

Fun With Venn Diagrams

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Pre-Algebra

Grades 6/7

Topics:

Sorting/Venn Diagrams

Counting Problems

Problem Solving

Purpose:

Students will familiarize themselves with Venn diagrams. They will solve problems by sorting information and using counting techniques.

Materials:

- Tape for carpet
- Markers
- Worksheet (Venn Diagram Problem)...attached
- Notecards

Time Required (55 min):

Introduction-10min

Class problem with Venn diagram on floor-25 min.

(Extension) Partner work with markers-15 min.

Closure-5 min.

Procedure:

- Have students circle around floor diagram and discuss each part.
- Hand half the class notecards to tell them where they belong.
- Have other half draw diagram and how many in each part.
- Ask 4 questions to students that are sitting.
- Switch roles and have sitting students become the participants in diagram.
- Handout new set of notecards.
- Students sitting must draw the diagram.
- Ask 4 questions to students who are sitting.
- Review activity.

Extension:

- Marker Venn Diagram activity

Assessment and Evaluation Opportunities:

- Participation in group activity
- Effectiveness on partner worksheet

Content Standards:NCTM

- model and solve contextualized problems using various representations, such as graphs, tables, and equations.

- apply and adapt a variety of appropriate strategies to solve problems

Internet Sites:

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

<http://www.venndiagram.com/venn01.html>

<http://www.graphic.org/venbas.html>

<http://www.chaselink.com/tune/>

Comments:

Peer Feedback:

Class Activity with Venn Diagrams

- Talk about what each section of the Venn diagram stands for.
 - Give $\frac{1}{2}$ the class note cards that say what languages they speak. Pull desks out from middle of room so taped Venn diagram is showing.
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- Students will have to place themselves appropriately in the Venn diagram...they have these note cards:
 - 2 French and Spanish
 - 1 Spanish and German
 - 3 French, Spanish, and German
 - 3 French
 - 1 Spanish
 - 3 German
 - The Students still seated at desk will copy diagram and answer these questions:
 1. How many students speak German?
 2. How many students speak Spanish OR French?
 3. How many students speak French AND German?
 4. How many students speak Spanish BUT NOT German?
 - Roles will be switched and 2nd group will get these cards:
 - 1 Basketball
 - 2 Basketball and Track
 - 4 Basketball, Golf, and Track
 - 2 Basketball and Golf
 - 3 Track and Golf
 - 1 Golf
 - The group now sitting will have to copy diagram and answer these questions:
 1. How many students run track?
 2. How many students run track but do not play golf?
 3. How many students play golf and basketball?
 4. How many students play golf and basketball but not golf?

Problem Solving With Venn Diagrams

Complete the Venn diagram using the data given below. Then use the diagram to help you correctly answer the questions.

- There are 126 students in the 7th grade this year.
- 70 participated in Band.
- 95 took Gym.
- 66 learned Art.
- 43 took both Band and Gym.
- 12 decided to take Band and Art.
- 4 took Gym, Art, and Band.
- 56 took Gym and Art.

Questions:

1. Circle with the Green marker the students that took Gym and Art.
2. Circle with Red the students that have taken Gym and Band but not Art.
3. Circle with Blue students who have taken Band.
4. Circle with Yellow students who took Band or Art.
5. Circle with Purple students who took just Gym.