choose the activities that interest you and your students.

*STEAM: Science, Technology, Engineering, Art, and Math

ADDITIONAL MATERIALS

We have provided a few additional materials in the back of this guide for your convenience. First, you will find the templates you need for the projects suggested in this guide. Next, you will find a glossary of terms, which you can use with the students as they define the words for each chapter. And finally, you will find a set of eight simple quizzes you can use with the students to verify they are retaining the material.

QUICK LINKS

View all the links mentioned in this guide in one place and get a digital copy of the templates, glossary, and quizzes by visiting the following page:

🔗 <https://elementalscience.com/blogs/resources/volume-1-links>

FOR THE STUDENTS

The SCIDAT logbook is meant to be a record of the students' journey through their study of zoology. It is explained in more detail in Chapter 1 of this guide. You can choose to make your own or purchase a premade logbook from Elemental Science. *The Official Sassafras SCIDAT Logbook: Zoology Edition* has all the pages the students will need to create their own logbook. Each page has been attractively illustrated for you so you don't have to track down pictures for the students to use. This way they can focus on the information they are learning.

FINAL THOUGHTS

As the author and publisher of this curriculum I encourage you to contact me with any questions or problems that you might have concerning *The Sassafras Guide to Zoology* at support@elementalscience.com. I, or a member of our team, will be more than happy to assist you. I hope that you and your students enjoy your journey through zoology with the Sassafras twins!

~ Paige Hudson

TOPICAL LIST

The Sassafras Science Adventures Volume 1: Zoology covers a variety of aspects of zoology, such as:

- Habitats
- Classification
- Animal Diet
- Life Cycles (Frog and Butterfly)
- Vertebrates and Invertebrates
- Migration
- Basic Mapping Skills
- Animal Defenses

In the process, you will learn about the following specific animals:

- Lion
- Cheetah
- Elephant
- Giraffe
- Camel
- Cobra
- Spiny-tailed Lizard
- Fennec Fox
- Cow
- Bee
- Chicken
- Spider
- Sloth
- Toucan
- Poison Dart Frog
- Blue Morpho Butterfly
- Koala
- Rabbit
- Panda
- Golden Eagle
- Powerful Owl
- Sambar Deer
- Golden-haired Monkey
- Mice
- Musk Ox
- Snow Goose
- Polar Bear
- Mountain Goat
- Penguin
- Codfish
- Blue Whale
- Squid



DEMONSTRATION SUPPLIES LISTED BY CHAPTER

| CHAPTER | SUPPLIES NEEDED |
|----------------------------------|---|
| 1: Observation Walk | No supplies needed |
| 2: Cat's Eyes | Toilet paper tube, Foil, Rubber bands, Construction paper, Flashlight |
| 3: Giraffe Saliva | Cornstarch, Water, Leaves and twigs, 2 Cups |
| 4: Reptile Egg | Clear glass, Vinegar, Egg, Plastic wrap, Rubber band |
| 5: Ear Cooling | Hot water, 1 Coffee cup, 1 8"x10" Pan, Instant thermometer |
| 6: Making Butter | 1 Pint of cream, 1 Large glass jar with lid, ½ Cup of water |
| 7: Insect Hunt | A piece of fruit, Honey or syrup, Plate |
| 8: Rainforest in a Bottle | 2-Liter Soda bottle with top, Gravel, Potting soil, Several small plants, Scissors, Tape, Water |
| 9: Examining Life Cycles | Life Cycle of a Butterfly Worksheet and Life Cycle of a Frog Worksheet (Appendix pp. 139-142) (Optional: Get a "Grow a Frog" or "Raise a Butterfly" kit ordered from a science supply store.) |
| 10: Pouch Living | 2 Thermometers, Large felt rectangle, Tape, Plastic baggie (sealable), Warm water |
| 11: Bird Beaks | Chopsticks, Tweezers, Pliers, Eye dropper, Sugar water or honey, Gummy worms, Unshelled peanuts, Seeds, Raisins, Plate |
| 12: Owl Pellet | Owl Pellet Dissection Kit (Order this from a science supply store.) |
| 13: Primate Eyes | No supplies needed |
| 14: Hairy Fur | 2 Glass jars, Box at least 2 inches wider and taller than the jars, Cotton balls, 2 Thermometers |
| 15: Blubber | 1 Large plastic bag, Rubber band, Plastic glove, Shortening, Tub of ice water, Stopwatch |
| 16: Fish Gills | Old Barbie or pony doll with hair, Tub of water |
| 17: Echolocation | Shallow bowl, Water, Digital camera |
| 18: Zoology Bingo | Zoology Bingo Cards (Download these for free from Elemental Science.) |

