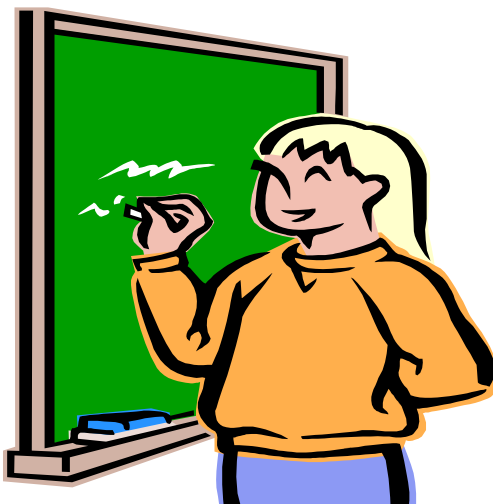


Math Tic-Tac-Toe or Bingo

*A Special Education Experience
For struggling learners*

Creating instructional unit resource guides based on principles of universal design and differentiated instruction.



Crystal Drenner
Carolyn Davidson
Tiffany Whitaker

WHEATFIELD ELEMENTARY SCHOOL

KANKAKEE VALLEY SCHOOL CORPORATION

WHEATFIELD, INDIANA

AUTHOR'S NOTE

Welcome to Math Tic-Tac-Toe or Bingo, a special education experience for struggling learners. I am a new teacher who is trying to make learning fun and creative for my students. But I am trying to create a unit that is versatile for all grades to use. The teacher implementing this unit has been a teacher since 2002, but this is her first year as a contracted teacher. She has been teaching and working with students privately and professionally since 1996.

Questions can be directed to Crystal at 219-956-3221 ext. 238 or cdrenner@kv.k12.in.us.

STANDARDS

WHAT STANDARDS WILL BE MET THROUGH THIS UNIT?

Keeping aligned with Indiana State Standards for Standard 2-Computation.

- K.2.1 Model addition by joining sets of objects (for any two sets with fewer than 10 objects when joined).
Example: Put together 3 pencils and 2 pencils. Count the total number of pencils.
- K.2.2 Model subtraction by removing objects from sets (for numbers less than 10).
Example: From a pile of 9 crayons, take away 6 crayons. Count the number of crayons left in the pile.
- K.2.3 Describe addition and subtraction situations (for numbers less than 10).
Example: In the last example, explain what operation you were using when you took away crayons from the pile.
- 1.2.1 Show the meaning of addition (putting together, increasing) using objects.
Example: Put together 3 pencils and 5 pencils. Tell how many pencils you have and explain what you are doing.
- 1.2.2 Show the meaning of subtraction (taking away, comparing, finding the difference) using objects. Example: Take away 6 blocks from a group of 10. Tell how many blocks are left and explain what you are doing.
- 1.2.3 Show equivalent forms of the same number (up to 20) using objects, diagrams, and numbers.
Example: Write 15 as $8 + 7$, $5 + 5 + 5$, $10 + 5$, $15 + 0$, $17 - 2$, etc.
- 1.2.4 Demonstrate mastery of the addition facts (for totals up to 20) and the corresponding subtraction facts.
Example: Add $11 + 8$, subtract $16 - 9$ add $4 + 7$.
- 1.2.5 Understand the meaning of the symbols $+$, $-$, and $=$.
Example: Use symbols to write the number sentence “one added to three equals four.”
- 1.2.6 Understand the role of zero in addition and subtraction.
Example: You start with 6 eggs and then give away 0 eggs. How many eggs do you have now?
- 1.2.7 Understand and use the inverse relationship between addition and subtraction facts (such as $4 + 2 = 6$, $6 - 2 = 4$, etc.) to solve simple problems.

Example: List three other facts using addition or subtraction that are related to $3 + 5 = 8$.

