

Educator Resource Guide

SCIENCE, MATTER AND THE BASEBALL PARK

Written by Catherine Ciocchi
Illustrated by Chantelle Thorne
& Burgen Thorne

For baseball and science fans alike, this fast-paced rhyming story takes a closer look at all the matter that makes up what truly matters at the ballpark and beyond.

Juvenile Fiction (informational fiction picture book)

32 Pages ~ 10 x 10

Grades K-3 ~ Ages 5+

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Key Concepts: STEAM learning (states of matter), baseball, rhyme/language.

About the author: Catherine Ciocchi is a science teacher in New York's beautiful Hudson Valley. She is the author of other published works including a picture book, poetry and short stories, and enjoys blending her love of science with writing in verse. Catherine also loves a great view, the changing seasons, the night sky and tons of laughter.

About the illustrators: Burgen Thorne and Chantelle Thorne together make up an internationally-published illustration team specializing in children's books. In the last three years they have illustrated ten trade books - two of which have won international awards. They have a long history in creating art for the educational market and their work has been featured in over 1000 readers and textbooks worldwide. Most recently, their work in *Kantiga Finds the Perfect Name* was selected for the IBBY 2022 honours list for Best Illustration in South Africa.

Using this guide:

This educational resource guide can be used by anyone interested in sharing enthusiasm about *Science, Matter and the Baseball Park* with children of all ages. If you are a teacher, librarian, home school instructor, camp counselor, or super cool parent, grandparent or guardian, this guide

is for you! Feel free to adapt the suggested learning projects and activities according to your needs, interests, time, audience, and goals.

We have done our best to provide information, discussion points, and resources that may be useful for you and your learning participants. However, website content and accessibility is subject to change. Please review all suggested resources and websites prior to sharing them in your learning environment to ensure they meet with your individual standards and contain age-appropriate content for your participants.

This guide is broken down into two general categories: 1) learning opportunities (with associated activities) related to science and language and 2) learning opportunities (with associated activities) related to sports and teamwork. These are broad categories with overlaps between subjects, and each activity will vary in complexity depending on the age of the participants. Please modify as you see fit.

Suggested learning activities can be found for each category and are intended to align with appropriate Common Core, NGSS and/or National Core Arts Standards. To inquire about additional materials or if you have questions about this guide, please view our website at: www.gnomeroadpublishing.com

PART 1: SCENCE AND LANGUAGE

Learning Opportunity #1: Let's talk about important *matters* ~ Science! (And Math, too!)

- What are the three states of matter discussed in *Science, Matter and the Baseball Park*? What did you learn all matter is made of? (Hint: It's one of the words found in the book!) This (atoms) is one way all matter is the same. What did you learn about how matter is different?
- Take a look around you. What kind of matter do you see? Identify examples of solids, liquids and gases. What about the kinds of matter you don't see? (Hint: What about the matter inside you?)
- The illustration team used what is called a dot matrix pattern to help you see the different types of matter showcased in the book. Just like atoms, these dots could be spaced far apart or packed close together. What are some other ways you could illustrate the different types of matter?
- Fill in the blank from the book. "The amount of matter is known as the _____." (Hint: The answer isn't "weight"). How are mass and weight different? A teacher, parent or learning helper can help you answer this question! (Hint: An object's mass will always be the same, but its weight can change. Why do you think that is?) **Bonus questions:** Do you think a person's mass is the same on the moon? How about their weight?

Suggested Activities ~

Model Your Matter!

- It's time to get creative and make your own matter. Find a box or other container and gather supplies. You can use anything readily available to you. Explore ways to put those supplies together to demonstrate what you know about solids, liquids and gases. Be sure to share your knowledge with other people in your group or classroom setting.

Water, Water, Everywhere!

- Water is a great substance to show how matter can change from one form to another. If you haven't already studied the water cycle, sharpen your research skills and go find out what it is! When you are ready, get out your art or repurposing supplies and make a diagram, illustration or model of what happens to the atoms in water when they go through the water cycle.

Mass Comparisons!

- You might think that small things have less mass than big things. But that's not always the case. Something small might have a lot of matter (it has tightly packed atoms) and something big might not (it's filled with air). Use the worksheet provided at the end of this resource guide to compare objects of similar size to see how this works!

Learning Opportunity #2: Let's talk about rhyme and language!