STEAM PROJECT SUPPLIES LISTED BY CHAPTER

The multi-chapter and specific chapter STEAM projects listed in this guide are optional, so you may not need all of these supplies. However, this list has been provided for your convenience. If you do decide to do these projects, in addition to the items listed each week you will need glue, scissors, a variety of paint colors, and a set of markers.

| CHAPTER | SUPPLIES NEEDED |
|---------|---|
| 1 | No supplies needed |
| 2 | Poster board or Shoebox, Paper plate, Pompom |
| 3 | Grey sock, Newspaper or cotton batting, Clothespin, Cardboard |
| 4 | Egg carton, Brown pipe cleaners, Googly eyes |
| 5 | Newspaper, Flour and salt, Pipe cleaners and cheesecloth |
| 6 | Air dry clay, Ingredients for cookies (white sugar, butter-flavored shortening, honey, eggs, vanilla extract, baking soda, all-purpose flour, and cinnamon) |
| 7 | Black pipe cleaners, Googly eyes, Styrofoam balls (one large, one small) |
| 8 | Toilet paper tube, Brown construction paper, Tissue paper (black, orange, yellow, white, brown, and green) |
| 9 | Paper (copy and construction) |
| 10 | Ingredients for eggs (mushrooms, oil, tomato, eggs, milk, and cream cheese), Fused beads, Empty can, Cotton balls, Felt (pink and blue) |
| 11 | Felt (white and black), Googly eyes, Paper (copy and construction) |
| 12 | Bird feeder kit or a soda bottle, Ingredients for deer cookies (Nutter Butter cookie, pretzel, M&M, and frosting) |
| 13 | Popsicle stick, Grey pipe cleaners, Black felt, Black beads |
| 14 | Decorative gourd, Leaves and twigs, Cloves |
| 15 | Chalk pastels, Blue construction paper, Ingredients for cheese (goat milk, vinegar, and salt), Cheesecloth, Thermometer, Pot |
| 16 | Egg carton, Construction paper, Paper clips, Magnet, Dowel rod, String |
| 17 | 2 Gallon plastic jug, Googly eyes, Hot dogs |
| 18 | Blank map |

THE SASSAFRAS GUIDE TO THE CHARACTERS FOUND IN VOLUME 1: ZOOLOGY

THROUGHOUT THE BOOK

- ★ **Blaine Sassafras** – The male Sassafras twin, also known as Train.
- ★ **Tracey Sassafras** – The female Sassafras twin, also known as Blaisey.
- ★ **Uncle Cecil** – The Sassafras twins' crazy, but talented uncle.
- ★ **President Lincoln** – Uncle Cecil's lab assistant, who also happens to be a prairie dog.
- ★ **The Man With No Eyebrows** – He has no eyebrows and seems to be trying to sabotage the twins at every stop.

THE AFRICAN GRASSLAND (CHAPTERS 2-3)

- ★ **Nicholas Mzuri** – (muh-zur-ee) The local expert for the African Grasslands leg of the twins' adventure. He is the owner and tour guide extraordinaire for Mzuri tours.
- ★ **Hank** – A narcoleptic tourist who is a member of the twins' tour through the African Grasslands.
- ★ **Pam and Fred** – The eccentric and hilarious couple who is a member of the twins' tour through the African Grasslands.
- ★ **Shelley** – Nicholas Mzuri's assistant, who also happens to be a machete.
- ★ **Imani Mzuri** – (ee-man-ee) Nicholas Mzuri's sister, who also helps out with Mzuri tours.

THE EGYPTIAN DESERT (CHAPTERS 4-5)

- ★ **Princess Talibah** – (tal-ib-ah) The local expert for the Egyptian Desert leg of the twins' adventure. She is the princess of the Tuareg (twar-ehg) nomadic people.
- ★ **Jendayi** – (jen-day-ee) Princess Talibah's hand-maiden and friend.
- ★ **Hanif** – (han-if) Princess Talibah's advisor and teacher. He thinks that answers can be found in the stars, not in science.
- ★ **Abasi** – (ah-bah-see) Princess Talibah's sworn protector. He is also in love with the princess.
- ★ **Itja** – (eet-jah) The scoundrel leader of a group of bandits known as the Kekeway (kee-kee-way).
- ★ **Mesneh** – (mez-nuh) He helps Princess Talibah teach Itja and his men a lesson after the Kekeway ravage his village.

