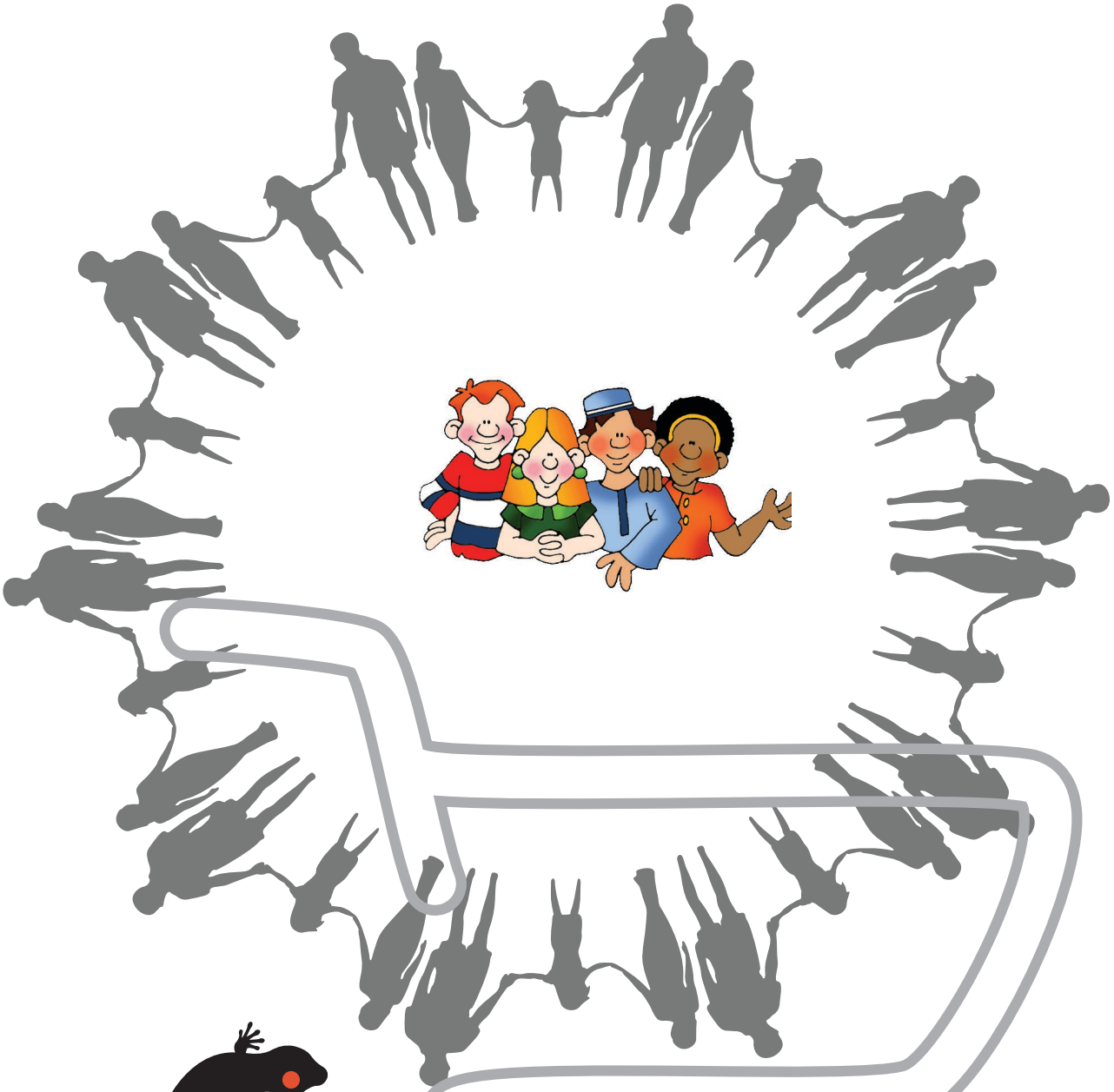
PARENT HELPER GUIDE



supermarket science

TEACH

Introduction to Supermarket Science Materials

How to Use This Book

This book is geared toward students in elementary and secondary schools, as well as their parents and teachers. It contains a series of activities which are designed to advance the understanding of concepts of biology, ecology, geology, and sociology based on local resources like a backyard or a local grocery store. All of the materials in this book link the Core Curriculum Standards. Use the Core Curriculum Standards to focus the activities in each section to a particular grade level.