- The author of *Science, Matter and the Baseball Park* put together a rhyming text blending concepts of science (matter) and baseball. That isn't easy! But rhyme can be a really good way to learn something new and remember it. Can you think of ways rhyme is used in your life? (Hint: If you like music, you probably like rhymes. And when you were a baby, you probably learned a few!)
- How do we make a fun rhyming text? We need words with matching sounds that are put together with something called "meter". Basically, that means you need a rhythm and beat! There are lots of ways to make a good meter. For example, say: Da-Dum, Da-Dum, Da-Dum. Now try this one: Da-da-dum, Da-da-dum, Da-da-Dum. Why don't you tap out a few of your own.
- We can't forget about those matching sounds! You are likely experts at this already, but let's give it a try. Choose a few words you enjoy and come up with at least two different words that have the same sound. Congratulations! You know how to rhyme!

Suggested Activities ~

Vocabulary Match!

- Let's make sure you know your definitions! Find the printable vocabulary matching sheet at the end of this resource guide to show your understanding of *Science, Matter and the Baseball Park* concepts.

Write Your Own Story in Rhyme!

- What is your favorite sport or hobby? Make a list of some of the words that help describe this activity or how you feel when you do it. These will be the words you use to make your own rhyme about it. You can use the printable form found at the end of this resource

guide to help you with the first four lines of your story. Feel free to print more copies so you can add more if you don't have enough space. **Bonus challenge:** Plan out your story using the same meter on each line, so that the words have a rhythm and beat. You can share this with others and see if they can hear it, too!

PART II: BASEBALL AND TEAMWORK

Learning Opportunity #1: *Let's Talk About Baseball (and other sports)!*

- People in many places like baseball. Why do you think that is? What do you know about the sport? (Hint: How is it played? How do they keep score? What equipment do players use?)
- The illustrators made sure to include lots of details in the book about baseball and baseball parks, not just matter. What are some of the things found at a baseball park and baseball games that are seen in the book? (Hint: People filming the game and fans in the stands are part of the action, too.)
- What is your favorite sport? If you were writing a book about it, what parts would you need to include?

Suggested Activities ~

Compare and Contrast!

- Sharpen your analytical skills by creating a Venn Diagram. Comparing a sport or hobby or your choice with baseball or another sport. This can be done individually or in groups on a computer, a piece of paper or whiteboard. Be sure to share with others when your diagram is complete.

[Venn Diagram](#)

Make it and Move it!

- If you were designing a new sport or activity, what would you call it? What would you need to play it? What would the rules be and how could someone win? Put together a group of players for your new sport or activity and try it out. How did it work?

Learning Opportunity #2: *Let's Talk about Teamwork!*

- Baseball is played in teams. What does it mean to be part of a team? Where else do you see teamwork other than sports? What can you do to be a helpful teammate?
- Teams can win together . . . and they can lose together. Winning is nice but being a part of a team can be rewarding for other reasons. What are the good things about being on a team even if your team loses?
- Sometimes teams choose colors to represent themselves to others? They might choose a mascot, too. Why do you think they do that? What are examples of team colors and mascots you see around you?

Suggested Activities ~

Team Challenge!

- As a group, randomly choose teams to participate in a challenge of your choice. For example, give yourself twenty minutes to build a house with a deck of cards. Work together to build the tallest and most sturdy house. When you are done, answer these questions:
 - o How did you feel about working together as a team?
 - o Did one or more people take charge or become a leader? Did one or more people volunteer to help and become helpers?
 - o How did you make choices together as a team?

Meet the _____!

- It's your turn to create a team of your own. Pick your teammates, give yourself a team name and choose your colors. Now draw/color/collage/create a picture of this fictional team and share it with others!

Websites with more information about matter and mass:

- Woojr.com
- Littlebinsforlittlehands.com

Websites with more information about rhyme and meter:

- Poetry4kids.com
- Education.com

Websites with more information about baseball and playing in team sports:

- Bestkidswebsites.com
- Sikids.com

Science

MATTER and the Baseball Park

MASS COMPARISONS

You might think that small things have less mass than big things, but that's not always the case. Something small might have a lot of matter (it has tightly packed atoms) and something big might not (it's filled with air). Use this worksheet to compare objects of similar size to see how this works. Pick four (4) things that are small, medium and large around you. Weigh the objects if possible, or simply describe whether it feels light or heavy. Discuss what you observe!

Small Items

1. _____
2. _____
3. _____
4. _____

How much does it weigh? (circle)

- _____ *light / heavy*
_____ *light / heavy*
_____ *light / heavy*
_____ *light / heavy*

Medium Items

1. _____
2. _____
3. _____
4. _____

- _____ *light / heavy*
_____ *light / heavy*
_____ *light / heavy*
_____ *light / heavy*

Large Items

1. _____
2. _____
3. _____
4. _____

- _____ *light / heavy*
_____ *light / heavy*
_____ *light / heavy*
_____ *light / heavy*



Science

MATTER and the Baseball Park

SCIENCE VOCABULARY MATCHING

Match the word with its meaning by drawing a line to connect them.

solid

A way humans learn about the natural world using the tools of observation & experimentation.

gas

Anything that takes up space and can be weighed.

mass

The smallest building blocks of matter. They make up everything around us.

matter

A type of matter that has a fixed shape and atoms packed tightly together.