THE CANADIAN FARM (CHAPTERS 6-7)

- ★ **Jet (Jethro Mecklen, Jr.)** – The local expert for the Canadian Farm leg of the twins' adventure. He is also sixteen years old and friends with Edbert.
- ★ **Edbert Snarfuffel** – The goofy sixteen year old boy who works with the Sassafras twins on the Smitty farm in Canada.
- ★ **Farmer Smith** – He is the owner of Smitty Farms.
- ★ **Ed Lumbia** – He is the farm foreman at Smitty Farms.
- ★ **Tank & Billy** – They are the sons of Farmer Smith. They like to pull pranks and create problems for the twins and their companions.

THE AMAZON RAINFOREST (CHAPTERS 8-9)

- ★ **Alvaro Manihuari** – (al-vah-ro mah-nee-ar-ee) the local expert for the Amazon Rainforest leg of the twins' adventure. He is also the owner of the Out on a Limb guesthouse.

- ★ **Arrio** – (rr-ee-o) Alvaro’s assistant and helper at the Out on a Limb guesthouse. He is a native Peruvian.
- ★ **Skip, Gannon, and Gretchen** – They are three trekkers that are also staying at the Out on a Limb guesthouse.
- ★ **Violetta Perez** – (vee-o-leh-tah peh-rezz) One of the Perez twins who is staying at the Out on a Limb guesthouse with their father. She makes friends with the Sassafras twins.
- ★ **Vancho Perez** – (vahn-ch-o) One of the Perez twins who is staying at the Out on a Limb guesthouse with their father. He makes friends with the Sassafras twins.
- ★ **Ernesto Perez** – He is the father of Violetta and Vancho. He is also president of ProLog.
- ★ **Ortiz** – (or-tee-zz) He is the foreman for ProLog. He works under Mr. Perez.

THE AUSTRALIAN DECIDUOUS FOREST (CHAPTERS 10 & 12)

- ★ **Willy Day** – The local expert for the Australian leg of the twins’ adventure. He is an Australian filmmaker working on a project in the Brown Mountain Forest.
- ★ **Ethel** – She works at the local diner near where Blaine arrives. She makes a great plate of “hot-maybe” eggs.
- ★ **Ralphie Dingo** – He is one of the infamous Feuding Brown Mountain Hermits.
- ★ **Matty Mingo** – He is one of the infamous Feuding Brown Mountain Hermits.

THE CHINESE BAMBOO FOREST (CHAPTERS 11 & 13)

- ★ **Tashi Yidro** – (tah-see yee-dro) The local expert for the Chinese leg of the twin’s adventure. She is a student at the local university who takes Tracey back to her home village.
- ★ **Llamo** – (lahmo) She is Tashi’s sister.
- ★ **Norbu** – (nor-boo) He is Tashi’s brother.
- ★ **Amala** – (ah-mah-lah) She is Tashi, Llamo, and Norbu’s mother.

THE ARCTIC (CHAPTERS 14-15)

- ★ **Summer Beach** – The local expert for the Arctic leg of the twins’ adventure. She was also a former classmate of Uncle Cecil’s.
- ★ **Ulysses S. Grant** – Summer Beach’s lab assistant, who also happens to be an arctic ground squirrel.
- ★ **Brooks Hirebro** – He is a professional snowboarder, entrepreneur, and also a friend of Summer’s.
- ★ **Yotimo** – (yo-tee-mo) He is an Inuit sled driver who finds Tracey in the arctic tundra; he is also a friend of Summer’s.

THE ATLANTIC OCEAN (CHAPTERS 16-17)

- ★ **Captain James Q. McScruffy** – The local expert for the Atlantic Ocean leg of the twins’ adventure. He is a fisherman and the owner of the *Scot’s Folly III*.
- ★ **William Atwater** – He is the first mate on the *Scot’s Folly III*.
- ★ **Peach Beard** – The leader of the P.R.O. pirates, a band of men dedicated to bringing pirates back to the high seas.

