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Introduction

Common Sense Science – Insects can be used in a single, multilevel classroom, homeschool, co-op, or science club. Everything you need for a complete study of insects is in this book and the **Student Materials Packet**. Older students will need access to basic reference materials.

How to Use the Multilevel Approach

The lessons in this book include foundational content appropriate for third through sixth grades at different mastery levels. First and second grade activities are also included so that younger students can be included in multilevel teaching situations. For example, a first grader will learn that insects have two antennae on their heads that are used for smelling and feeling. This student is exposed to more information but not expected to retain it. In the same lesson, a sixth-grade student will learn the names of the three parts of antennae and identify different types of antennae.

In the activity sections, icons are used to designate the levels in specific assignments.



indicates the first level, which is the non-reading or early reading student. This level mainly applies to first and second grade students.



is used for the second level. This includes the student who is still working to be a fluent reader. This level is primarily designed for third and fourth grade students.



denotes the third level, or fluent reader. This level of activities will usually apply to fifth and sixth grade students.

Choose the directions that fit the age of your student. If teaching multiple grades, start with the younger student's directions.

Vocabulary Words

“If I know the vocabulary, I know the content. If I know the content, I know the vocabulary.”

Dr. Ruth Beechik

Vocabulary words are introduced in the context of each lesson. A new word must be met fifteen times or so before it becomes a part of our speaking vocabulary, so use the words frequently as you present and discuss the material. You can also supplement the lessons with easy-to-read library books on the subject giving them even more opportunities to “meet” the words.

A vocabulary word list is included in the **Student Materials Packet**. Give students the appropriate word strip for each lesson and instruct them to use the words in discussions and writing assignments for reference and review. Students can make a vocabulary book by gluing all the word lists on a sheet of paper.

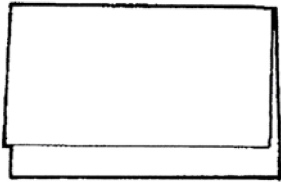
Graphic Organizers

“Tell me something and I forget. Show me something and I remember. Involve me in something and I learn.”

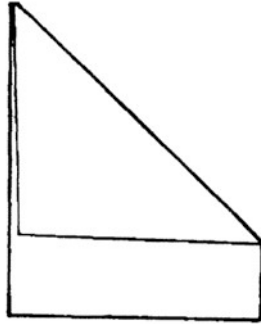
Dinah Zike

Common Sense Science—Insects uses *3D Graphic Organizers* to help students of all levels better understand concepts by taking complicated information and breaking it down into visual parts. Although the content for the level will generally be the same, assignments and expectations for recording information learned will vary for each level. To make the Graphic Organizers, you will need the accompanying **Student Materials Packet**.

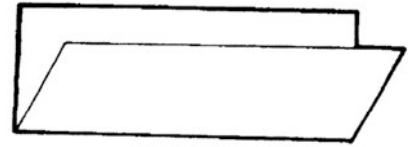
There are three basic folds used to construct the Graphic Organizers. Practice making these three basic food folds before you introduce them to your students.



Hamburger



Taco



Hot Dog

Several of the *3D Graphic Organizers* expand over a series of lessons. For this reason, you will need a storage system for each student's *3D Graphic Organizers*. A pocket folder or a re-closable plastic bag works well.

The Graphic Organizers used in this program were created by Dinah Zike and used with her permission. To learn more visit www.dinah.com.

Labs

The study of science is based on the Scientific Method – make an observation, come up with a question or concept, make a prediction (hypothesis), experiment, and draw conclusions. Labs implementing this method provide context for the information found in the science lessons, increasing understanding as well as retention. These steps can be overwhelming to young children and should be used as a guideline to avoid frustrating them.

To simplify the process, the labs in *Common Sense Science* use the following approach:

Students

- are asked a question or presented a concept
- make a prediction of what will happen
- experiment and observe
- draw a conclusion based on what they have observed

Students will record their predictions, observations, experiments, and conclusions in a Lab Book.

The following lab materials list will help you to prepare. Labs can be completed by the class or by each student.

Lesson 2

pear
plastic knife
2 jars with lids

Lesson 5

port light or any outdoor light source
incandescent lightbulb
LED lightbulb
fly strips

Lesson 8

2 dozen mealworms
flat plastic container with lid
apple
burlap or gauze
window screening
rolled oats
tape

Lesson 10

family size bags of M&Ms and Skittles
5 small bowls
cake pan
timer
2 pairs of tweezers
Lab Partner

Lesson 11

bug net
clear plastic cup
thermometer
mesh
paper
pencil
refrigerator

Lab 12

ants
white plastic table cloth
marker
apple slice
Q-tips
sugar water
apple juice
vinegar
hand soap
hot sauce

Lesson 15

two small paper milk cartons
exacto knife
glue
soil
sand
mesh
beetles or other bugs

Lesson 17

clear tape
cooking oil

Additional Materials Needed

Students will need a **Student Materials Packet** which contains:

- Vocabulary words
- Graphics for Labs and Graphic Organizers

Each student will also need pencils, scissors, glue, colored pencils or crayons, index cards, manila file folders or 12" x 18" cardstock paper, and multi-colored 8.5" x 11" paper. Each student will need a large re-closable bag to keep paper projects safe.

How to Use this Book

Lessons in the *Common Sense Science* series are divided into 18 three-day weeks. With this schedule, you will be able to complete two books a year.

Days 1 and 2 introduce content and the vocabulary needed to understand it. The lessons are scripted, so the teacher just needs to read them to the students. Older students may want to read the lessons and work independently. As you read, show them the images that will help them visualize what is being taught and then discuss what they have learned. Students will then have an opportunity to recreate and record what they have learned in a visual format called a Graphic Organizer that teaches and reviews the information.

During this time, they will also experiment with the material through labs that use household items and are easy to complete. They will practice exploring concepts by predicting outcomes, experimenting, and drawing conclusions.

On Day 3, students will have opportunities to explore and further investigate the subject matter covered during the week. Choose activities that your students are most interested in and fit your time schedule. Include library books, videos and other teaching tools available through the Internet to further enrich your students' learning experience.