- 2.2.1 Model addition of numbers less than 100 with objects and pictures.
Example: Use blocks to find the sum of 26 and 15.
- 2.2.2 Add two whole numbers less than 100 with and without regrouping.
Example: $36 + 45 = ?$
- 2.2.3 Subtract two whole numbers less than 100 without regrouping.
Example: $86 - 55 = ?$
- 2.2.4 Understand and use the inverse relationship between addition and subtraction.
Example: Understand that $89 - 17 = 72$ means that $72 + 17 = 89$.
- 2.2.5 Use estimation to decide whether answers are reasonable in addition problems.
Example: Your friend says that $13 + 24 = 57$. Without solving, explain why you think the answer is wrong.
- 2.2.6 Use mental arithmetic to add or subtract 0, 1, 2, 3, 4, 5, or 10 with numbers less than 100.
Example: In a game, Mia and Noah are making addition problems. They make two two-digit numbers out of the four given numbers 1, 2, 3, and 4. Each number is used exactly once. The winner is the one who makes two numbers whose sum is the largest. Mia had 24 and 31; Noah had 21 and 43. Who won the game? How do you know? Show a way to beat both of them.
- 3.2.1 Add and subtract whole numbers up to 1,000 with or without regrouping, using relevant properties of the number system.
Example: $854 - 427 = ?$ Explain your method.
- 3.2.2 Represent the concept of multiplication as repeated addition.
Example: Lynn made 3 baskets each week for 4 weeks. Draw a picture to show how many baskets she made.
- 3.2.3 Represent the concept of division as repeated subtraction, equal sharing, and forming equal groups.
Example: Bob shared 10 cookies among 5 friends. Draw a picture to show how many cookies each friend got.
- 3.2.4 Know and use the inverse relationship between multiplication and division facts,
such as $6 \times 7 = 42$, $42 \div 7 = 6$, $7 \times 6 = 42$, $42 \div 6 = 7$.
Example: Find other facts related to $8 \times 3 = 24$.
- 3.2.5 Show mastery of multiplication facts for 2, 5, and 10.
Example: Know the answer to 6×5 .
- 3.2.6 Add and subtract simple fractions with the same denominator.
Example: Add $\frac{3}{8}$ and $\frac{1}{8}$. Explain your answer.

- 3.2.7 Use estimation to decide whether answers are reasonable in addition and subtraction problems.
Example: Your friend says that $79 - 22 = 27$. Without solving, explain why you think the answer is wrong.
- 3.2.8 Use mental arithmetic to add or subtract with numbers less than 100.
Example: Subtract 35 from 86 without using pencil and paper.

HELP!

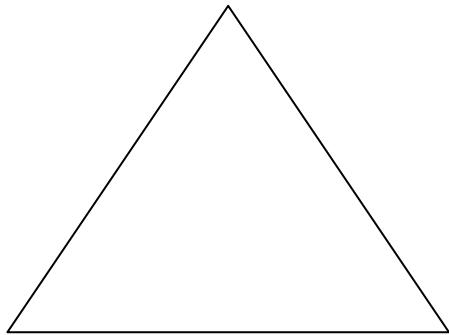
RESOURCES FOR LOCATING STATE STANDARDS:

Indiana Learning Standards: <http://www.doe.state.in.us/standards/>

ISTE: <http://www.cnets.iste.org>

Developing Educational Standards:
<http://www.edStandards.org/Standards.html>

MCREL: <http://www.mcrel.org/standards>.



PLANNING PYRAMID
What should students know?

Some students will know:

They will be able to demonstrate the simple concepts of multiplication and division from addition and subtraction and basic multiplication and division facts.

Most students will know:

Add and subtract whole numbers

All students will know:

Recognize numbers to 100.

