

Three Act Tasks

Mathematical Modeling plus Cultural Relevance Makes Sense

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Three Act Tasks are:

- Inquiry-based problem solving
- Child-centered
- Reasoning- and modeling-dependent
- Powerful for building number sense

ACT ONE

Video, picture or math story that gets students excited about the math. Students **notice and wonder**. Students also start to figure out where the math is. Act One gives the students very little information and uses as few words as possible. Activates schema.

ACT TWO

Students are given **pieces of information** needed to solve the problem using the visual from Act One. Students work toward solving the problem, developing understanding and refining estimates.

ACT THREE

Students get the **last pieces of information** needed to solve the problem, solve it, and discuss how they solved the problem.

Sequence of Mathematical Modeling in Three Act Tasks

1. What do you notice?
2. What do you wonder?
3. Teacher asks: What do you need to know?
4. Make a Too-low estimate
5. Make a Too-high estimate
6. Make a reasonable estimate based on what you see and know
7. Act Two reveals more information
8. Use mathematical modeling (mental math, drawings, reasoning) to find an answer
9. Act Three--the big reveal where the answer is apparent. Students solve and discuss strategies.

Three Act Tasks Resources

1. [University of Houston Mathematics Education YouTube Channel](#)
2. [Graham Fletcher 3-Act Tasks](#)
3. [Robert Kaplinsky's Lessons](#)

Name: _____ Date: _____

Name of Three Act Task _____

1. What do you notice?

2. What do you wonder?

3. Main Question:

4. Estimate

Low Estimate

High Estimate



Put your best estimate on the line and label it.

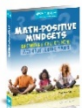
5. What information do you need to solve the problem?

6. Work the problem.

Answer.

Links to Carrie's Favorite 3 Act Tasks from [UHouston Math](#)

Title	Big Question	Notes
Multiplication and Division		
That Gummy Bear is HOW Big?	How many small gummy bears does the big gummy bear weigh?	Converting units of measure, candy
Spilled Milk	How much milk was spilled on the floor?	Converting units of measure, milk
Savage Rice	How many cups of rice does the bag contain?	Converting units of measure, rice
Piñata Party	How many Swee-Tarts fit in the piñata?	Multi-digit multiplication, capacity, piñatas
The Child is Hungry	How many eggs did the child take?	Volume, area model, Mandalorian
Potluck Trouble	Do I have enough banh to serve 20 people if each person eats one dumpling?	Arrays, Vietnamese dumplings
Dum Dum Drop	How many Dum Dums fit in the piñata?	Set model, piñata
Card Slots	How many trading cards fit in the binder?	Arrays, Pokémon trading cards
Oreo Ready to Count Calories?	How many calories are in the jumbo Oreo cookie?	Algebraic reasoning, Oreos
Penguin Sharing	If three penguins share a pack of mini M&Ms equally, how many candies will each penguin get?	Equal shares, division, skip counting, stop motion animation
Area		
Paper on Fire	How many hot fries will fit on the sheet of paper?	Length x width formula, Flaming Cheetos
Let's Fill the Space Among Us	How many Among Us fit on the paper?	Composing shapes area, Among Us game
¡Dale, Dale, Dale! – Piñata Mystery	How many Duvalin are in the piñata?	Arrays, Mexican candies, piñata
The Very Hungry Corgi	How many pieces of dog food does it take to cover a floor tile?	Arrays, dogs
Capacity and Volume		
Drizzle Drizzle	How long will it take for the drizzle to fill the jug?	Volume, time, proportional reasoning, backyard play
Lego My Box	How many Legos fit in the box?	Volume of rectangular prism, Legos®
De La Rosa Rows	How many Marzapan are in the box?	Volume of rectangular prism, Mexican candy
Build a Marble Run	How many marbles fit in the clear cup?	Estimation, marble runs, Build a Bear Boxes
Does This Tik Tok Hack Really Work?	Can you get three tall Starbucks drinks for the price of one?	Liquid capacity, proportional reasoning, fractions, digital skepticism, Tik Tok
Fractions		
Kiwi Slices	How many whole kiwis are in the bowl?	Concrete models for fractions, fruit
Fortnite Pizza	How should the pizza be partitioned so everyone gets some of the kind of pizza they want?	Whole partitioned into fourths and fifths, equal shares, Fortnite



Many of these teaching ideas can be found in [Math-Positive Mindsets: Growing a Child's Mind without Losing Yours](#) (Cutler, 2020). The easy-to-follow Q&A format tackles more than 100 of the most perplexing questions about helping children with math from preschool to fifth grade. For parents, teachers, and coaches.