

Nature's Patterns

Interest Level: Grades K-2

Reading Level: Grade 2

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Titles in this series:

Do Chicks Ask for Snacks? Noticing Animal Behaviors

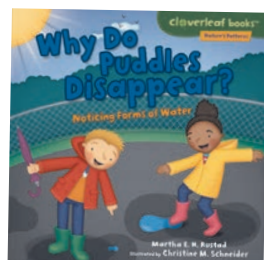
Do Trees Get Hungry? Noticing Plant and Animal Traits

Does the Sun Sleep? Noticing Sun, Moon, and Star Patterns

What Is It Made Of? Noticing Types of Materials

When Will It Rain? Noticing Weather Patterns

Why Do Puddles Disappear? Noticing Forms of Water



Standards

National Generation Science Standards

K-LS1-1 Use observations to describe patterns of what plants and animals (including humans) need to survive.

K-ESS2-1 Use and share observations of local weather conditions to describe patterns over time.

1-LS1-2 Read texts and use media to determine patterns in behavior of parents and offspring that help offspring survive.

1-LS3-1 Make observations to construct an evidence-based account that young plants and animals are like, but not exactly like, their parents.

1-ESS1-1 Use observations of the sun, moon, and stars to describe patterns that can be predicted.

2-PS1-1 Plan and conduct an investigation to describe and classify different kinds of materials by their observable properties.

Common Core State Standards

RF.2.3 Know and apply grade-level phonics and word analysis skills in decoding words.

SL 2.1 Participate in collaborative conversations with diverse partners about grade 2 topics and texts with peers and adults in small and larger groups.

W.2.2 Write informative/explanatory texts in which they introduce a topic, use facts and definitions to develop points, and provide a concluding statement or section.

Multiple Intelligences Utilized

Interpersonal, intrapersonal, linguistic, logical-mathematical, visual-spatial

Lesson 1

Phonics Patterns

Purpose

Students will find patterns in the sounds and spellings of words.

Materials

- Nature's Patterns series
- books not in the Nature's Patterns series (1 per student)
- paper
- pencils

Pretest

- What is a pattern?
- What is an example of a pattern?
- Where can we find patterns?

Introduction

- Choose three students to stand in front of the class.
- Line the three students up in front of the class. One at a time, have them wave and introduce themselves.
- Then ask the rest of the class to find patterns—repetition—in the students' appearance, sounds, and actions.
 - What pattern do you notice in the students' words?
 - What pattern do you see in the students' movements?
 - What patterns do you see in their clothing?
 - Explain that patterns are all around us.

Read

- Read a book from the Nature's Patterns series to the class.

- Ask students to find patterns mentioned or shown in the book.

Model

- Tell students that words can have patterns too.
- Choose a sound such as /m/. Then look back at a page in the book. Find all the words on that page with the /m/ sound. Make a list of these words on the board.
- Read each of the words in the list aloud. Then circle the part of the word that makes the /m/ sound.
- Finally, look at the letters that make the /m/ sound. Find the patterns. Is the /m/ sound always made by the same letter? What other letters are usually near?

Guided Practice

- Choose a new sound such as /f/.
- Reread this lesson's book aloud to the class. Ask students to raise a hand every time they hear a word with the sound /f/. When students raise their hands, write the word on the board.
- Then choose student volunteers to read the words on the list aloud. Call on students to help you circle the part of the word that makes the /f/ sound.
- Lastly, ask students to look at the letters that make the /f/ sound.
- What patterns can they find?

- What letters usually make the /f/ sound?

Independent Practice

- Give each student a book, a piece of paper, and a pencil. Ask students to choose a sound and write it at the top of their paper.
- Then ask students to read their books. Students should write down any words that use their chosen sound.
- Students should then circle the letters that make the sound.
- Ask students to write one or two sentences about the letter and sound patterns that they find.

Discuss

- What sound patterns did you find?
- Where else can you find sound patterns?
- How can sound patterns help us?

Evaluate

- Review the lists and sentences students wrote during independent practice.

Lesson 2

Making Observations

Purpose

Students will observe patterns in nature.

Materials

- *Do Trees Get Hungry?*
Noticing Plant and Animal Traits
- Large windows or outdoor space
- Observation Notes p. 6

Pretest

- What is an observation?
- What senses can you use to make observations? (Write these answers on the board.)
- Why do we make observations?
- What can we observe?
- What can we learn from observations?

Introduction

- Out loud, make observations of your students and classroom, such as, "All students are wearing shoes today," or "Four students are looking at the window."
- Write a few of your observations on the board.
- Then ask students to turn to a partner and make their own observations of the students and classroom.
- Ask students to share some of their observations. Write a few of their observations on the board.

Read

- Explain to students that

observations help us find patterns in everyday life.

- Read *Do Trees Get Hungry? Noticing Plant and Animal Traits* aloud to the class.
- What are the students in the book doing?
- What do the students observe?
- What patterns do they notice?
- What did the students do when they made observations?

