The Algebra Game

"The game that is *more* than a game"

graphs analysis models explorations

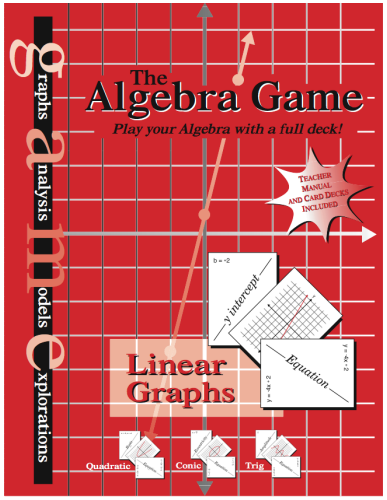
Four areas of study

Four sets of playing cards

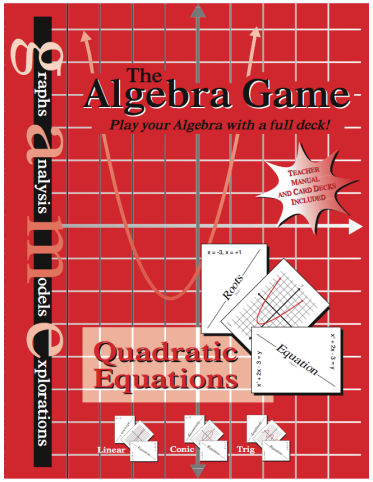
Four levels of difficulty

In one unique learning experience!

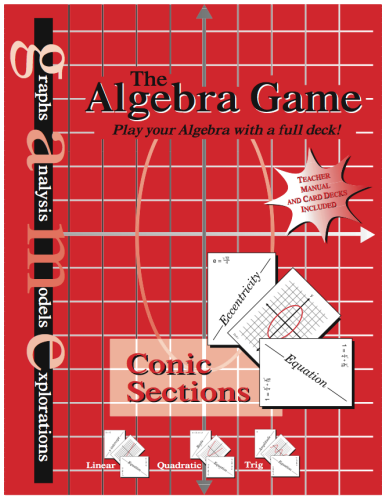
Four Topic Sets



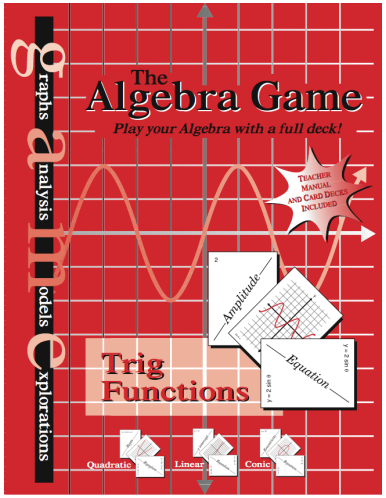
Linear Graphs



Quadratic Equations



Conic Sections



Trig Functions

Four sets of playing cards

decks a, b, c, and d in each Topic set

Four levels of difficulty

deck *a* is easiest and deck *d* is mixed practice

In one unique learning experience!

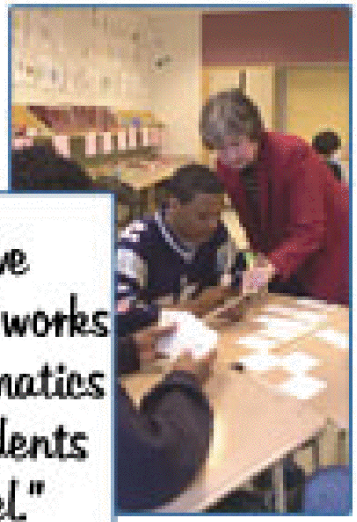
Play your algebra with a full deck!

It isn't for everyone…
It ***is*** for teachers and students who understand

the learning value of play.

- Hands-on
- Active participation
- Engaging
- Challenging
- Competitive

Yes, we ***are*** talking about algebra!



"Finally a cooperative learning experience that works well with serious mathematics and challenges the students at an appropriate level."

