

Lesson Title: Parts of the Whole	
Estimated Lesson Time: One class period / extra-curricular session (~ 50-60 minutes).	
Overview & Purpose: Students will practice and discuss the importance of different roles in group work.	
Standards: Idaho Core Standards and Next Generation Science Standards (NGSS) relevant to the lesson. Idaho Core, SL.6.1: Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on topics, texts, and issues, building on other’s ideas and expressing their own clearly. Idaho Core, WHST.6-8.4: Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.	
Goals and Objectives:	<p>Students will be able to execute various role responsibilities within a group.</p> <p>Students will be able to discuss and evaluate the importance of each role to the group.</p>
Assessment:	<p><i>Formative</i> - Monitor student discussion and participation to ensure comprehension.</p> <p><i>Summative</i> - Review lab notebooks for understanding of the importance of distinct roles in group work.</p>

<p>Needed Materials:</p>	<ul style="list-style-type: none"> • Idaho TECH Lab Notebook • Pen or pencil, scratch paper • (Puzzles #1 and #2 - 12 wooden matches) • (Puzzles #3 and #6 – Scissors) • (Puzzle #4 - 6 unsharpened pencils) • (Puzzle #5 - 8 pennies)
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Teacher preparation requirements: In addition to this lesson plan, review the materials in the Teacher and Student activity books. Prepare laboratory stations with listed materials. This lesson is designed according to the time constraints of a typical class period / extra-curricular session, and recommends that you select only four of the six puzzles listed in the Student activity book. If time allows, you may include more puzzles. Please consider the material requirements of each activity while making this selection.

Student configuration: As team size dictates, the activity can either be done in small groups or as a whole-team activity.

<u>Lesson Procedures</u>	<u>Procedure Description</u>	<u>Estimated Time</u>
1. Introduction to Lesson	Inform students that they will be practicing a particular method of working as a group, in which formal roles are assigned to group members. Explain to students that they will take turns trying out several different roles in their groups. Emphasize to students that <u>learning about and practicing these different roles</u> is the most important part of the activities	5 minutes.
2. Role Descriptions	Have students read the role descriptions from the student activity book, and review each of the four roles (Guide, Organizer, Brainstormers, and Builders). Write each role on a board, including summarized bullet points of the responsibility of each. Review the Role Question Sheet from the student activity book, and explain to students that they will reflect on each role that they try.	5-10 minutes.

3. Puzzle 1	Review the instructions for the first selected puzzle from the student activity book. Assign an initial role to all students, and then instruct students to begin working on the puzzle. Emphasize the importance of group members working in their assigned role. After 7-8 minutes, prompt students to write answers to the questions on the Role Question Sheet for their currently assigned role.	10 minutes.
4. Puzzle 2	Review the instructions for the second selected puzzle from the student activity book. Assign new roles for the group, ensuring that all students are responsible for a new role. Instruct students to begin working on the puzzle, emphasizing the importance of group members working in their newly assigned role. After 7-8 minutes, prompt students to write answers to the questions on the Role Question Sheet for their currently assigned role.	10 minutes.
5. Puzzle 3	Review the instructions for the third selected puzzle from the student activity book. Assign new roles for the group, ensuring that all students are responsible for a role they have not previously performed. Instruct students to begin working on the puzzle, emphasizing the importance of group members working in their newly assigned role. After 7-8 minutes, prompt students to write answers to the questions on the Role Question Sheet for their currently assigned role.	10 minutes.
6. Puzzle 4	Review the instructions for the fourth selected puzzle from the student activity book. Assign new roles for the group, ensuring that all students are responsible for a role they have not previously performed. Instruct students to begin working on the puzzle, emphasizing the importance of group members working in their newly assigned role. After 7-8 minutes, prompt students to write answers to the questions on the Role Question Sheet for their currently assigned role.	10 minutes.

Summary & Evaluation Debriefing.	Lead students in a whole class discussion to consider how effective they found assigned roles to be. Prompt students to identify the role they were most effective at, as well as a team mate who was especially effective in a certain role. Have students write the name of the role they thought they were best at in their lab notebooks, along with a complete sentence detailing what they learned about performing that role effectively.	5-10 minutes.
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References and Resources:

Idaho Core Standards - <http://www.sde.idaho.gov/site/common/>

Next Generation Science Standards (NGSS) – <http://www.nextgenscience.org/next-generation-science-standards>

Idaho TECH website – http://ed.isu.edu/Idaho_TECH/index.shtml

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