The book is organized into thematically linked sections based on experiments with multiple activities each. The last section is a collection of simple, fun projects. The experiments can be done alone or in conjunction with activities. Choose activities that are developmentally appropriate to your students.

There are also LEARN, SHOW, USE, DO, and TEACH pages. LEARN pages are designed to be given to the students. They contain explanations, stories, or diagrams. SHOW pages usually contain interesting photographs or illustrations that demonstrate specific concepts. USE pages are created as supplemental materials for the activities. Animal Cards and Map Cards are examples of USE pages. And finally, the DO pages contain the actual activities. Please use the back of these pages as scrap and add additional pages as needed.

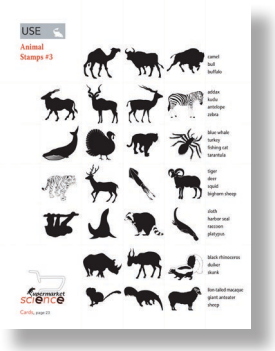
On some pages, there are icons of animals. For example, an activity about elephants might have an elephant icon next to it. These icons can be used as keys to link information between all of the Supermarket Science Materials.

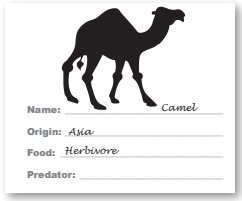
Most DO Pages have a What You Need list of items in the margin under the title of the activity. This is a quick reminder for what children should have while doing the activity. It might look something like a list on the right: Animal Stamps Pages, Animal Cards Pages, Research Books, Pencil, Scissors, Glue.

Some of the activities in this set use of cards from the Supermarket Science Cards or Stamps USE pages. Creating taxonomies is part of the scientific process. The card games and activities allow kids an opportunity to practice this skill.

There are many activities which can be done using information about animals and habitats. This set shows some possibilities. We encourage you to come up with others. Think of these activities as inspirational examples, jumping off points.

What You Need:





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Habitats of Earth

Short Descriptions of the Major Habitats of Earth

Temperate Forests: Temperate forests get enough moisture each year to allow big trees to grow (20 to 40 inches per year). While the temperature variation between night and day is not great, season temperature variations are: freezing cold in the winter and very warm in the summer. Animals need special adaptations to seasonal variations in food, temperature, and environment.

Deserts: Deserts get less than 10 inches of rain per year, and some years get none. There are severe temperature variations between night and day. Animals that live in a desert habitat must have special adaptations to deal with these conditions.

Grasslands: Grasslands are transitional areas between forests and deserts. The seasonal variations are between times of severe drought and heavy rains. Grasslands are wide, flat, open spaces with few places for animals to hide.

Oceans: Oceans cover almost three fourth of the planet's surface. Oceans are not just one single habitat but many, like kelp forests, sandy bottoms, reefs, etc.

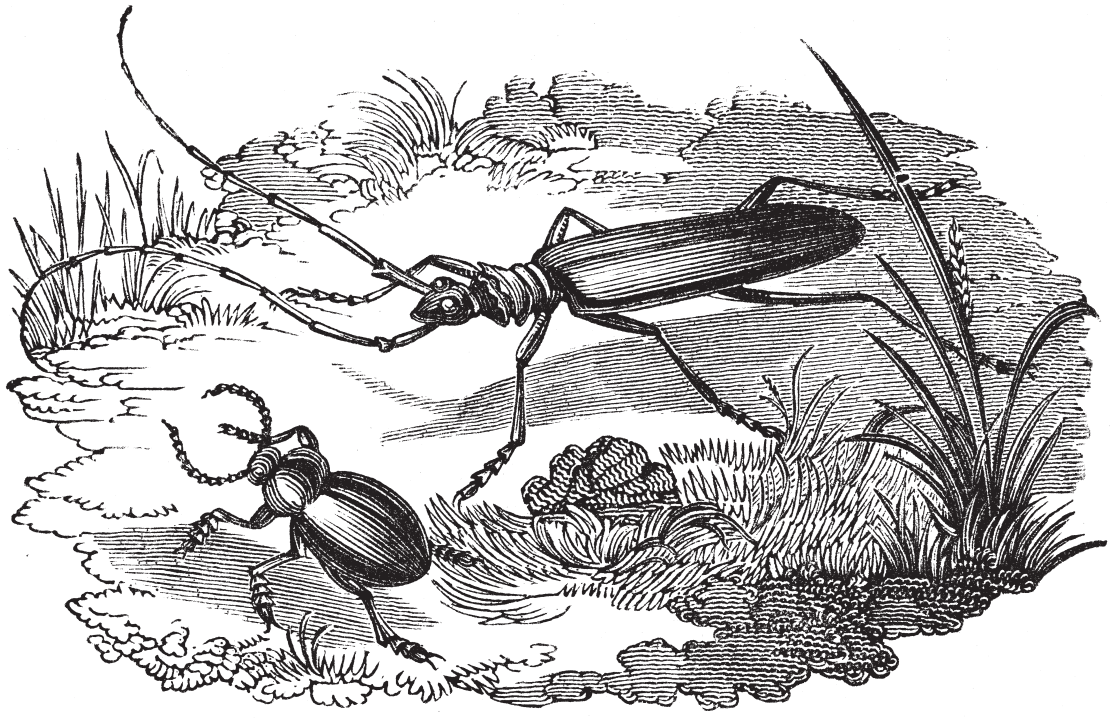
Polar Regions: These are regions around the north and south poles. During half of the year, these habitats don't get any sun light. And plants and animals that live there have do deal with extreme cold as well.

