Class: 8th

Subject: Mathematics

Topic: Union and Intersection

Date: 22-04-26

Duration: 40 min

Class Strength: 50

Curriculum: Sindh textbook board Jamshoro

1. Specific Learning Objectives: Students will be able to:

- Find union and intersection of given sets
- Explain the difference between union and intersection
- Discover what union and intersection means by working in groups

2. Skills/Attitude: Logical reasoning, problem solving

3. Teaching Resources: Flashcards for activity (sets)

4. Classroom Management Rules & Strategy: teacher will announce the three R rules; Respect, respond, raise hand and a hand signal strategy will be used to remind the students to follow rules.

Teaching Method: Activity based, interactive lecture method

5. Procedure:

Initiation/Development: (15 min)

Teacher will show a paper on which two sets `A = {blue, yellow, pink}` `B = {red, yellow, orange}` Now she will remove curly brackets from the center and ask, "what happened now?"

Students' response: "This set becomes one." The teacher tells them that it is an example of *a union*.

Now she asks, "what is common in both sets?" *Students' response:* "yellow" means it is *an intersection*.

Definitions: Union: When we write all elements from both sets without repeat.

Intersection: When we write common elements of sets. The teacher will give examples of both.

Example: Union: A = {1, 2, 3, 4, 5} B = {4, 5, 6, 7} A ∪ B = {1, 2, 3, 4, 5, 6, 7}

Intersection: A ∩ B = {4, 5}

Activity: (15 min)

Now the teacher will divide the class into two groups. One representing set C = {pen, pencil, eraser, sharpener} and one set D = {apple, mango, banana, orange, sharpener} Teacher randomly gives these elements to students of both groups, calls them on board and then they will have to arrange themselves as set C and set D. Then they will arrange themselves to make C ∪ D and C ∩ D. This will help retain the concept in memory. The teacher will ask for an example of union and intersection from students.

Evaluation: (10 mins)

Teacher will conduct a board test to evaluate students' understanding of the concept.

Recap:

The teacher will tell students that when we combine the elements of both sets it is called *union* denoted by A ∪ B and when we write the common elements of the sets it is called *intersection* denoted by A ∩ B

Homework: Make two sets by using examples from home and then find their union.

6. Board Summary

Topic: **Union and Intersection**

A = {blue, yellow, pink} B = {red, yellow, orange}

Union: When we write all elements of both sets A ∪ B

Intersection: When we write common elements of both sets A ∩ B

A = {1, 2, 3, 4, 5} B = {4, 5, 6, 7}

A ∪ B = {1, 2, 3, 4, 5, 6, 7}

A ∩ B = {4, 5}