TEACHER RESOURCES

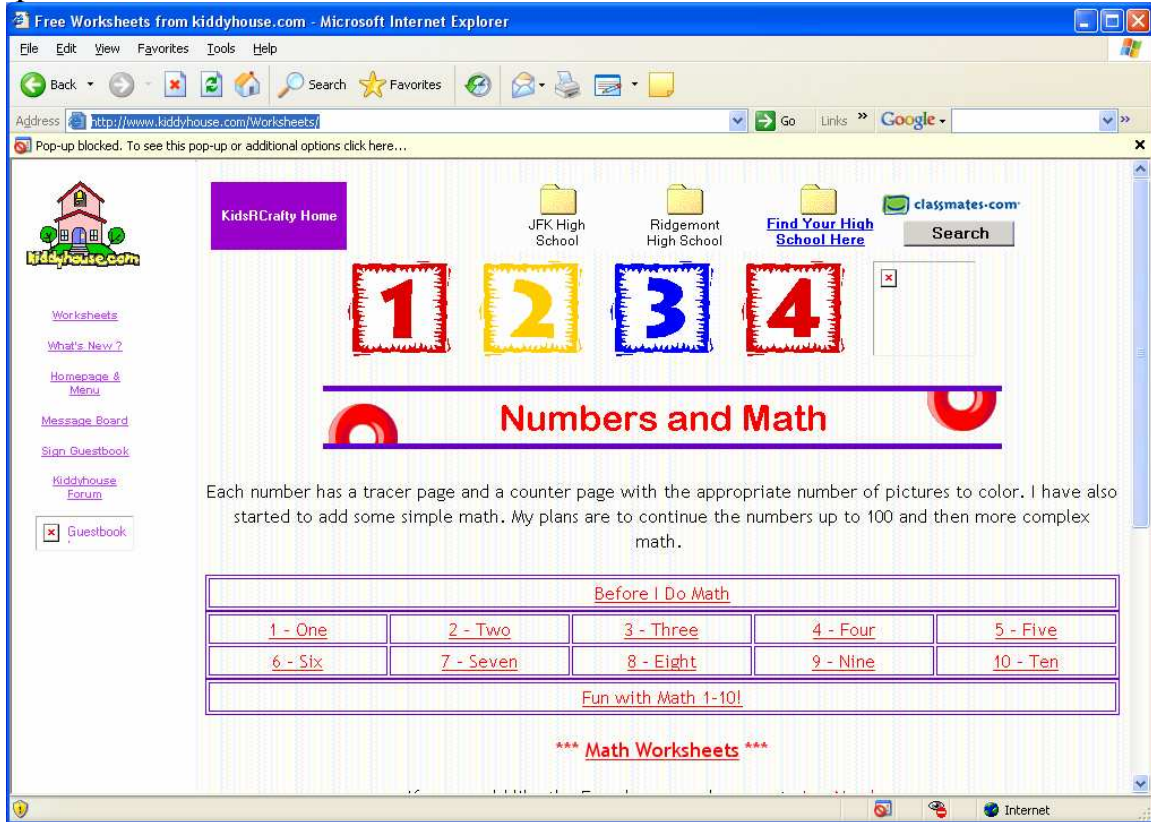
<http://www.abcteach.com/directory/basics/math/>

This site is dedicated to making several resources available at once to teachers. It provides links to various topics for the working classroom. You can also download worksheets and manipulative resources.

The screenshot shows the Microsoft Internet Explorer browser window displaying the abcteach website. The address bar shows the URL <http://www.abcteach.com/directory/basics/math/>. The website header features the abcteach logo and navigation links: Member Log In, Worksheets, abctools, and Membership. A search bar is located below the navigation links. A 'Popular:' section lists various categories: Month to Month, ABC Activities, Rain Forest, Teaching Extras, Center Signs, Math, Labels, Theme Signs, and Portfolios. The main content area is titled 'Math Worksheets!' and includes a list of links: 'Make a free math worksheet', 'Printable math worksheets', and 'Create your own math worksheets (membership required)'. Below this list is a paragraph explaining what a math worksheet is and its purpose. To the right of the main content is a 'Become a Member:' section with links for 'Join', 'Site License', and 'Renew'. Below that is a 'Free Newsletter Only:' section with a 'Your email address:' field and a 'Sign Me Up!' button. At the bottom right, there is an 'Attention Writers!' section with a link to 'submission guidelines' and an advertisement for 'Math Worksheets' with the text 'Having Trouble With Homework? BrainPOP'.

