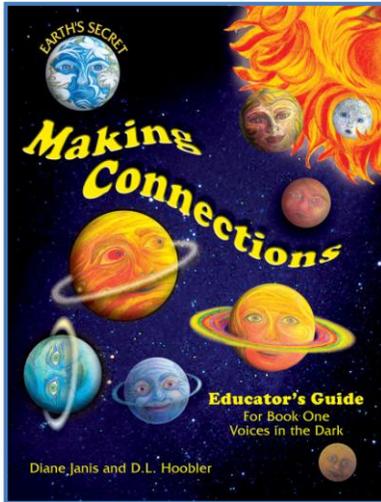




## *Earth's Secret: Making Connections Activity Book*

... a student activity book for use with the novel, *Earth's Secret: Voices in the Dark*



Price: \$32.95  
Pages: 284  
Size: 8.5 x 11  
Grades: 4 – 6  
Author: Diane Janis

This student activity book contains 200 thought provoking, creative activities that keep students highly motivated by expanding on characters, events, and educational content from *Earth's Secret: Voices in the Dark*. This helps make learning fun and encourages students to attempt skills and concepts that may otherwise seem unimportant or unapproachable.

Many of the activities are intercurricular and several focus on environmental topics. This gives students opportunities to make connections between *Earth's Secret: Voices in the Dark*, their personal lives, curriculum subjects and real-world situations.

**“...One can see that Diane Janis has thought a lot about what teachers go through each and every day because uniting curriculum makes a whole lot of sense.** Using the activity book, a teacher can easily take student interest in the novel into a lesson in language arts, math, science, social studies, character education or even health, mirroring the same type of connections seen in real life situations...”

Lee Janowsky

Elementary Educator and Consultant Teacher

### **CURRICULUM CONNECTIONS** in *Earth's Secret: Making Connections Activity Book*

- **English/Language Arts:** The activity book contains vocabulary, comprehension questions and journal entry suggestions for each chapter of the novel. ...All of the activities require reading comprehension, and many integrate English/language arts skills with content from other curriculum subjects. This helps students develop a broader range of knowledge while improving literacy.
- **Science:** Many activities also follow the astronomy and environmental theme of the novel. Each science experiment follows the scientific process and promotes problem solving.
- **Math:** Activities that include math follow a sequential development of skills and concepts and many incorporate problem solving. Most are related to astronomy and environmental topics from the novel.
- **Social Studies:** The novel-related concepts of *environment*, *technology* and *change* are incorporated into many activities. Some activities also focus on historic information relating to famous astronomers and scientists.
- **Character Education:** Many activities continue the novel's theme of interdependence between beneficial character traits, problem solving, and a positive attitude.

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“...The activity book is fun for students to use, complete with activities for all levels and disciplines. It is an engaging way to combine curriculum subjects for purposeful learning...”

Elin Orman

5th Grade Teacher, Honeoye Elementary School, Honeoye, NY

## **BENEFITS** of *Earth's Secret: Making Connections Activity Book*

- **Novel-Based:** The activities connect to characters, events, and educational content from the novel, *Earth's Secret: Voices in the Dark*. Making connections to a previous learning experience promotes student interest and facilitates readiness for receiving new information. Children's fascination with the novel mystery and personification of the planets helps make learning more fun and motivates students to attack skills and concepts that may otherwise seem unimportant or unapproachable.
- **Intercurricular:** Many of the activities are intercurricular, which provide meaningful learning experiences by combining curriculum subjects with ELA skills. This gives students opportunities to make connections between *Voices in the Dark*, their personal lives, curriculum subjects and real-world situations.
- **Problem Solving:** Students are guided through problem solving steps, and a variety of activities provide students with opportunities to become problem solvers through the use of critical and creative thinking skills connected to real-life topics and situations.
- **Thematic:** Educators can choose activities for a variety of thematic units throughout the curriculum.
- **Flexible Use:** Activities focusing on educational content from the novel are designed for flexible use while reading the novel or throughout the school-year.
- **Differentiation:** The activities are designed for student-focused differentiation that accommodates learning styles and diverse abilities.
- **Memory Strategies:** Each chapter-based section continues the novel's promotion of memory strategies. Multiple types of graphic organizers teach students how to organize information to aid memory and learning year.
- **Quality and Quantity:** Intercurricular activities help solve the problem of meeting student needs for quality learning experiences that raise the quantity of knowledge required by state curriculums.