CHAPTER LESSONS

CHAPTER 1: GRID SCHEDULE

| Supplies Needed | | | | |
|--|--|---|---|--|
| Demo | • No Supplies Needed | | | |
| Projects | • No Additional Supplies Needed | | | |
| Chapter Summary | | | | |
| <p>Blaine and Tracey Sassafras begin this chapter upset because they are going to spend all summer with their crazy Uncle Cecil learning about science, instead of enjoying the zip lines at Camp Zip-fire. They are surprised to find out that Uncle Cecil and his lab assistant, President Lincoln, have a zip line adventure of sorts already prepared for them. The scientific duo has created invisible lines that will take the twins all over the world to learn about science. They will have to meet local experts along the way and enter data into their smartphones before they can proceed to the next place. At the close of the chapter, the twins take off for their first location, the African Grasslands.</p> | | | | |
| Weekly Schedule | | | | |
| | Day 1 | Day 2 | Day 3 | Day 4 |
| Read | <input type="checkbox"/> Read the section entitled “Crazy Uncle Cecil” of Chapter 1 in <i>SSA* Volume 1: Zoology</i> . | <input type="checkbox"/> (<i>Optional</i>) Read one or all of the assigned pages from the encyclopedia of your choice. | <input type="checkbox"/> Read the section entitled “Zip lines and Smartphones” of Chapter 1 in <i>SSA Volume 1: Zoology</i> . | <input type="checkbox"/> (<i>Optional</i>) Read one of the additional library books. |
| Write | <input type="checkbox"/> Set up the students’ SCIDAT logbooks. | <input type="checkbox"/> Write observations learned from the demonstration on SL p. 5. <input type="checkbox"/> (<i>Optional</i>) Write a narration on the Zoology Notes Sheet on SL p. 6. | <input type="checkbox"/> Go over the vocabulary word and enter it into the Zoology Glossary on SL** p. 93. | <input type="checkbox"/> (<i>Optional</i>) Complete the copywork or dictation assignment and add it to the Zoology Notes sheet on SL p. 6. |
| Do | | <input type="checkbox"/> Do the demonstration entitled “Observation Walk.” | | <input type="checkbox"/> (<i>Optional</i>) Play a game of “I Spy.” |

*SSA = *The Sassafras Science Adventures*

**SL = *The Official Sassafras SCIDAT Logbook: Zoology Edition*

CHAPTER 1: LIST SCHEDULE

CHAPTER SUMMARY

Blaine and Tracey Sassafras begin this chapter upset because they are going to spend all summer with their crazy Uncle Cecil learning about science, instead of enjoying the zip lines at Camp Zip-fire. They are surprised to find out that Uncle Cecil and his lab assistant, President Lincoln, have a zip line adventure of sorts already prepared for them. The scientific duo has created invisible lines that will take the twins all over the world to learn about science. They will have to meet local experts along the way and enter data into their smartphones before they can proceed to the next place. At the close of the chapter, the twins take off for their first location, the African Grasslands.

ESSENTIALS

Read

- ☐ Read the section entitled “Crazy Uncle Cecil” of Chapter 1 in *SSA* Volume 1: Zoology*.
- ☐ Read the section entitled “Zip lines and Smartphones” of Chapter 1 in *SSA Volume 1: Zoology*.

Write

- ☐ Set up the students’ SCIDAT logbooks.
- ☐ Go over the vocabulary word and enter it into the Zoology Glossary on SL** p. 93.
- ☐ Write observations learned from the demonstration on SL p. 5.

Do

- ☐ Do the demonstration entitled “Observing Walk.”

(OPTIONAL) EXTRAS

Read

- ☐ Read one of the additional library books.

Write

- ☐ Write a narration on the Zoology Notes Sheet on SL p. 6.
- ☐ Complete the copywork or dictation assignment and add it to the Zoology Notes sheet on SL p. 6.

Do

- ☐ Play a game of “I Spy.”

*SSA = *The Sassafras Science Adventures*

**SL = *The Official Sassafras SCIDAT Logbook: Zoology Edition*

| Supplies Needed | |
|-----------------|---------------------------------|
| Demo | • No Supplies Needed |
| Projects | • No Additional Supplies Needed |

CHAPTER 1: THE ADVENTURE BEGINS

READ: GATHERING INFORMATION

LIVING BOOK READING ASSIGNMENT

- 📖 Chapter 1 of *The Sassafras Science Adventures Volume 1: Zoology*

(OPTIONAL) ENCYCLOPEDIA READINGS

- 📖 *Kingfisher First Encyclopedia of Animals* – No pages scheduled for this week.
- 📖 *DK Encyclopedia of Animals* pp. 14-15 (Animal Classification), pp. 16-17 (Animal Kingdoms)



(OPTIONAL) ADDITIONAL LIBRARY BOOKS

- 📖 *What Is the Animal Kingdom?* (Science of Living Things) by Bobbie Kalman
- 📖 *Animal Classification* by Polly Goodman
- 📖 *Who's in Your Class?* Level 4: An Animal Adventure (Lithgow Palooza Readers: Level 4) by John Lithgow and Susan Blackaby

WRITE: KEEPING A NOTEBOOK

SCIDAT LOGBOOK SHEETS

This week, you will set up the students' SCIDAT logbook. You can use blank sheets of copy paper with dividers for each section or purchase *The Official Sassafras SCIDAT Logbook: Zoology Edition* with all the pictures from Elemental Science. For each of these sheets you can have the students enter information only from *The Sassafras Science Adventures Volume 1: Zoology*, or you can have them do additional research to gather more facts. The following video shares a peek inside a 2nd-grader's SCIDAT Logbook:

📺 <https://www.youtube.com/watch?v=0m4nj-K7s58>

What you choose to do will depend upon the ages and abilities of your students. Below is an explanation of each of the student sheets.