Science

A type of matter that can change shape. Its atoms are more free to flow within its shape.

atoms

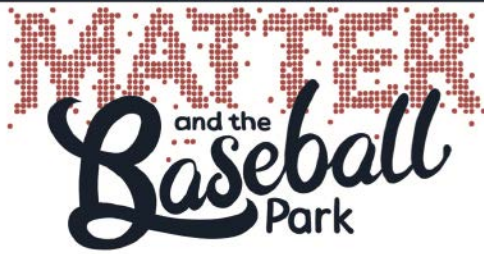
A type of matter that has no fixed size or shape and its atoms are spaced the most far apart.

liquid

The amount of matter in a particle or object.



Science



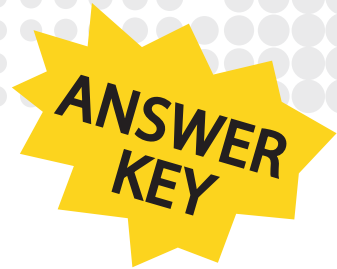
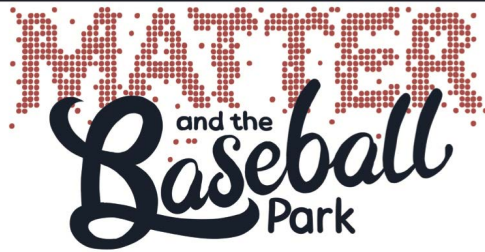
Write Your Own Rhyme

Write your own rhyming text about an activity you enjoy.

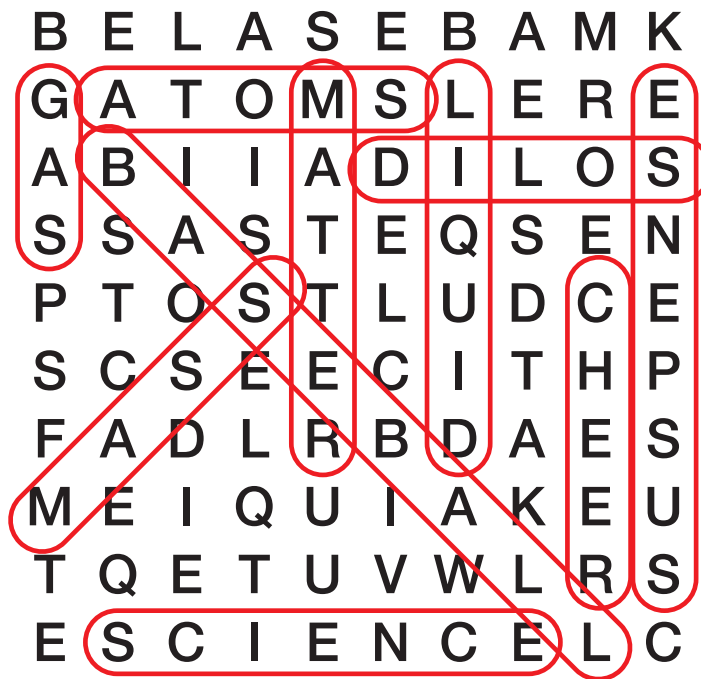
Handwriting practice lines consisting of ten sets of three horizontal lines (top solid, middle dashed, bottom solid) for writing a rhyme.



Science



Word Search



science

matter

suspense

baseball

atoms

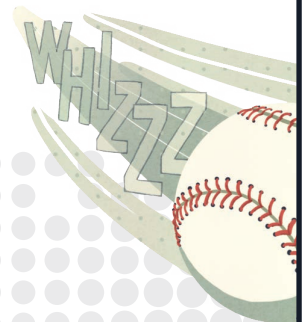
cheer

gas

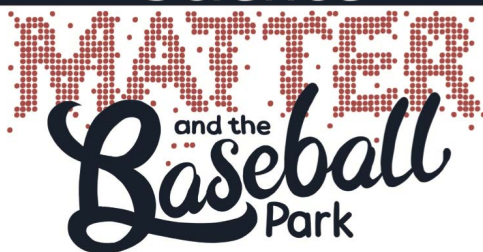
solid

liquid

mass



Science



Word Search

B E L A S E B A M K
G A T O M S L E R E
A B I I A D I L O S
S S A S T E Q S E N
P T O S T L U D C E
S C S E E C I T H P
F A D L R B D A E S
M E I Q U I A K E U
T Q E T U V W L R S
E S C I E N C E L C

science

matter

suspense

baseball

atoms

cheer

gas

solid

liquid

mass