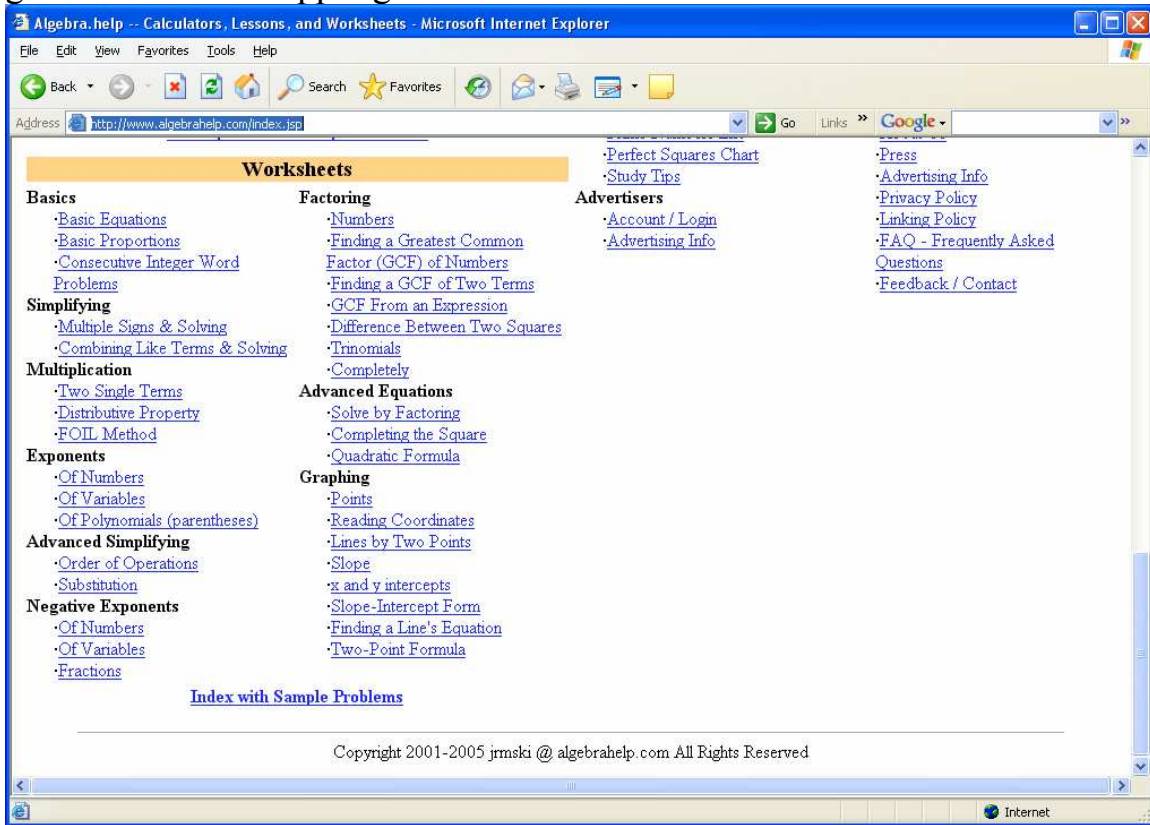
<http://www.kiddyhouse.com/Worksheets/>

This site is great for teachers and offers worksheets that are interactive. They also have a message board for teachers to share advice and ask questions.



<http://www.algebrahelp.com/index.jsp>

This website offers everything from basic math to algebra. Great for the 3rd grade teacher and upper grade levels.