## SKILLS and CONCEPTS

 in *Earth's Secret: Making Connections Activity Book*

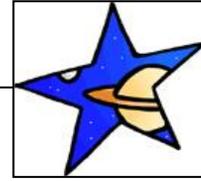
ENGLISH/ LANGUAGE ARTS	MATH	SCIENCE	SOCIAL STUDIES	CHARACTER EDUCATION
acronym	averaging	astronomy	age of exploration	assertive behavior
analogy	calculator use	atmosphere	ancient Greece	brave
cause & effect	circumference	atoms	ancient Rome	creative
compare & contrast	decimals	consumers	beliefs	curious
composition format	diameter	chemical formula	change	feelings
dictionary skills	fractions	distances in space	culture	forgiving
draw conclusions	graphs	energy	customs	honesty
elements of fiction	metric measuring	environmental	empathy	kindness
fact & fiction	order of operations	careers	environment	learning styles
figurative language	percents	food chains	geography terms	perseverance
generalize	problem solving 1, 2, & 3-step with whole numbers and decimals: <ul style="list-style-type: none"> <li>• add</li> <li>• subtract</li> <li>• multiply</li> <li>• divide</li> </ul>	greenhouse effect	Industrial Revolution	positive thinking
graphic organizers		gravity	interdependence	problem solving
idioms		inventors	Renaissance	responsible
journal writing		mass	space age	
label diagrams		matter	technology	
metaphors		molecules	time line	
mnemonic devices		ocean tides	world population	
outlining		quadrilaterals	photosynthesis	
paragraph writing	radius	producers		
persuasive writing	spheres	reflected light		
predicting	tables	respiration		
puns	time order	scientific process		
sequencing		solar system		
similes		theory		
supporting details		weight		
Venn diagrams				

The following pages are samples from *Earth's Secret: Making Connections Activity Book*



SAMPLE: This activity correlates with the *Earth's Secret: Educator's Guide* sample. It is for use while students are reading the novel, *Earth's Secret: Voices in the Dark*.

## Chapter 1 Vocabulary



### SCIENCE WORDS

**Directions:** Underline the *key* words in each definition.

**astronomy:** a type of science that studies stars, planets, moons, and other natural objects in space

**observatory:** a dome shaped building that protects a telescope

**telescope:** an instrument that allows distant objects to appear larger and brighter



**Directions:** Look up each vocabulary word in a **dictionary**. If there is a base word in parentheses next to the vocabulary word, look up the base word. The vocabulary words include a sentence that shows how the word is used in the chapter. Write the meaning of the word that best represents the way the word is used in the **sentence**. Then, write the **part of speech** for the vocabulary word.

**desperately** (desperate) She desperately missed the life she had to leave behind.

---

**haunting** (haunt) What was supposed to be a dream come true had turned into a haunting nightmare.

---

**intrusive** However, as she sat crying and brooding over all the problems the "intrusive" rock had caused, . . .

---

**responsible** She was certain they would think her big dog was responsible for the accident.

---

**torrential** (torrent) Her tears finally burst into a torrential rainfall.

---

# SIMILES



**Directions:** Read the information below and complete the page.

“In the early sixteenth century, Galileo Galilei discovered rings around Mother Saturn. These icy rings colorfully decorate her like whirling rainbows in space . . .” (page 32)

A **simile** is a statement that uses the word like or as to compare two different things. The purpose of a simile is to create a vivid picture in the reader’s mind.

The simile in the box above is from page 32 of the novel. This simile uses the word “like” to compare Saturn’s *icy rings* to *whirling rainbows*. Does it create a vivid picture in your mind of rainbows whirling around Saturn?

