

# Unit 08: Mindstorms Grade 2 - Arithme-Tales

Content Area: **Template**  
Course(s):  
Time Period: **Full Year**  
Length: **FY**  
Status: **Published**

## **Standards Alignment**

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### **New Jersey Student Learning Standards**

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#### **Integration of Career Readiness, Life Literacies and Key Skills**

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CRP.K-12.CRP1	Act as a responsible and contributing citizen and employee.
CRP.K-12.CRP2	Apply appropriate academic and technical skills.
CRP.K-12.CRP3	Attend to personal health and financial well-being.
CRP.K-12.CRP4	Communicate clearly and effectively and with reason.
CRP.K-12.CRP5	Consider the environmental, social and economic impacts of decisions.
CRP.K-12.CRP6	Demonstrate creativity and innovation.
CRP.K-12.CRP7	Employ valid and reliable research strategies.
CRP.K-12.CRP8	Utilize critical thinking to make sense of problems and persevere in solving them.
CRP.K-12.CRP9	Model integrity, ethical leadership and effective management.
CRP.K-12.CRP10	Plan education and career paths aligned to personal goals.
CRP.K-12.CRP11	Use technology to enhance productivity.
CRP.K-12.CRP12	Work productively in teams while using cultural global competence.

#### **Technology / Integration of Computer Science and Design Thinking**

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#### **Interdisciplinary Connections: NJSLs for ELA, Social Studies, Science and/or Math Section**

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#### **Integration of Diversity, Equity and Inclusion; Climate Change; Informational and Media Literacy New Section**

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see Crosswalks

## **21st Century Life and Careers**

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### **Stage I: Desired Results**

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### **Transfer/Overview/Rationale**

<b>Transfer / Overview / Rationale</b>
Unit Rationale The purpose of this unit...

### **Meaning**

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### **Essential Questions**

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Essential Questions

How is math relevant to me? - relate and apply concepts and skills to daily life

What do numbers convey? - identify amount, name position, indicate location

Why is creative writing a powerful form of expression of ideas and emotions?

## **Enduring Understanding/Indicators of Understanding**

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Enduring Understanding/Indicators of Understanding

Numbers can represent quantity, position, location, and relationships.

Writing is a way to clarify or express thinking and knowledge in all content areas.

## **Acquisition (Student Learning Objectives)**

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### **Knowledge**

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Knowledge

Students will know...

Math concepts are part of our everyday life.

Numbers are symbols that represent concrete objects or ideas

Story telling can include Math concepts

### **Skills**

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Skills

Student will be skilled at ...

Students will be able to:

Analyze a math concept found in a story

Write an original story that includes a math concept as part of the plot

(or)

Write song lyrics that incorporate math concepts

Illustrate their original story or song

### **Stage 3: Learning Plan**

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### **Resource and Mentor Texts**

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Resources and Mentor Texts

Family Letter (see Links)

1. Resources for Children's Literature using Math,
2. Graphic Organizers- Story Map
3. Plot Diagram
4. Storyboard

[Family Letter](#)

[Children's books by Math topic](#)

[Picture Books](#)

[Lessons for Planning the Math story](#)

## **Formative Assessment Strategies**

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Formative Assessment Strategies

## **Learning Activities/Unit of Study**

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Learning Activities/Unit of Study

1. Activate prior knowledge- First, Ask students why people read books? Then have students review illustrated mathematic children's books to gain an understanding of the creative process and the elements that help make a children's book successful. (see Links for book titles)

2. Together, analyze the math concepts that are involved in each story.

Or --(if you are having your students write a song have them watch "School House Rock")

3. Next, students use graphic organizers to brainstorm ideas for the mathematical operation, character, setting, and possible conflict of their own stories

3. Students create storyboards to plan relationship between the illustrations and text.

4. Students will use Microsoft Word to write their story/song (if they are making a picture book make sure that each page has room for illustrations)

5. After students have typed their stories they will illustrate using whatever materials they choose (crayons, markers,

paint, tissue paper, construction paper etc..)