Habitat Information Sheet

The purpose of these sheets is for the students to record what they have learned about the various habitats visited in *The Sassafras Science Adventures Volume 1: Zoology*. (NOTE—The chapters should have most of the information for the sheet. If not, you can choose to leave those sections blank or use the encyclopedia readings to fill in the answers.)

HABITAT: Enter the name of the habitat they are studying.

LOCATION AND LOCAL EXPERT: Enter the place that the particular habitat was found along with the name of the local expert from the region.

AVERAGE RAINFALL: Enter the average rainfall the habitat receives per year.

AVERAGE TEMPERATURE: Enter information about the average temperatures throughout the year in the habitat, e.g. "warm summers and cold winters".

MAIN CHARACTERISTICS: Enter the main features of the habitat, e.g. “lots of grass, very few trees”.

ANIMALS FOUND THERE: Enter the animals from the story that are found in the habitat. You can write the names of the animals or use pictures of them.

Around the World

The purpose of these sheets is to give the students an opportunity to work on their mapping skills. (NOTE—The information for this sheet will come from the encyclopedia readings.)

MAP: Color the places on the world map where the particular habitat can be found.

CONTINENTS FOUND ON: Enter the continents where the particular habitat can be found around the globe.

Animal Record Sheets

The purpose of these sheets is for the students to record what they have learned about the various animals that are introduced in *The Sassafras Science Adventures Volume 1: Zoology*.

ANIMAL NAME: Enter the name of the animal.

CLASSIFICATION: Enter whether it is a mammal, bird, reptile, amphibian, fish or invertebrate.

FOOD: Enter whether the animal is a carnivore, herbivore or omnivore.

LOCATION FOUND: Enter the habitat it was found in.

INFORMATION LEARNED: Enter any information that the students learned about the animal.

Zoology Notes Sheets

The purpose of these sheets is for the students to record any additional information that they have learned during their study of zoology. You can use these sheets to record narrations, copywork, and dictation assignments.

Project Record Sheets

The purpose of these sheets is for the students to record the STEAM projects they have done through the course of their study of zoology.

Zoology Glossary

The purpose of the glossary is for the students to create a glossary of terms that they have encountered throughout reading *The Sassafras Science Adventures Volume 1: Zoology*. They can look each of the terms up in a science encyclopedia or in the glossary included on pp. 145-146 of this guide. The students should illustrate each of the vocabulary words on their own. (NOTE—In *The Official Sassafras SCIDAT Logbook: Zoology Edition* these pictures are already provided.)

VOCABULARY

Have the older students look up the following terms in the glossary in the appendix on pp. 145-146 or in a science encyclopedia. Then, have them copy the definition onto a blank index card or into their SCIDAT logbook.

🔍 **CLASSIFICATION** – A way of identifying or grouping living things.

🔍 **OBSERVATION** – Something that you see with your eyes, or the act of regarding attentively.

(OPTIONAL) COPYWORK

Copywork Selection

Observation is taking the time to look at the things around me.

Dictation Passage (Poem selection by Henry Wadsworth Longfellow)

And he wandered away and away,
With Nature the dear old nurse,
Who sang to him night and day,
The rhymes of the universe.
And when the way seemed long,
and his heart began to fail,
She sang a more wonderful song,
or told a more wonderful tale.

DO: PLAYING WITH SCIENCE

SCIENTIFIC DEMONSTRATION: OBSERVATION WALK

Begin by taking a moment to discuss what nature study is and the importance of observation in science. You can view the following blog posts for more information on the subject:

🔍 <https://elementalscience.com/blogs/podcast/episode-8>

🔍 <http://elementalscience.com/blogs/news/63858627-observation-is-key>

Explain that today you are going to practice your observation skills while on a walk. Then, take a walk in your neighborhood or on a nature trail nearby where you live. Allow the students to make observations and ask questions. Ask the students:

? What kind of plants do you see?

? What kind of animals do you see?

? What else do you see that you would like to tell me about?

(OPTIONAL) STEAM PROJECTS

Activities For This Chapter

🔍 **I SPY** – Play a game of “I Spy” to help the students to work on their observation skills.