LEARNER ACTIVITIES

<http://www.funbrain.com/>

This website is great for the student who learners via games. This site is setup for grades k-8. This is a very kid friendly site.



<http://www.funschool.com/>

This site is also kid friendly and offers educational games, via the computer. This site also offers downloads so the teacher can print items and use them in his/her classroom.



HELP! For locating instructional materials.

Google: <http://www.google.com>

Yahooligans! <http://yahooligans.yahoo.com/>

<http://www.math.com/>

<http://mathforum.org/dr.math/>

<http://www.aplusmath.com/>

ASSESSMENT

<http://rubistar.4teachers.org/index.php>

This site offers rubrics that are ready to use, but also allows the teacher create their own rubric. They also include links to lesson plans, downloads, and links to other websites to assist the teacher within the classroom.

RubiStar Home - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Address <http://rubistar.4teachers.org/index.php>

RUBISTAR Create Rubrics for your Project-Based Learning Activities

RubiStar is a free tool to help teachers create quality rubrics.
More | What a Rubric Is | Tutorial

Getting Started

Try it Out
If you are a first time user or want to show someone how RubiStar works, try this out! You can print a rubric made this way, but you cannot save or edit it online.
Create a New Rubric | Register

Save Your Rubric Online
Registered users can save and edit rubrics online for one year. You can access them from home, school, or on the road.
Register | Log In

Example Rubrics
Would you like to put a new spin on an old subject? Visit RubiStar's Inspiration Page or read Rubrics: Out of the Wild and On with the Project to find some innovative ways to get your class excited about learning.
Inspiration Page | Out of the Wild and On with the Project

Enhance Your Rubrics
RubiStar has partnered with Subjective Metrics, Inc to bring you Waypoint - Web-based software for efficiently evaluating and responding to student work using rubrics you can import from RubiStar.
Learn more about enhancing your RubiStar rubric.

Log In

First Initial: Last Name: Modifier:
Zip Code: Password: Login

Find a Rubric
View, Edit, or Analyze a Rubric
Please enter your Saved Rubric ID below:
View Edit Analyze

Search for a Rubric
Choose your Search Type below:

Search Rubric Titles
 Search Author Name
 Search Author Email Address

waypoint
Go In Waypoint

Google Relevant Links
Why we use Google ads >

Ads by Google

Teachers Lesson Plan
Award Winning Educational Movies & Lesson Plans. Make Learning Fun!
www.BrainPOP.com

What Type of Mom Are You?
15 fun questions that will show you what type of mom you really are!
www.AreYouAStackerMc

Teachers Needed
earn up to \$25-\$75 per Hour Work at Home - Start Today!
www.TeamFTS.com

Portfolio Rubrics
Tips and information about

Links to other assessment materials:

<http://school.discovery.com/schrockguide/assess.html>

<http://www.rubrics.com/>

<http://www.siec.k12.in.us/~west/online/eval.htm>

<http://www.brainchild.com/>

<http://www.quizlab.com/>

MODIFICATIONS

Planning for Academic Diversity

Learning Barrier	Possible Solutions	Web Link Resources
Student cannot read at grade level	Para-professional to assist. Offer flashcards or manipulative to assist.	www.edhelper.com www.funbrain.com www.brainpop.cm
Student has difficulty comprehending the material	Para-professional to assist. Give more basic and clear direction. Picture clues.	www.kidspiration.com http://www.cogcon.com/gamegoo/goeey.html
Student has difficulty mastering the vocabulary of the unit.	Para-professional to assist. Picture cards.	http://www.sheppardsoftware.com/web_games_menu.htm
Student needs the instructional material in a language other than English.	Non-applicable	Non-applicable.
Student has difficulty with handwriting (speed or accuracy).	Non-applicable	Non-applicable
Student needs additional challenge.	Non-applicable	Non-applicable
Student needs help with conducting research.	Non-applicable	Non-applicable