10th ANNIVERSARY

Celebrating 10 Years of

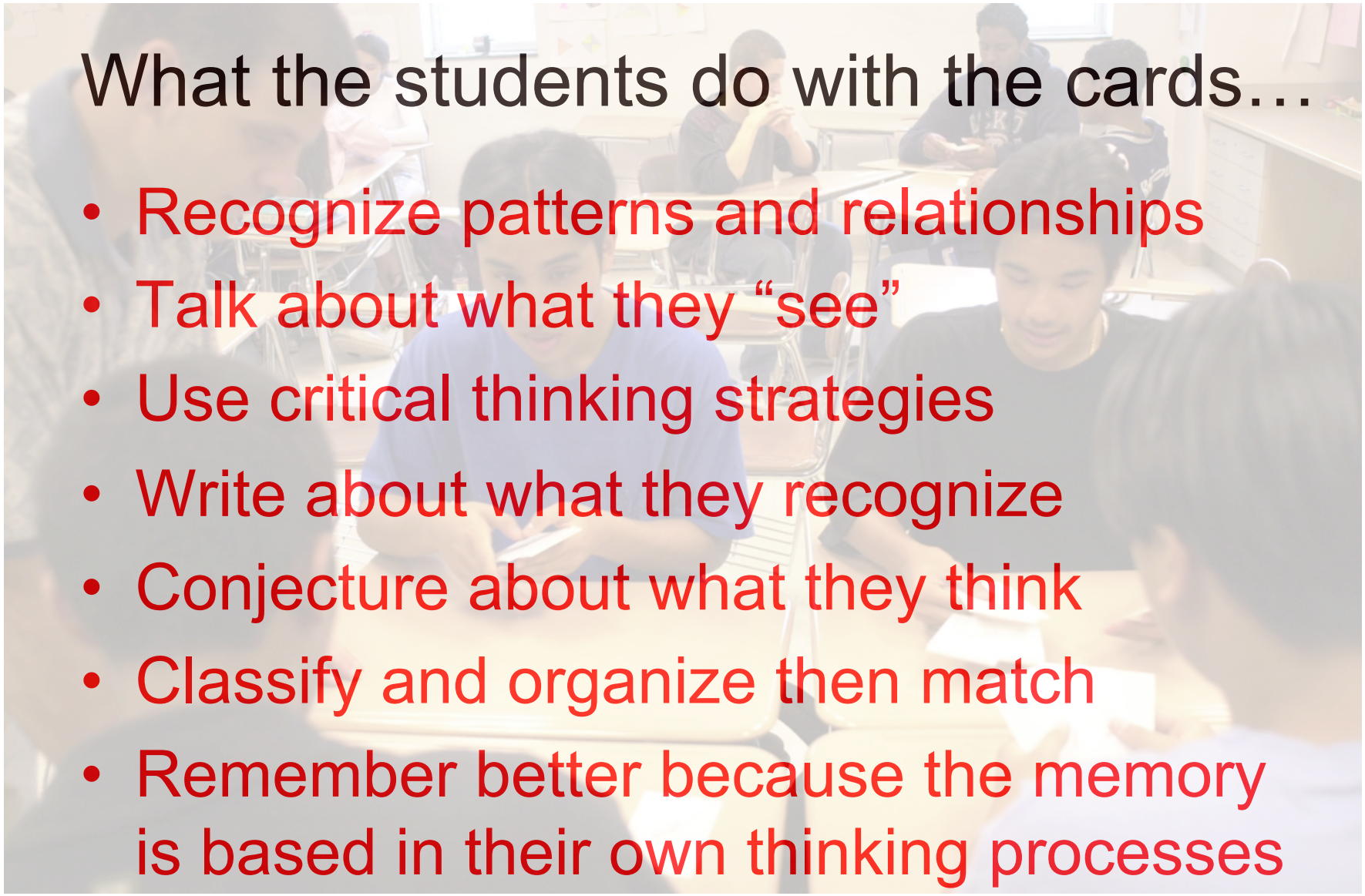
The Algebra Game

in classrooms!

2000 - 2010

How students benefit from using the decks…

- Feel a renewed hope of success
- Experience a safe environment for exploration *in algebraic concepts*
- Make their own sense out of patterns
- Take control of their own learning
- Focus on each piece first then put the pieces together with other cards for total picture. Each card isolates a feature.