CHAPTER 2: GRID SCHEDULE

| Supplies Needed | | | | |
|---|---|--|--|---|
| Demo | • Toilet paper tube, Foil, Rubber bands, Construction paper, Flashlight | | | |
| Projects | • Poster board or Shoebox, Paper plate, Pompom | | | |
| Chapter Summary | | | | |
| The chapter opens with Blaine and Tracey arriving at their first stop in the African grasslands. They join Nicholas Mzuri and four other guests on a photo safari through Kenya. The group spots a pride of lions and Nicholas shares more about them. They also race several cheetahs on the hunt and their guide tells more about the animals. All the while, the narcoleptic Hank will fall asleep and the comical couple, Fred and Pam, will make their characteristic blunders and mistakes. The chapter ends with the mysterious Man With No Eyebrows stealing the jeep, leaving the group stranded in Elephant Valley. | | | | |
| Weekly Schedule | | | | |
| | Day 1 | Day 2 | Day 3 | Day 4 |
| Read | <input type="checkbox"/> Read the section entitled “Look... a Lion” of Chapter 2 in <i>SSA Volume 1: Zoology</i> . | <input type="checkbox"/> Read the section entitled “Chasing Cheetahs” of Chapter 2 in <i>SSA Volume 1: Zoology</i> . | <input type="checkbox"/> (<i>Optional</i>) Read one or all of the assigned pages from the encyclopedia of your choice. | <input type="checkbox"/> (<i>Optional</i>) Read one of the additional library books. |
| Write | <input type="checkbox"/> Fill out the Animal Record Sheet on SL p. 9 for the lion. <input type="checkbox"/> Go over the vocabulary words and enter them into the Zoology Glossary on SL pp. 93-94. | <input type="checkbox"/> Fill out the Animal Record Sheet on SL p. 10 for the cheetah. <input type="checkbox"/> Add to the Habitat Information Sheet on SL p. 7 for the African Grasslands. | <input type="checkbox"/> Write the information learned from the demonstration on SL p. 13. <input type="checkbox"/> (<i>Optional</i>) Write a narration on the Zoology Notes Sheet on SL p. 13. | <input type="checkbox"/> (<i>Optional</i>) Do the copywork or dictation assignment and add it to the Zoology Notes sheet on SL p. 13. |
| Do | <input type="checkbox"/> (<i>Optional</i>) Make a Handprint Lion. | <input type="checkbox"/> (<i>Optional</i>) Make a Cheetah Mask. <input type="checkbox"/> (<i>Optional</i>) Have a Foot Race. | <input type="checkbox"/> Do the demonstration entitled “Cat’s Eyes.” | <input type="checkbox"/> (<i>Optional</i>) Add the animals studied this week to the food chart and habitat posters. |

CHAPTER 2: LIST SCHEDULE

CHAPTER SUMMARY

The chapter opens with Blaine and Tracey arriving at their first stop in the African grasslands. They join Nicholas Mzuri and four other guests on a photo safari through Kenya. The group spots a pride of lions and Nicholas shares more about them. They also race several cheetahs on the hunt and their guide tells more about the animals. All the while, the narcoleptic Hank will fall asleep and the comical couple, Fred and Pam, will make their characteristic blunders and mistakes. The chapter ends with the mysterious Man With No Eyebrows stealing the jeep, leaving the group stranded in Elephant Valley.

ESSENTIALS

Read

- ☐ Read the section entitled “Look... a Lion” of Chapter 2 in *SSA Volume 1: Zoology*.
- ☐ Read the section entitled “Chasing Cheetahs” of Chapter 2 in *SSA Volume 1: Zoology*.

Write

- ☐ Fill out the Animal Record Sheet on SL p. 9 for the lion.
- ☐ Go over the vocabulary words and enter them into the Zoology Glossary on SL pp. 93-94.
- ☐ Fill out the Animal Record Sheet on SL p. 10 for the cheetah.
- ☐ Add to the Habitat Information Sheet on SL p. 7 for the African Grasslands.
- ☐ Write the information learned from the demonstration on SL p. 13.

Do

- ☐ Do the demonstration entitled “Cat’s Eyes.”

(OPTIONAL) EXTRAS

Read

- ☐ Read one of the additional library books.
- ☐ Read one or all of the assigned pages from the encyclopedia of your choice.

Write

- ☐ Write a narration on the Zoology Notes Sheet on SL p. 13.
- ☐ Complete the copywork or dictation assignment and add it to the Zoology Notes sheet on SL p. 13.