Model

- Tell students they will be observing plants and animals in nature.
- Pass out Observation Notes p. 6. Display the same piece of paper on the board.
- Choose a subject in the classroom or outside a classroom window to study.
- Model using your eyes, ears, and nose to make observations of your subject. Write down your observations on Observation Notes p.6.
- Call on a few student volunteers to add observations to your list.

Practice

- Take students outside or turn their attention to a classroom window.
- Ask students to choose a subject, such as a tree or a group of students on the playground. Students should write their subject on the Observation Notes page.

- Then give students time to make and record observations on their notes page. Remind students to use their eyes, ears, and noses.
- As students make observations, choose a subject and make observations of your own.
- When students have finished making observations, return to the classroom.

Model

- Display your own observations notes on the board. Out loud, look over your observations to find patterns. Ask students to help you find additional patterns.

Practice

- Give students time to look at their own observations to find patterns. Circulate and help when necessary.

Discuss

- What did you observe outside?
- What patterns did you find?
- Why is making observations important?

Evaluate

- Review student's written observations and oral responses during the class discussion.

Lesson 3

Compare and Contrast Traits

Purpose

Students will observe and compare their own traits with the traits of a family member.

Materials

- *Do Chicks Ask for Snacks?*
Noticing Animal Behaviors
- Family Patterns p. 7
- family photos

Prepare

- Find a photo of two or more of your family members.

Review

- Ask students to describe the patterns they've observed during the previous lessons.

Pretest

- How are you like your family members?
- How are you different?
- Why do you think you are alike or different?

Read

- Explain to students that we can find patterns among people too. There are patterns in people's actions, their looks, and their habits.
- Read *Do Trees Get Hungry?*
Noticing Plant and Animal Traits out loud to the class.

- What patterns did you see in the book?
- What patterns do you see in our classroom?
- What patterns happen in our classroom every day? (You might point out school uniforms or a classroom routine.)

Model

- Display images of your family members.
- Tell students about the physical traits, personality traits, or behaviors you may share with these family members.
- Ask students to use the photos to help you find patterns in your family's appearance—either biological (like eye color) or style and habit (like hairstyles).

Practice

- Pass out Family Patterns p. 7.
- Ask students to think about patterns in their own families.
- Guide students to think about the physical traits they share with family members, the personality traits they share, and any behaviors or routines they share.
- Call on students to share their

family patterns. Then guide students in finding patterns between their families. Perhaps many families eat dinner together or have dedicated homework time.

Discuss

- What is something everyone in a family does?
- What are things you do every day with your family?
- What hobbies do people in your family share?
- Which family member do you look the most like?
- What patterns did you find in your family?

Expand

- Challenge students to seek out patterns when they return home. Do family members make the same facial expressions or use the same tone of voice? Do they have similar habits like biting nails or twirling hair? Ask students to report back during the next class period.

Evaluate

- Review Family Patterns p. 7.

Lesson 4

Find a Pattern

Purpose

Students will find and follow a pattern in nature.

Materials

- Nature's Patterns series
- Find a Pattern p. 8

Pretest

- What is a pattern?
- What can patterns teach us?
- What kinds of patterns happen in nature? (Make sure to discuss visual, sound, behavior, and weather patterns.)

Introduction

- Challenge students to find a pattern visible in the classroom—all the boys wore tennis shoes today, or all the desks have the same kind of chair.

Read

- Read aloud any book from the Nature's Patterns series. Discuss the patterns presented in the book.

Project

- Ask students to think about patterns they've noticed in nature. Perhaps students have noticed that mothers feed their young or plants often bloom in spring.
- Tell students that they will be observing patterns on their own, then sharing their observations with the class.
- Pass out Find a Pattern p. 8. Discuss each project category with the class, and come up with an example for each. For instance, in the weather category, students

could observe and present a pattern having to do with clouds and cooler temperatures.

Present/Share

- Ask students to set up their posters around the classroom. Have students stand next to their posters. Then allow half the class to walk around the room, looking at posters and asking the other students questions about the patterns. When the first half of the class has finished, have the rest of the students explore the posters.

Evaluate

- Evaluate student's posters and oral responses to classmates' questions.

Name _____

Date _____

Observation Notes

The subject I am observing is _____.

Observations notes:

Patterns I noticed:

Name _____

Date _____

Family Patterns

Write the names of two family members.

What is similar about the way you and your family members look?

How is your personality similar to your family's personalities?

What are things that you and your family members do every day?

Name _____

Date _____

Find a Pattern

For this project, choose one of the categories below:

Weather

Animals

Materials

Plants

Sun, Moon, Stars

Water

Choose something in your category to observe. For example, if you choose plants, you might observe a tree on your street or a flower growing in your yard. Write your choice below.

Observation notes:

What patterns did you find?

Make a poster that tells people about the pattern you found. Include photos or drawings and a paragraph about the pattern. Be ready to share this with the class!