

## Connecting Literature and Math

### #9: *Titch* by Pat Hutchins

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| <b>Introduction</b>                     | <p>Meet Titch, the main character in a book with the same name, by Pat Hutchins. Titch is littler than his brother and sister. Everything they have is bigger than the things that Titch has. Discover what happens when Titch plants a tiny seed.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Content Standards and Benchmarks</b> | <p><b>Content Standard: Algebra</b></p> <ul style="list-style-type: none"> <li>• Classifying</li> <li>• Ordering objects by observable attributes such as size, shape, number and other properties (sometimes referred to as seriation or sequencing)</li> <li>• Comparing and relating</li> <li>• Describing change</li> </ul> <p><b>Content Standard: Measurement</b></p> <ul style="list-style-type: none"> <li>• Showing an awareness of the attributes of time such as <b>sequence</b> (ordering of events such as yesterday, today and tomorrow) and <b>duration</b> (length of time such as minutes, hours and days).</li> </ul> <p><b>Benchmarks</b> will be included for each activity.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Materials to Collect and Make</b>    | <ul style="list-style-type: none"> <li>• Hand mirror. Prepare blank <i>Our Eye Color Graph</i></li> <li>• Gather materials to plant a flower: flower pot, potting soil, flower seed or bulb, small shovel, watering can, paint paddle</li> <li>• Make size sequence mat and size sorting cards (See <a href="#">Attachment #1 – Size Sorting Cards</a> and <a href="#">Attachment #2 – Size Sorting Mat</a>). Copy on cardstock, laminate and cut apart size sorting cards)</li> <li>• Make sequence Cards and Sequence Mat. (See <a href="#">Attachment #3 – Sequence Cards</a> and <a href="#">Attachment #4 – Sequence Sorting Mat</a>) Copy on cardstock, laminate and cut apart sequence cards)</li> <li>• Collection of mittens/gloves and container</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                      |
|                                         | <p><b>Benchmarks: 3.1 Shows enjoyment of books and stories and discussion of them</b><br/> <b>3.5 Understands that print conveys a message</b><br/> <b>3.14 Demonstrates the ability to order and sequence</b><br/> <b>5.8 Participates in group discussion</b></p> <p><b>Book:</b> <i>Titch</i> by Pat Hutchins</p> <p><b>First Reading of <i>Titch</i></b></p> <ul style="list-style-type: none"> <li>• Be familiar with the book, <i>Titch</i>.</li> <li>• Show the cover, give title, author and illustrator. (Explain that the author is the person who writes the words and the illustrator is the person who draws the pictures. In this book, Pat Hutchins is both the author and illustrator)</li> <li>• Invite children to look at the cover and describe who and what they see.</li> <li>• Expect that some children may say Titch is a girl and some may say Titch is a boy.</li> <li>• Say, “Let’s read and find out if Titch is a girl or a boy and what Titch is doing in the story.”</li> <li>• Read the story so all children can see the pictures in the book.</li> <li>• Read the second page: “His sister was a bit bigger.” and ask children if Titch is a</li> </ul> |

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|                                              | <p>boy or a girl.</p> <ul style="list-style-type: none"> <li>Follow up the reading by involving children in discussing their siblings. Ask if their brothers and sisters are bigger or littler than they are and some things they can or can't do that their bigger or littler brothers and sisters can do.</li> </ul> <hr/> <p><b>Second Reading of <i>Titch</i></b></p> <ul style="list-style-type: none"> <li>Show the cover, give title, author and illustrator.</li> <li>Show the title page and invite children to look at the clothes hanging on the line.</li> <li>Invite them to identify which clothes belong to Mary, to Pete and to Titch and to explain their answer. Refer to the pictures in the book if children need prompts.</li> <li>Read the story so all children can see the pictures in the book.</li> <li>Follow up the reading by inviting children to help retell the story.</li> <li>Show each page and invite a different child to tell what is happening on that page.</li> </ul> <hr/> <p><b>Third Reading of <i>Titch</i></b></p> <ul style="list-style-type: none"> <li>Show the cover and ask children to recall the title of the book.</li> <li>Give the author and illustrator and ask children if they remember what each does. Give them prompts if necessary.</li> <li>Read the story so all children can see the pictures in the book.</li> <li>Follow up the reading by involving children in a discussion about things that can change and things that can't.</li> <li>Show the picture in the book of Pete on his great big bike. Ask children if they think the size of Pete's bike will change and to explain their answers.</li> <li>Continue by asking the same question about Mary's bike and Titch's bike.</li> <li>Show the pages where Pete is holding the board and saw, Mary is holding the hammer and Titch is holding the nails.</li> <li>Involve children in discussing whether or not Pete will stay the same size or will he grow and to explain their answers.</li> <li>Continue by asking the same question about Mary and about Titch.</li> <li>Invite children to discuss their growth. For example, have they always been the same height they are now, or have they grow since they were babies? Will they continue to grow?</li> <li>Invite children to name other things that grow: flowers, trees, animals.</li> <li>Conclude by stating that some things such as bicycles and tricycles remain the same size, while children, animals, flowers and trees grow taller.</li> </ul> <p><b>Additional Benchmark: 5.9 Uses language to problem solve</b></p> |
| <p><b>Additional Language Activities</b></p> | <p><b>Benchmarks:</b> 3.5 Understands that print conveys a message<br/> 3.14 Demonstrates the ability to order and sequence<br/> 3.18 Shows an awareness of time concepts<br/> 5.8 Participates in group discussion</p> <p><b>Activity:</b> Review and Record the Events of the Day</p> <p><b>Materials:</b> marker board or chart sheet and marker</p> <p><b>Directions:</b></p> <ul style="list-style-type: none"> <li>Select a time each day to review the major events of the day in order of occurrence. This will usually occur in the afternoon before children start going home.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