Do

- ☐ Make a Handprint Lion.
- ☐ Make a Cheetah Mask or have a Foot Race.
- ☐ Add the animals studied this week to the food chart and habitat posters.

| Supplies Needed | |
|-----------------|--|
| Demo | • Toilet paper tube, Foil, Rubber bands, Construction paper, Flashlight |
| Projects | • Poster board or Shoebox, Paper plate, Pompom |

CHAPTER 2: THE AFRICAN GRASSLANDS

READ: GATHERING INFORMATION

LIVING BOOK READING ASSIGNMENT

- 📖 Chapter 2 of *The Sassafras Science Adventures Volume 1: Zoology*

(OPTIONAL) ENCYCLOPEDIA READINGS

- 🔍 *Kingfisher First Encyclopedia of Animals* p. 20 (Mammals), p. 21 (Lion), p. 24 (Cheetah)
🔍 *DK Encyclopedia of Animals* pp. 239-241 (Mammals), pp. 231-233 (Lion), pp. 136-137 (Cheetah)



(OPTIONAL) ADDITIONAL LIBRARY BOOKS

- 📖 *Face to Face with Lions* (Face to Face with Animals) by Dereck Joubert and Beverly Joubert
📖 *Tawny Scrawny Lion* (Little Golden Book) by Golden Books and Gustaf Tenggren
📖 *The Cheetah: Fast as Lightning* (Animal Close-Ups) by Christine Denis-Huot and Michel Denis-Huot
📖 *Cheetah* (Welcome Books: Animals of the World) by Edana Eckart
📖 *Cheetah Cubs: Station Stop 2* (All Aboard Science Reader) by Ginjer L. Clarke and Lucia Washburn
📖 *What is a Mammal?* (Science of Living Things) by Kalman

WRITE: KEEPING A NOTEBOOK

SCIDAT LOGBOOK SHEETS

This week, you can have the students begin to fill out a Habitat Information Sheet for the African Grasslands and a logbook page for lions and cheetahs. The students could use the following information:

Habitat Information Sheet - Grassland

HABITAT: Grasslands (Tropical)

LOCATION AND LOCAL EXPERT: Africa (or Kenya), and Nicholas Mzuri

AVERAGE RAINFALL: The grasslands receive an average of 10 to 30 inches per year.

AVERAGE TEMPERATURE: The grasslands usually have warm winters and hot summers.

MAIN CHARACTERISTICS: There are few trees, vast grassy fields, and some rolling hills.

ANIMALS FOUND THERE: Add the cheetah and lion (The students could also add zebra and wildebeest).



Animal Record Sheet - Lion

ANIMAL NAME: Lion

CLASSIFICATION: Mammal

FOOD: Carnivore

LOCATION FOUND: African Grasslands

INFORMATION LEARNED

- They are part of the cat family.
- They are found in the plains of Africa, but they once roamed throughout Europe, Africa and Asia.
- They are the grassland's largest predator.
- They are social animals that live in groups called prides, which are made up of several females and their cubs along with a few males-one of whom is dominant.
- They hunt at night and rest during the day.
- They hunt anything that they can kill, but usually they eat zebra and wildebeest.
- Lion cubs have spots.
- Male lions have large manes around their necks.
- Lions lie down to eat and rest with their paws in front.



Animal Record Sheet - Cheetah

ANIMAL NAME: Cheetah

CLASSIFICATION: Mammal

FOOD: Carnivore

LOCATION FOUND: African Grasslands

INFORMATION LEARNED

- They have slim, muscular bodies with long legs that allow them to move with speed, strength and flexibility.
- They use their tails to help them balance while leaping, running, and climbing.
- They can reach speeds of over sixty miles per hour, but only for short distances.
- They are found in the plains of Africa, south of the Sahara, but once they lived in North Africa, the Middle East and India.
- Female cheetahs can have up to four babies at a time.
- Cheetah babies are born with a coat of long gray hair so that they look more like a honey badger, which is an aggressive animal. This is a form of camouflage.
- They are endangered animals.



VOCABULARY

Have the older students look up the following terms in the glossary in the appendix on pp. 145-146 or in a science encyclopedia. Then, have them copy the definitions onto a blank index card or into their SCIDAT logbook.

📖 **FOOD CHAIN** – A chain of living things that eat each other.

📖 **GRASSLAND** – A habitat characterized by vast grassy fields.

- 📖 **MAMMALS** – Any warm-blooded vertebrate with skin that is more or less covered with hair; they give birth to live young which are nourished with milk at the beginning of their life.

(OPTIONAL) COPYWORK

Copywork Sentence

Mammals are warm-blooded. They feed their young with milk.

Dictation Selection

Mammals are warm-blooded and they feed their young with milk. Mammals also have fur or hair covering most of their body. Lions and cheetahs are mammals.

