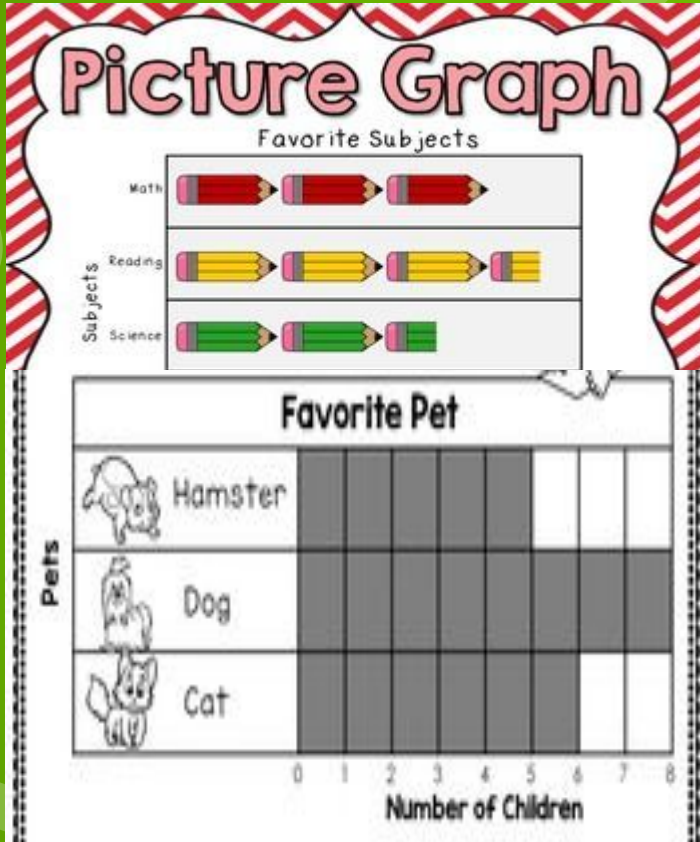


Lesson Presentation “Graphing”

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Math Structures II
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Standard:

AR.Math.Content.1.MD.C.6

- Organize, represent, and interpret data with up to three categories, using tally tables, picture graphs and bar graphs

- Ask and answer questions about the total number represented, how many in each category, and how many more or less are in one category than in another.

	TALLY	NUMBER
spider		11
ant		22
snail		3

Methods for Teaching

Standard: AR.Math.Content.1.MD.C.6

Research:

- × Depends on the teachers style of teaching
- × Don't use too much data and keep the values low
- × Make it interactive and allow students to collect their own data
- × Work in groups
 - × Working in groups helps develop higher level thinking, oral communication, leadership and self management

Methods for Teaching

Standard: AR.Math.Content.1.MD.C.6

Interview Findings:

- × Keep it simple and don't make the values too high
- × Allow students to work as a class or in groups to collect the data
- × Keep it appealing make the tables, graphs and pictures involved colorful and interesting to look out
- × Show different ways these graphs can be used for different subjects and everyday life
- × Start with taking a poll in the class
- × Have the student's count the different categories and values for each category
- × Demonstrate how these categories and values can be shown on the different graphs and tables
- × Ask lots of questions to keep the students involved in the creation of graphs and tables to help them retain what they have learned

Manipulatives

Standard: AR.Math.Content.1.MD.C.6

Research

- × Manipulatives aid learning by allowing students to progress from basic to reasoning skills.
- × Students can improve their mathematical thinking skills by using manipulatives.
- × Manipulatives can be beneficial in assisting students in thinking and reasoning in more meaningful ways. Manipulatives like pattern blocks, tiles, and cubes can help kids build well-grounded, connected understandings of mathematical topics by giving them concrete methods to compare and operate on quantities.
- × representing mathematical ideas in a variety of ways
- × connecting different concepts in mathematics

Manipulatives

Standard: AR.Math.Content.1.MD.C.6

Interview Findings:

It is important to use manipulatives for first graders.