Tropical Forests: Tropical rain forests have constant warm temperature and high humidity year round. They receive 100 to 400 inches of rain per year.

Wetlands: Wetlands are areas with shallow standing water, like marshes, swamps, or bogs. Some wetlands have saltwater and are connected to the ocean. The water level in those wetlands rises and falls with the tide.

Do More

We hope teachers, parents, and students will make more activities using the materials found in the Supermarket Science books. If students make their own connect the dots drawings, please share those creations with others. Such recognition would make those kids proud and encourage them to make more. Ask students if they can think of other games or activities that they can do using the cards or the facts they have learned while working on Supermarket Science Materials. For example, kids can create a set of cards for dinosaurs and do the activities in this book with those animals. The continents on the map cards can be cut out and moved to show their positions during the earlier epochs of Earth. The dinosaurs can be placed on this modified world map, provided that those animals existed during that time. The modern day atlas of animals can be compared with the dinosaur atlas.



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TEACH

Owl Pellet Activities

Summary

In these activities, children are asked to analyze data and to come up with a scientific conclusion through logical reasoning.

Some of these activities ask kids to identify the animal remains inside an owl pellet by using a classification chart. Kids will discover evidence of owl's carnivorous life style. Using their experimental data and research, kids can then construct a complex food web of owl's habitat.

You can use real owl pellets or work with the SHOW page that documents the little bones that were found in a owl pellet that we dissected. If you decide to dissect the pellet yourselves, make sure to disinfect any you find in a wild. You will find instructions on the SupermarketScience.com. You can order owl pellets from Niles Biological, Inc. at http://www.nilesbio.com. The are located at 9298 Elder Creek Road, Sacramento, CA 95829 and can be reached at (916) 386-2665. If working with real owl pellets, you will need a paper plate as a dissection surface, a few tooth picks to aid in dissection of owl pellet, and a ziplock bag to store the owl pellet remains. Make sure to wash hands carefully after the dissection.

Main Ideas

Research

- Research basic information about the animal using visual and written information provided in these pages (a given source), a library, or some online source. We recommend Wikipedia.org.

Precision

- Each label, name, or word has a specific meaning that all scientists in the same field understand to mean exactly the same thing.
- Descriptions of objects and events need to be precise enough to limit misunderstanding and misinterpretation by the readers as much as possible.
- "Fuzzy thinking" is not allowed!

Logical Thinking

- There are two pathways in science: deduction and induction.
- Deduction is a process which puts together bits of data and evidence to build a theory—it's bottom up reasoning.
- Induction is the process which starts with an idea and then looks for data and evidence to support it—it's top down reasoning.
- Logical reasoning is a formal way of thinking (usually deductive) where each successive thought is built upon the previous one. As long as each link is a chain of logical reasoning is true, the end conclusion is true.

Classification

- Objects can be grouped according to physical characteristics based on visual analysis.

Do More

Teaching writing is easier in a context rather than in isolation. Ask your students to write a short story about the night in an owl's life that their owl pellet represented.

How did that owl catch all those animals?

What were those animals doing?

Where were they hiding?

Kids can share their stories online. SupermarketScience.com will try to post kids stories. How are these stories different from each other?

For older children, it might be interesting to consider the food web mathematics: how many animals did an owl eat in one night? Estimate how many animals does an owl eat in one week? In a month? In a year? What does this imply to the numbers of prey that have to exist in an owl's habitat? Compare how fast those animals reproduce with the rate of growth of owl population.

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