The following simile uses the word “as” to compare Earth to a blue star sapphire.

Earth looks as magnificent as a blue star sapphire.

The statements below are examples of similes. Underline two different things that are being compared in each simile. You can use the simile above as a guide.

1. Sorrowful thoughts swam around in Erica’s brain like Matthew’s little goldfish in the glass bowl on his dresser.
2. Uncle Garwin wants Erica to think she is as brave as a superhero.
3. Erica’s smile lights up the room as brightly as sunshine does.
4. Each planet travels around Great-Grandmother Sun in its own orbit, over and over and over again—like speeding cars on a racetrack.
5. Surrounding him like bees circling a hive, these spectacular moons create a remarkable spectacle in space.
6. Venus sparkles in space like a glistening topaz gem.
7. Erica was as full of anger as a balloon ready to burst.
8. Like the first warm drops of a gentle summer rain, tears began to fall from Erica’s eyes.

# FACT, FICTION, OR THEORY?

## ~ PART TWO ~



**Directions:** The paragraphs below are from Chapter Six of *Earth's Secret: Voices in the Dark*. Read each paragraph. Then, list five **FACTS** and four examples of **FICTION** from the paragraphs. As a bonus, see if you can find the **THEORY** and write it in the space provided.

“Mars is known as the **RED PLANET**,” stated Uncle Garwin. “His orbit is right next to the asteroid belt, and as the responsible, older brother, Mars helps his parents protect the other children from asteroids. So far, he has managed to capture two asteroids and keep them as his own moons. Mars has given his moons the names *Phobos* and *Deimos*.”

“Mars’s radius is 3,397 kilometers, which makes him a rather small planet, but he has the largest volcano in the entire family. It takes him about 687 days to revolve around his great-grandmother, which is nearly the length of two ‘Earth-years.’ He can rotate on his invisible axis in 24.6 hours; hence, a day on Mars lasts a little bit longer than a day on Earth. . . .”

**Fact:** \_\_\_\_\_

**Fact:** \_\_\_\_\_

**Fact:** \_\_\_\_\_

**Fact:** \_\_\_\_\_

**Fact:** \_\_\_\_\_

**Fiction:** \_\_\_\_\_

**Fiction:** \_\_\_\_\_

**Fiction:** \_\_\_\_\_

**Fiction:** \_\_\_\_\_

**Bonus: Theory** \_\_\_\_\_

SAMPLE: This activity is for use while students are reading the novel, *Earth's Secret: Voices in the Dark*, or after they have read the novel.

## GAS and TERRESTRIAL PLANETS

**Directions:** Read the following information and complete the Venn diagram below.

Our solar system has four TERRESTRIAL planets and four GAS planets. The gas planets and the terrestrial planets have similarities and differences.

Below there is a mixed list of facts about gas planets and terrestrial planets. There is also a graphic organizer called a Venn diagram. Use the list of planet facts to fill in the Venn diagram with similarities and differences between the gas planets and the terrestrial planets.