DO: PLAYING WITH SCIENCE

SCIENTIFIC DEMONSTRATION: CAT'S EYES

Materials

- ☑ Toilet paper tube
- ☑ Foil
- ☑ Rubber bands
- ☑ Construction paper
- ☑ Flashlight

Procedure

1. Cover one end of one of the toilet paper tubes with the foil and cover the other with construction paper. Secure both with rubber bands.
2. Take your tubes and your flashlight and go into a dark room.
3. Shine the flashlight into the tubes and observe what happens.

Explanation

The students should see that the tube with the foil on the bottom appears to shine. This is because the foil reflects light, just like a cat's eye. They reflect light which makes them appear to glow in the dark.

Take It Further

Have the students see what happens to their pupils in the presence of light by going into a dark room and turning on the lights. Have them watch each others' eyes to see what happens.

(OPTIONAL) STEAM PROJECTS

Multi-chapter Activities

- ✂ **FOOD CHART** – Create a poster with three sections on it—one for carnivores, one for omnivores and one for herbivores. You will add to this weekly over the coming weeks, so post it somewhere visible on your wall. This week, you can add the lion and cheetah to the carnivore side of your food chart. You can use the mini-animal pictures that are in the appendix on p. 129 of this guide.
- ✂ **HABITAT PROJECT** – Make a poster or diorama that depicts the grassland habitat. This week, add the lion and cheetah. You can use the mini-animal pictures found in the appendix on p. 129 of this guide and the habitat poster on p. 130 or print out your own.

Activities For This Chapter

- ✂ **MAKE A HANDPRINT LION** – This project is super cute! It uses the students hands and some orange and yellow paint to make a lion design. Simply follow the model project found on this pin:
📄 <https://www.pinterest.com/pin/192036371585041320/>
- ✂ **MAKE A CHEETAH MASK** – Paint a paper plate completely yellow. Then use a pompom dipped in brown paint to add spots to the plate. Cut out holes for the eyes and add two yellow triangles for ears. Finally add a string so that the students can wear their masks.
- ✂ **HAVE A FOOT RACE** – Have a foot race and declare the winner to be the cheetah of the group! Crown them with the cheetah mask you made earlier.

ZOOLOGY QUIZ #1

CHAPTERS 2 AND 3

1. What can you find in the grasslands?

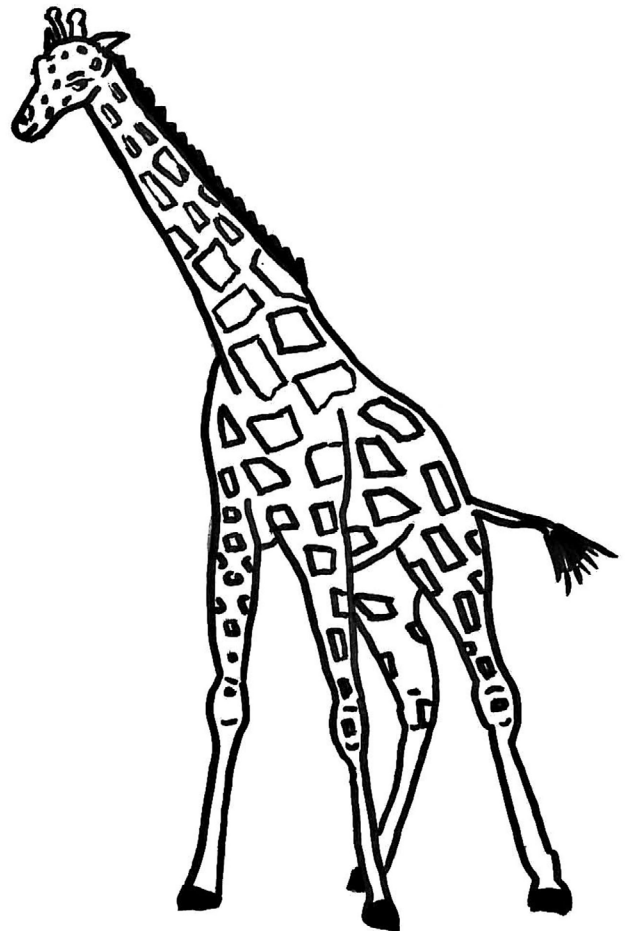
- A. Few trees
- B. Vast grassy fields
- C. Rolling hills
- D. All of the above

2. Lions live in groups called _____.

- A. Herds
- B. Prides
- C. Families
- D. None of the above

3. What does the cheetah's tail help it do?

- A. Find water
- B. Look pretty
- C. Keep is balance
- D. Attract a mate



4. What does an elephant's ears help it do?

- A. Cool down
- B. Communicate with other elephants
- C. None of the above
- D. All of the above

5. The giraffe is the world's _____ animal.

- A. Shortest
- B. Skinniest
- C. Tallest
- D. Fattest