- Involve children in reviewing the events in order and recording them on a chart sheet. Date the chart
- Read the chart back with the children.
- Post the chart where parents can see it when they come to pick up their children.
- Suggest that parents read the chart and discuss some of the events with their child on the way home.
- Review the chart with the children the next day as a reminder of what they did yesterday.

**What we did today:**  
 First we read the book, *The Very Hungry Caterpillar*.  
 Then we dug for worms in the Discovery Center. Later  
 when we went outside, we looked for worms.

**Benchmarks:** 3.10 Classifies objects conceptually (things that go together)  
 3.26 Identifies self as a boy or girl  
 5.9 Uses language to problem solve

**Activity: Classmate Classification**

**Materials:** piece of rope or strip of masking tape

**Directions:**

- Place a piece of rope or strip of masking tape on the floor.
- Choose a boy to stand on one side of the rope or tape and a girl to stand on the other side.
- Involve children in discussing what is different about the two children. If needed, guide children to recognize that one is a boy and one is a girl.
- Invite children one at a time to state where he or she should stand and to stand on that side of the rope.
- Count the number of girls and the number of boys and invite children to state which group has the most.

**Extension Activity: Color of Eyes**

**Directions:**

- Create a chart to graph eye color of the children in the classroom.
- Bring a hand-held mirror to group time and have each child look in the mirror and say color of their eyes.

**Our Eye Color**

|   |          |           |         |
|---|----------|-----------|---------|
| 7 |          |           |         |
| 6 |          |           |         |
| 5 | Jonathan |           |         |
| 4 | James    |           | Miguel  |
| 3 | Kennedi  | Trude     | Juan    |
| 2 | Sam      | Maria     | Sarah   |
| 1 | Ashley   | Elizabeth | Jackson |
|   | Brown    | Green     | Blue    |

- Designate a place in the room for each color of eyes of the children in the room.
- Place a sign in that area with the color of eyes written with that color marker.
- Invite each child to go to the appropriate area of the room.
- Count the number of children in each area of the room and invite children to state which group has most and which group has the least.
- Write a summary story.

### Our Eye Color

Five children have brown eyes. Three children have green eyes. Four children have blue eyes.

#### **Additional Benchmark: 3.5 Understands that print conveys a message**

- Benchmarks:**
- 3.5 Understands that print conveys a message**
  - 3.20 Uses senses to learn about the characteristics of the environment and to collect data (scientific process: observing)**
  - 3.22 Makes comparisons (scientific process: comparing)**

#### **Activity: Planting a Flower**

**Materials:** flower pot, potting soil, flower seed or bulb, small shovel, watering can, paint paddle

#### **Directions:**

- Involve children in planting a seed or bulb.
- Begin by showing the children the pages in the book, *Titch*, that involve the spade, the flower pot, the tiny seed, and the growing plant.
- Allow each child to add soil to the pot.
- Place the paint paddle in the pot, near the outer edge.
- Explain to children that the paddle will be used to determine if the flower is growing.
- Place the seed or bulb in a hole in the soil and cover it with soil.
- Explain to children that the seed will need water and sun to grow.
- Decide how much water is needed and how often to water and explain this to the children.
- Develop a chart with each child's name and the date they are to water the plant. Add to the chart how much water to use. Mark the amount on a plastic measuring cup and place it near the pot.
- Involve children in checking the chart to determine watering days and the person who is to water the plant that day.
- Check the plant each week and involve children in helping you mark on the paint paddle the height of the plant. Call attention to how much the plant has grown.

**Teacher Note:** *Consider conducting this activity outdoors and have several pots for planting. Children can not only measure the growth of each plant, but compare the growth of the plants in each pot. This will also add an area of interest to the playground.*

**Benchmarks: 3.14 Demonstrates the ability to order and sequence  
5.10 Follows directions in sequence**

**Activity: Simon Says**

**Materials:** none

**Directions:**

- Play the “Simon Says” game in which Simon (teacher) tells children to move different parts of their body in sequence. For example:
  - Blink your eyes and wiggle your nose
  - Smack your lips and touch your ears
  - Swing your arms and bend your elbows
  - Slap your knees and stomp your feet
  - Shrug your shoulders and scratch your back
- Add 3 commands in sequence as children are ready.