### Fact List

have rings

have no rings

are smaller

are larger

have a gas surface

have a solid surface

belong to the same solar system

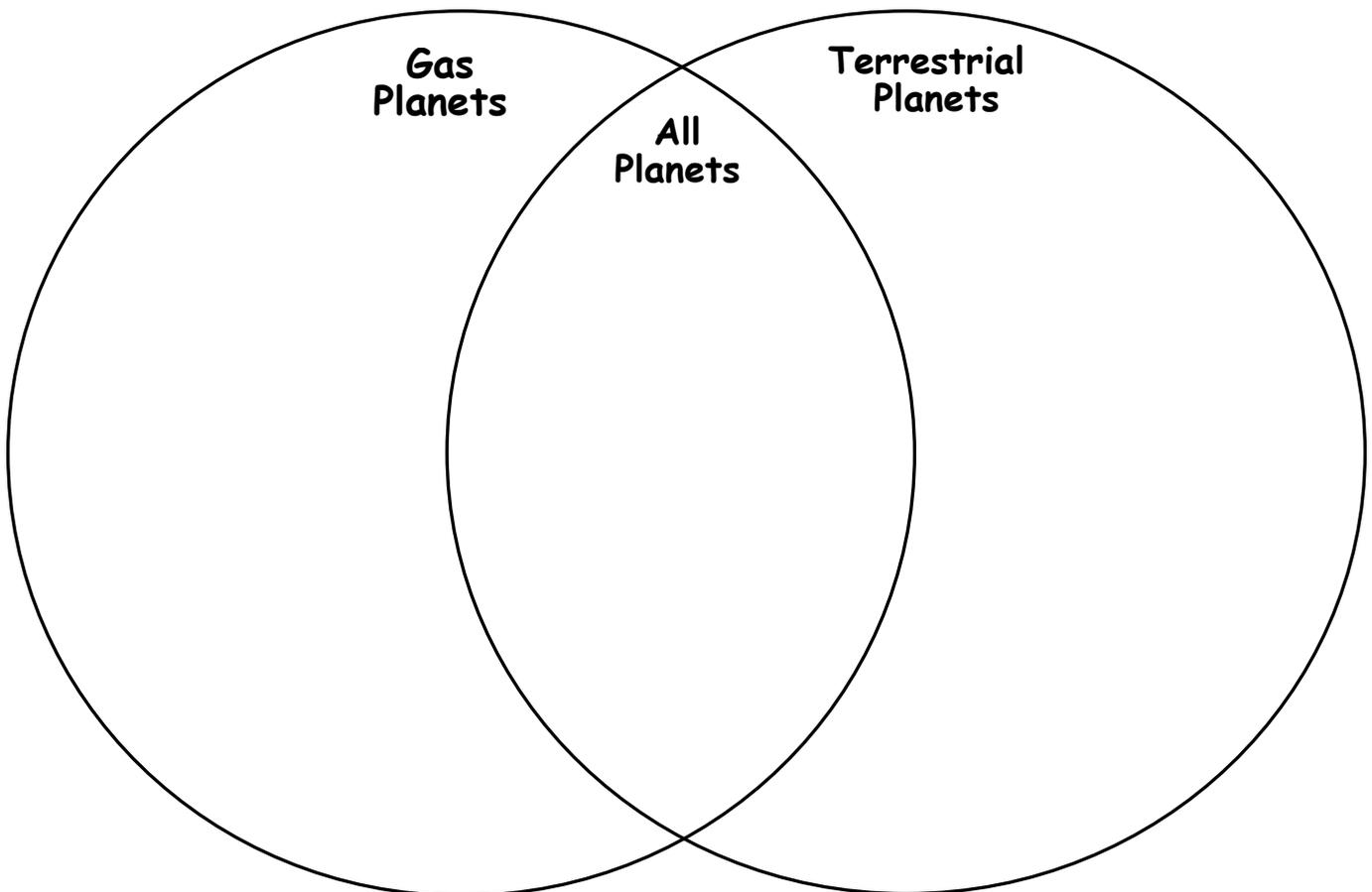
have many moons

have few or no moons

revolve around the sun

rotate on an invisible axis

### Venn Diagram of the Planets



# COMPOST

**Directions:** Read the composition below and continue to the next page.

Making compost is an easy way to recycle and decrease the amount of trash that pollutes Earth's environment. If you have a backyard, you can make a compost pile at home.

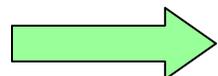


There are many food scraps and other left-over materials from your house and your yard that can be used to make compost. Food scraps such as left over fruits and vegetables, crushed egg shells, tea bags, and coffee grounds can go into a compost pile. Materials from your house, such as old potting soil and shredded paper can also be used to make compost. Chopped leaves, chopped plants, dry grass, and finely chopped wood chips are materials from your yard that can be put in a compost pile, too.