- × Counters to help the students count numbers larger than fingers can handle**
- × Marbles**
- × Shapes (cut outs)**
- × Not candy (distracts the students)**

Manipulatives

Standard: AR.Math.Content.1.MD.C.6

EXAMPLE

unifix cubes

This technique sets the tone for our work with place value in a lovely way. The ability to assemble and breakdown numbers is important for a first-mathematical grader's basis.

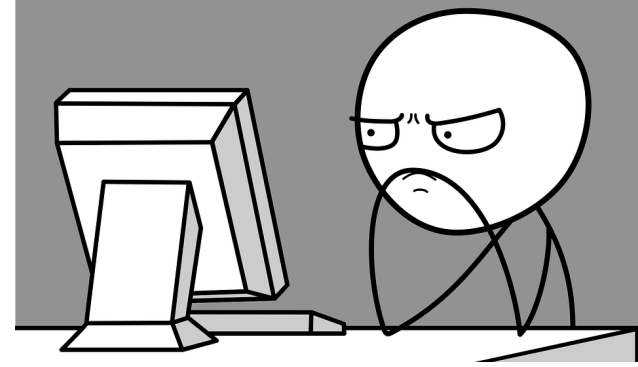


Technology

Standard: AR.Math.Content.1.MD.C.6

Research:

- × Technology can be helpful
- × Not always beneficial
 - × approaches it's totally different from in person.
 - × Can slow down the progress of education for some students
- × You can't really monitor & it can be distracting
- × Not all students have access to the technologies or are learning at a poor internet connection, issues connecting to live videos or the class.



Technology

Standard: AR.Math.Content.1.MD.C.6

Interview Findings:

× Pros

- × More communication between teachers and family
- × Technology like I-Ready math Curriculum

can help by providing games and interactive lessons

- × Can be engaging for younger students

× Cons

- × Student struggle
- × Parents struggle (time and capacity)
- × Lack access to technology

× Recommendations

- × Set up a fixed learning schedule
- × Coach the parents the education tools
- × Create goals to students



Videos

Standard: AR.Math.Content.1.MD.C.6

Research:

- ✗ Using videos for teaching helps to incorporate a different type of instruction
- ✗ Can make learning interactive
- ✗ Used to start a lesson and introduce a topic
- ✗ Visual learners can benefit from them
- ✗ Can show a different approach

MATH VIDEOS THAT TEACH GRAPHING

The collage features three items: a bar graph titled 'Favorite Pets' showing the number of students for each pet type (Cat: 4, Dog: 5, Fish: 2, Bird: 1); a pictograph titled 'Favorite Pets' where each smiley face represents 2 people (Cat: 2, Dog: 2.5, Fish: 1, Bird: 0.5); and a set of colorful markers and pencils.

Lucky Little Learners

Our Favorite Dinosaur

dinosaur	tally	total
stegosaurus		1
triceratops		6
T-rex		7

The bar graph has a vertical axis labeled 1 through 8. Below the graph are three columns labeled 'stegosaurus', 'triceratops', and 'T-rex', each with a small dinosaur icon below it.

What is a bar graph?

Videos

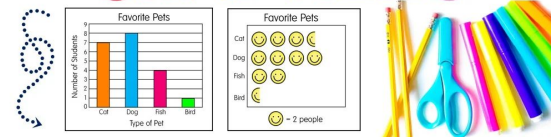
Standard: AR.Math.Content.1.MD.C.6

Interview Findings:

- ✗ Characters/cartoons are engaging and appealing to students.
- ✗ Videos can be nice to help keep the students interested
- ✗ Online learning can impact the way that students learn
- ✗ Some teachers include videos of themselves to clarify students' questions
- ✗ Supplemental youtube videos to enhance learning
- ✗ Students can have more in-depth discussions after seeing videos



MATH VIDEOS THAT TEACH GRAPHING



Conclusion

Standard: AR.Math.Content.1.MD.C.6

Before interview

- x Videos can be helpful for students and are a useful tool for making their learning experience more interactive
- x Support students in developing a foundational understanding that they can eventually apply to mathematical words and symbols.

After interview

- x Videos can be very useful. They are useful for showing different approaches or to reinforce learning. Some teachers make videos or find videos to help answer student questions.
- x Research indicates that using manipulatives helps improve the students in math classrooms.

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-

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