**Teacher Note:** *With 3 and 4 year old children always say “Simon Says” because most of them are not ready to understand they are not to move unless “Simon Says.”*

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**Benchmarks: 3.14 Demonstrates the ability to order and sequence  
5.10 Follows directions in sequence**

**Activity: Size Sorting Cards and Sorting Mat**

**Materials:**

Size Sorting Cards and Size Sorting Mat (See [Attachment #1 – Size Sorting Cards](#) and [Attachment #2 – Size Sorting Mat](#))

**Directions:**

- Place size sorting cards in individual zip lock bag (small) and place in a larger bag with sorting mat.
  - Allow children to explore and experiment with the cards.
  - Observe them with the materials. Do they place each set on the mat in sequence?
  - Ask questions and guide them in the activity. For example, “Can you tell me how these 3 bicycles are different? Can you show me how to place them on the mat from smallest to largest?”
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**Benchmarks: 3.14 Demonstrates the ability to order and sequence  
5.10 Follows directions in sequence**

**Activity: Sequence Cards and Sorting Mat**

**Materials:**

Sequence Cards and Sequence Sorting Mat (See [Attachment #3 – Sequence Cards](#) and [Attachment #4 – Sequence Sorting Mat](#))

**Directions:**

- Place sequencing cards in individual zip lock bag (small) and place in a larger bag with sequencing mat.
- Allow children to explore and experiment with the cards.
- Observe them with the materials. Do they place each set on the mat in sequence?
- Ask questions and guide them in the activity.

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| <p><b>Learning Environment</b></p>  | <p><b><u>Art Center</u></b></p> <ul style="list-style-type: none"> <li>• Add paper shapes of different sizes and colors</li> <li>• Add lids of 3 different sizes for tracing around.</li> </ul> <p><b><u>Dramatic Play</u></b></p> <ul style="list-style-type: none"> <li>• Add at least 3 plates and 3 cups of different sizes to the center.</li> <li>• Add a basket of socks or mittens, each with a mate in the basket, but not together.</li> </ul> <p><b><u>Manipulatives (or Math Center)</u></b></p> <ul style="list-style-type: none"> <li>• Add a container of nuts and bolts of different sizes, each bolt with a matching nut, but not together.</li> <li>• Add Size Sorting Cards and Sorting Mat.</li> <li>• Add Sequence Cards and Sorting Mat.</li> </ul> <p><b><u>Block Center</u></b></p> <ul style="list-style-type: none"> <li>• Place 3 different lengths of unit blocks in center: unit, double unit, and quadruple unit.</li> <li>• Place at least 3 empty paper towel or wrapping paper tubes, each a different length, in the center. Tubes can be cut into sections to make 3 different lengths.</li> </ul> <p><b>Teacher Note:</b> <i>Observe children as they play with the blocks and tubes. Make comments and ask questions that encourage them to compare and put in order the different sizes of the objects. For example, “I see you are building with the short and long blocks. Can you use the middle size block as you build?”</i></p> |
| <p><b>Transition Activities</b></p> | <p><b>Mitten Match</b></p> <ul style="list-style-type: none"> <li>• Use either real mittens or paper mittens, each pair different in color and/or design.</li> <li>• Keep one of each pair in a container for yourself and distribute the other half of each pair to the children.</li> <li>• Take one of the mittens from the container and ask the child with the matching mitten to transition to the next activity.</li> <li>• Continue this activity until all children have transitioned.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <p><b>Family Connection</b></p>     | <ul style="list-style-type: none"> <li>• Suggest that families plant flowers with their children and observe their growth.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <p><b>Additional Books</b></p>      | <p>Dunbar, Joyce. <i>Very Small</i>.<br/> Miller, Margaret. <i>Big and Little</i>.<br/> Miller, Margaret. <i>Now I’m Big</i> .</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <p><b>Assessment Ideas</b></p>      | <p>Refer to page 5 in this guide: Activities – <b>Size Sorting Cards and Sorting Mat</b> and <b>Sequence Cards and Sorting Mat</b> for activities to assess the following concepts and benchmarks:</p> <p><b>Content Standard: Algebra</b></p> <ul style="list-style-type: none"> <li>• Ordering objects by observable attributes such as size, shape, number and other properties</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

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|  | <p><b>Benchmark</b><br/>3:14 Demonstrates the ability to order and sequence</p> <p><b>To Assess:</b></p> <ul style="list-style-type: none"><li>• Invite individual or small groups of children to join you in the Size Sorting and Sequencing activities.</li><li>• Assess children’s competence by observing them in the activities and by listening to their responses as you ask questions and guide them in the activities.</li></ul> |
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