What the students do with the cards…

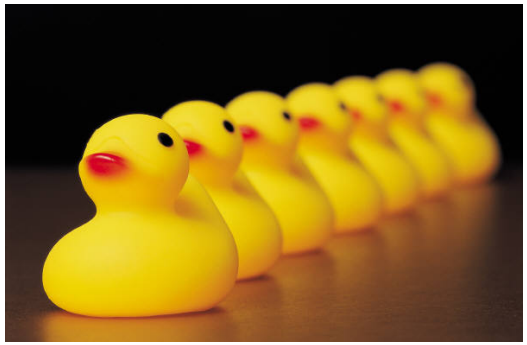
- Recognize patterns and relationships
- Talk about what they “see”
- Use critical thinking strategies
- Write about what they recognize
- Conjecture about what they think
- Classify and organize then match
- Remember better because the memory is based in their own thinking processes

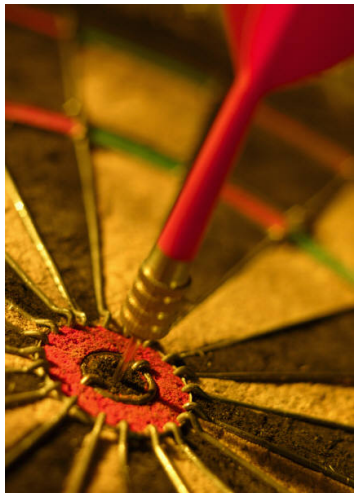
What teachers do with the decks…

- Observe what students are doing and redirect as appropriate
- Facilitate the student exchanges during the reporting out sessions
- Keep records in formative assessment format

What is saved..

- Time
- Energy
- Memory





What is lost…

- Futility
- Desperation
- Frustration
- Failures

Additional helpful materials…

- Patty paper for tracing for figure-ground determination
- Pocket charts to help in the sequencing
- Graphing calculators to

  illustrate an association

  with technology

Q. What are the benefits to my students and my classroom?

- Easy transition into cooperative learning
- Many opportunities for all students to write about their observations and describe their thinking
- Easy classroom implementation with ready to use record sheets for students
- High motivation for students for identifying patterns for equations and remembering relationships
- Many different assessment features
- Constructivism-based results
- Clear emphasis of algebraic and geometric representations
- The organizational structure is obvious to students
- Students actually enjoy the experience!

Q. How long will it take to prepare to use the card decks in my classroom?

- You can use the decks tomorrow when you get started with just a matching of two cards in a *Walkabout or Start Up* activity
- Many students immediately just want to shuffle and deal the cards to figure out the matches without your help
- Every activity has a sheet of discussion questions for a cooperative group of students to complete
- The only preparation that you may need to do ahead of time is to decide which cards to use for your lesson and then separate them from the deck(s). Many teachers have found the time-saving value of letting students do that for them - they are willing even though they may not know what the cards mean.

Q. How many decks do I need for students in cooperative groups in my classroom?

- If you want all groups to have same cards then you will need several Topic sets. Some teachers like different decks or groups of cards to generate better questions from students.
- The decks are easily separated into groups to fit your lesson focus. The decks are originally packed by graduating levels of difficulty.
- Each graph has four matching cards plus a standard form equation in the supplemental deck.

Q. How can the Algebra Game help my students pass the mandated graduation requirement math test?

- The overall structure of the cards allows students to organize the information therefore they remember the concepts longer.
- Completing the discussion questions requires that students describe their thinking, support their conclusions, and as a result can produce improved results on short-answer and open response-questions.

After the cards are matched…

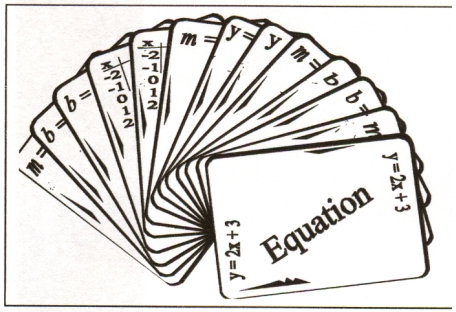
Play games to get a competitive edge…

♣ Gin Rummy

♦ Go Fish

♠ Concentration

♥ Solitaire



Use the clue sheet to keep the games *fair* !

Easy to learn, ***Easy*** to play, ***Easy*** to win!