6. Lastly, books will be laminated and teachers can help bind their books.

7. Students are now ready to read their books to their reading buddies or the rest of their class.

[Resource for Children's Literature using Math Planning and writing a Math story](#)

## **Modifications and/or Accommodations**

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### **Suggested Modifications (ELL, Sp. Ed, Gifted, At-risk of Failure)**

#### **English Language Learners**

**Native language support:** The teacher provides auditory or written content to students in their native language.

**Adjusted Speech:** The teacher changes speech patterns to increase student comprehension. This could include facing the students, paraphrasing, clearly indicating the most important ideas, and speaking more slowly.

**Visuals:** The teacher uses graphics, pictures, visuals, and manipulatives. This helps ELL students better understand and comprehend the subjects at hand.

**Front-Loading Vocabulary:** The teacher front loads vocabulary. This means providing students with a list of important vocabulary words they will need to know for a book, lesson, etc. prior to the lesson being taught. Including pictures to go with the vocabulary words is also very beneficial for the students.

#### **Special Education Students**

**Chunking:** The teacher presents information in a way that makes it easy for students to understand and remember. Chunking is based on the presumption that our working memory is easily overloaded by excessive detail. The best way to deliver information is to organize it into meaningful units. Because students with special needs get overloaded easily, chunking is an effective strategy to use with them.

**Checking for Understanding:** It is important to constantly check for understanding, especially for students who have accommodations. Teachers want to make sure students understand the concepts being covered in a way that makes sense to them.

Extra time: The teacher provides students with special needs extra time to complete work or answer questions. It is important to give students enough time to process their thoughts.

Oral Reading: The teacher will read work orally to students. Class work such as tests and literature circles may need to be read aloud to the student.

Timers: The teacher will use timers as an instructional tool. The use of timers is beneficial for students who have trouble completing tasks. Timers can be helpful so the student is aware of how much time they have to complete an assignment.

## **Students with 504 Plans**

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## **Gifted & Talented Strategies**

Extensions/Enrichments: Teachers will provide gifted and talented students with extension/enrichment projects. Students will be challenged to further their understanding, to apply acquired knowledge, and/or to produce something in reference to acquired knowledge.

Modify/Change Activities: Teachers will monitor and modify activities to accommodate those students who need to be challenged further. Additional reading, problem-solving, writing, or project work is necessary for those students who are ready to move on at a rate more accelerated than their peers. In this way, G & T students are provided the same opportunity for support as special needs students.

## **Students at Risk of School Failure**

Directions or Instructions: Make sure directions and/or instructions are given in limited numbers. Give directions/instructions verbally and in simple written format. Ask students to repeat the instructions or directions to ensure understanding occurs. Check back with the student to ensure he/she hasn't forgotten.

**Peer Support:** Peers can help build confidence in other students by assisting in peer learning. Many teachers use the 'ask 3 before me' approach. This is fine, however, a student at risk may have to have a specific student or two to ask. Set this up for the student so he/she knows who to ask for clarification before going to you.

**Alternate or Modified Assignments:** Always ask yourself, "How can I modify this assignment to ensure the students at risk are able to complete it?" Sometimes you'll simplify the task, reduce the length of the assignment or allow for a different mode of delivery. For instance, many students may hand something in, the at-risk student may jot notes and give you the information verbally. Or, it just may be that you will need to assign an alternate assignment.

**Increase One to One Time:** When other students are working, always touch base with your students at risk and find out if they're on track or needing some additional support. A few minutes here and there will go a long way to intervene as the need presents itself.

**Contracts:** It helps to have a working contract between you and your students at risk. This helps prioritize the tasks that need to be done and ensure completion happens. Each day write down what needs to be completed, as the tasks are done, provide a checkmark or happy face. The goal of using contracts is to eventually have the student come to you for completion sign-offs.

**Hands On:** As much as possible, think in concrete terms and provide hands-on tasks. This means a child doing math may require a calculator or counters. The child may need to tape record comprehension activities instead of writing them. A child may have to listen to a story being read instead of reading it him/herself.

**Tests/Assessments:** Tests can be done orally if need be. Break tests down in smaller increments by having a portion of the test in the morning, another portion after lunch and the final part the next day.

**Seating:** Seat students near a helping peer or with quick access to the teacher. Those with hearing or sight issues need to be close to the instruction which often means near the front.