



Reading Use Your Math Power Books:

A First Reading of *Hatching Butterflies*

Goal: Students will enjoy and retell the story.

Book Summary

In *Hatching Butterflies*, the characters work together to solve an “add to” problem with the “change unknown”. They work to understand the problem and find the missing addend. Carlos and Hannah struggle as partners, finally figuring out how to share their thinking and work together successfully.

Before Reading

If your students have never worked on “add to” problems with the “change unknown”, give them a problem like this to work on in pairs prior to reading the story. A bit of time working together to make sense of this problem will prepare students to understand the thinking of the characters in the book. This can help them focus on the interactions and thinking of the characters in the story.

Justin’s class had 5 roses in a vase. Ms. Green gave them some more roses. Then they had 8 roses. How many roses did Ms. Green give them?

If your students are already comfortable with this type of problem, ask the following:

Think about a time when you were working on a math problem you hadn’t seen before. What was that like? What helped you?

Read and Discuss

Read the story. Have students retell the story building on each other’s ideas. This is a chance for your students to tell what they noticed about how the characters worked together without being told how to solve the problem by the teacher. Prompt with questions such as:

What happens in this story? What happens next? Did anything surprise you? What did the characters do? What were the characters feeling? Why?



Hatching Butterflies: Working with Partners

Goal: Children will gain insight into working productively with partners.

Prior to this lesson: A first and perhaps a second reading of Hatching Butterflies.

Rereading the book:

Reread the book Hatching Butterflies to focus on how Hannah and Carlos help each other learn. Stop at key points to have students talk about how the two children are learning to work together. Use key points and questions such as:

Pages 3 – 5: How do you know that Carlos and Hannah aren't helping each other on these pages?

Page 9: What does Carlos say that helps Hannah? What does Hannah say that helps Carlos? How does their conversation help them begin to work together?

Page 15: What do Carlos and Hannah do on pages 11-15 that helps them?

Page 20: How did Carlos and Hannah work together to share with the class?

Page 27: How do you know that Carlos and Hannah helped each other on pages 24 through 27?

A Role-Play: A Problem about Partners Working Together

Tell students they will think about a different interaction Carlos and Hannah might have had. Quietly explain these roles to two volunteers:

Carlos will explain how he wants to add on some butterflies.

Hannah will say she doesn't think so and not pay attention to his ideas.

Carlos and Hannah will continue talking but not really listening to each other.

Discuss this role-play. Prompt with questions such as:

What did you notice about how Carlos and Hannah worked together here?

What would you suggest they do to work together to help each other learn?

Class Reflection and Choices for Partner Reflection

Discuss students' ideas about working with partners. Prompt with questions such as:

When is it hard to work with a partner? What makes it easier? What ideas can our class take from our role-play and from Carlos and Hannah that will help us work better as partners?

Have students work on one of the following:

- Have students work with a partner to design a poster with ideas that will help the partners work together well.
- Have individuals write a reflection about how they can use their math power to work with a partner. Then have individuals read and discuss each other's reflections. How are they similar? How will these ideas help everyone learn? Students can revise their reflections based on the discussions.



Hatching Butterflies: Having Productive Math Discussions

Goal: Children will gain insight about how to communicate their thinking and questions in math class.

Prior to this lesson: A first and perhaps a second reading of Hatching Butterflies.

Rereading the book:

Reread the book Hatching Butterflies to students. Stop at key points to discuss how the characters have discussions as a class. Prompt with questions such as:

Page 17: How do you know that Carlos is uncomfortable? How did Ms. Green and the class help him?

Page 21: What evidence do you have that James, Tyler, and Kayla were listening to Carlos and Hannah?

Page 23: How did Carlos and Hannah help Tyler, Kayla, and Mia, and probably others too?

Page 25: Why did Carlos ask questions on pages 24 and 25? How did his questions help the class learn?

Page 29: How do you know that Carlos and Hannah listened to Jayden and Ellie?

What Do Students Do To Help Each Other Learn In Discussions?

Use the Reader's Theater script (following this lesson) to act out the class discussion on pages 16 – 24. Give out the ten roles for readers. Ask the audience to look for evidence of careful listening and explaining.

Discuss the evidence. Prompt with questions such as:

What evidence did you see that characters were listening to each other, thinking about each other's ideas, and helping each other?

Class Reflection and Choices for Reflection

Reflect on how your class can use the ideas from Ms. Green's class. Prompt with questions such as:

What makes it hard to take part in a class discussion? What can make it easier? What we can try to do in our class to be help everyone take part in our discussions? What can we do to help everyone learn from our discussions?

Have students work on one of the following:

- Have students work with a partner to list the ideas your class shared about having productive discussions.
- Have individuals make a list of the ideas that were brought up in the discussion. Then have partners share their lists with each other and look at what is the same and what is different. They can each revise their list to include more ideas based on this sharing.

READER'S THEATER SCRIPT: HATCHING BUTTERFLIES (PP. 16 - 24)

The parts: Ms. Green, Carlos, Jayden, Narrator for Thoughts, Narrator for Actions, Hannah, James, Tyler, Kayla, and Mia

MS. GREEN: Carlos, tell us how you and Hannah solved the problem.

CARLOS: (mumbling) I can't explain Hannah's way, but I can explain my way.

JAYDEN: What did he say?

MS. GREEN: Listen carefully everyone. Then you'll be able to explain what they did.

NARRATOR FOR THOUGHTS: "I hope I get this right," thinks Carlos.

NARRATOR FOR ACTIONS: Carlos puts a red mark and a blue mark on the class number line, just like on Hannah's. Then he draws their three jumps.

CARLOS: (in a loud voice) We used a number line. It helped us see how many butterflies we needed to add. The red mark shows the butterflies that have already hatched. The blue mark shows how many we want to have.

HANNAH: So, first we added 10, then 2 more, and then 1 more. That got us to 21.

NARRATOR FOR ACTIONS: Hannah writes a number above each jump.

NARRATOR FOR THOUGHTS: "Oh yeah, I forgot to say that," thinks Carlos.

MS. GREEN: I'm so glad you helped each other explain your strategy. James, can you tell us what they did?

JAMES: They started at 8 and jumped to 21 because the kids want 21 butterflies to hatch.

MS. GREEN: Any questions?

TYLER: (Looking puzzled) If they jumped to 21, does that mean they want 21 more butterflies to hatch? That would make too many butterflies. The cages would burst!

READER'S THEATER SCRIPT HATCHING BUTTERFLIES (CONTINUED)

KAYLA: The answer can't be 21. What is the answer?

NARRATOR FOR THOUGHTS: "Hmmm. Now I can't remember. We forgot to write down our answer," thinks Carlos.

NARRATOR FOR ACTIONS: Ms. Green looks at Hannah and Carlos.

HANNAH: We forgot to tell you. Those jumps are for the butterflies that need to hatch. So we need 13 more butterflies!

NARRATOR FOR ACTIONS: Carlos nods and writes 13 above the jumps.

MIA: Oh yeah. Add 10 plus 2 plus 1 more to get to 13.

JAMES: We got 13 more butterflies too, but we subtracted 8 from 21.

NARRATOR FOR THOUGHTS: "Oh no, subtraction again," thinks Carlos. "That's what Hannah did. I don't get that! Guess I have to ask a question now!"

NARRATOR FOR ACTIONS: Carlos slowly raised his hand.

MS. GREEN: Yes, Carlos.

CARLOS: Why did they get the same answer when they subtracted?

MS. GREEN: Interesting question! Turn and talk with your partners to see if you can figure out why.