However, there are many left-over materials that cannot be used in a compost pile, so be careful to use the right materials. Food scraps such as meat, fish, bones, dairy products, gravy, and sauces cannot go into a compost pile. Plastic, metal, glass, oil, paint, or pet wastes from your house or yard are also materials that cannot go into a compost pile.

Many foods scraps and left-over materials from your house and your yard can be used to make compost, and many cannot be used. Putting the right materials into a compost pile is an easy way to recycle and decrease the amount of trash that pollutes Earth's environment.

Continue to the next page.



**COMPOST** continued . . . Use information from page 122 to complete this page.

**Directions:** List materials that CAN and CANNOT go into a compost pile in the graphic organizers below.

A large yellow cylinder graphic organizer. At the top, a white rectangular box contains the text "Materials that CAN go into a Compost Pile". Below this, the cylinder is divided into two vertical white rectangular boxes. The left box is labeled "FOOD SCRAPS" and the right box is labeled "FROM YOUR HOUSE AND YARD".

A large gray hatched rectangle graphic organizer. At the top, a white rectangular box contains the text "Materials that CANNOT go into a Compost Pile". Below this, the rectangle is divided into two vertical white rectangular boxes. The left box is labeled "FOOD SCRAPS" and the right box is labeled "FROM YOUR HOUSE AND YARD".

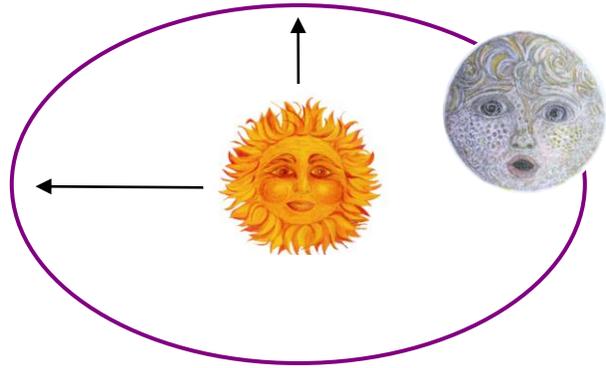
# AVERAGES

**Directions:** Read the information below, complete the page, and continue to the next page.

The planets travel in orbits that are in an oval shape, which is called an *ellipse*. That means the distance from a planet to the sun can change as the planet rotates in its orbit.

For example: Sometimes Mercury's orbit is only 47,000,000 kilometers away from the sun and other times Mercury's orbit is as far away as 70,000,000 kilometers from the sun.

Label the diagram of Mercury's orbit on the right with the information below:



**47,000,000 km**                      **70,000,000 km**  
**elliptical orbit**                      **Mercury**                      **sun**

What number do you think astronomers use for Mercury's distance from the sun? Sorry, that was a trick question! You see, astronomers actually do not use either of those numbers. Instead, they use Mercury's *average* distance from the sun.

The following example explains the steps used for finding an **average**. . . .

Suppose the last four math grades you received were 84, 92, 98, and 86. If you wanted to find the average of those grades, you would follow the two steps below.

**Step 1:** Find the *sum* of the numbers. . . . .  $84 + 92 + 98 + 86 = 360$

**Step 2:** *Divide* the sum by the number of addends.

There are 4 addends in this problem, so divide by 4. . . . .  $360 \div 4 = 90$

**Answer:** The average of your math grades is **90**. Great job!

The following example shows how to find Mercury's average distance from the sun.

**Step 1:** Find the *sum* of the numbers . . . . .  $47,000,000 + 70,000,000 = 117,000,000$

**Step 2:** *Divide* the sum by the number of addends . . .  $117,000,000 \div 2 = 58,500,000$

**Answer:** Mercury's average distance from the sun is 58,500,000 kilometers.

Continue to the next page.



# AVERAGES continued . . .

**Directions:** Spend a week recording the number of minutes that you spend each day using the different types of technology on the chart below. Then, find the average number of minutes you spend doing each activity in a day and complete the chart.

## TECHNOLOGY AVERAGES

Technology	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Average
Television								
Computer								
Telephone and Cell Phone								
CD Player								
iPod								
Other:								
Other:								