

LESSON C (GROUPS C1 – C7)

- Rule 1:** Your group may use publically available developed lesson ideas for *inspiration*, but the goal of this lesson is to write your own lesson plan.
- Rule 2:** You must focus your lesson on an approved, specific, *Proportion and/or Percent* topic using approved reference resource materials. Each group must request a specific topic with associated reference resources. Once topics are approved, group numbers will be assigned.
- Rule 3:** You may use homework activities directly available to the elementary and middle school mathematics teacher community OR you may modify resource ideas into a homework assignment.

I. (Group work) Resource Research and Approval

- i) **Start and maintain throughout Lesson C—Your Personal Activity Log**
Include all time spent, class, individual & group meetings. Download the auto-add activity log spreadsheet from the Lesson page. Use the Lesson C tab.
- ii) **Find Resource references**
For Lesson C you may use any of the following approved resources (see your course lesson plan webpage) to find inspiration for lesson materials; if you find a different resource, you may seek “resource approval” by asking Laurie Burton about the resource. Ideally you will use two resources, if you find only one resource, please double check with Laurie that it is sufficient. While picking your resource, decide what grade level your lesson is for.
- Math Forum at Drexel
 - NCTM (anything on their website)
 - NCTM Illuminations (any Illuminations lesson)
 - NCTM Teaching Children Mathematics Journal (any article)
 - NCTM Mathematics in the Middle School Journal (any article)
 - Any elementary school or middle school mathematics textbook in the Hamersly Library collection.
- iii) **(Group work) Topic and Resource Approval**
Each group must pick two topics; ideally you will be assigned your first choice.
- 1) As a group, research ideas for two specific lesson topics on some portion of the elementary or middle school curriculum on **PROPORTIONS AND / OR PERCENTS**.
 - 2) Find at least two reference sources for each topic idea.
- Using the “Lesson.C.Topic.Approval” form (linked to Lesson Plan webpage):
- 3) List your specific topic ideas in order of preference (1, 2) along with your resource reference information (per topic) and the grade level of your proposed lesson (per topic).
 - 4) Submit your choices to Laurie for approval (see your course schedule). Please do this **electronically**.

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II. (Group work) Preparing Lesson Plan C and the Lesson C Presentation

To prepare for this lesson, your group must meet (one day in a class meeting at the library, week 4, and outside of class) and do at least the following:

- iv) **Obtain your approved lesson topic assignment**
The approved lesson list will be posted prior to the Lesson Plan C work day.
- v) **Determine Appropriate Standards**
Review the NCTM Standards and/or Curriculum Focal Points (see class web page for link to www.nctm.org, or the inside covers of your Math 211-212-213 book) and determine which standards and/or focal points your lesson is addressing.
- vi) **Set Group Duties and Roles**
Determine how the members of your group will share the preparation and class presentation (as evenly as possible) of your lesson ideas.
- vii) **Design and Write Lesson**
As a group; using approved resources as inspiration, design an overall lesson plan to teach to the class. Review Rule 1. Carefully prepare any needed materials.
- viii) **Review Class Assessment Rubric**
Review the Math 395 Presentation Rubric and double check your group has addressed each component of an effective lesson and lesson presentation.
- ix) **Create “Assign Groups” Plan**
Determine what technique you will use to split the class up for your lesson. The class should ideally work in six groups of three students each, but these groups may *not* be the assigned lesson plan groups. Your group must have some quick technique prepared to divide the class up. “Choose your own group” is not an option. If six groups of three students each does not work for your lesson, you may choose different size groups.
- x) **Write Outline Summary**
Type (1 inch margins, Arial font 12, double spaced please) an outline summary of your lesson plan.

Include notes on the grade level for your lesson, standards/focal points addressed, the assigned roles for each group member and your plan for splitting up the class into groups.

Include a list of the resources you are using for inspiration and how you are using them. For Internet Resources, include a URL. For article resources, include a copy of the article.
- xi) **Practice Presentation**
It is important that your group spends time practicing your lesson presentation. Practice and coordinate group presentation roles.

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xii) **Gather and List Materials**

Determine what materials your group will need for your class presentation (manipulatives, copies, etc.) and fill out the presentation material items on a Math 395 Materials & Copy Request Form.

III. (Group work) Prepare Homework C

To prepare for this homework assignment; your group must do at least the following.

xiii) **Create Homework Assignment**

You may use resources for inspiration, but you should write your own homework set. Avoid skill and drill.

xiv) **Assign Points**

Each homework assignment for Lesson C must be worth exactly 20 points (no extra credit options are allowed).

xv) **Label Homework Sheet**

In the top left corner; mark the title of the homework (Homework C#, where # is your group number) and the due date (see the course schedule).

xvi) **Write Homework Key**

As a group, write a homework key, including the points per question, for your Lesson C Homework.

xvii) **List HW Materials**

Fill out the homework item(s) on your group's Math 395 Materials & Copy Request Form.

IV. (Group work) Turn In Materials

At least one day prior to your presentation (see course schedule), turn the following items in to Laurie:

xviii) **Completed Materials & Copy Request with attached materials**

Your completed Math 395 Materials & Copy Request Form with all associated materials needed for copying.

Please submit ELECTRONICALLY (.doc, .docx or .pdf) if possible

A .doc version of the copy request form is linked to the Lesson Groups page. BE SURE (in the email) to Cc: the other two members of your group.

For materials submitted as a hard copy, please DO NOT STAPLE materials that will be photocopied.

xix) **Outline Summary**

The typed Outline Summary of your lesson plan (item x).
Hard copy (stapled) or electronically is OK.

xx) **Completed HW Key**

Your completed HW Key (item xvi).
Hard copy or electronically is OK.

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V. (Group work) Pick Up Materials: Presentation Day (9 a.m. office hours)

xxi) **Pick up Materials**

At least one group member should drop by Laurie's office to pick up your group's presentation materials and copies.

VI. (Group work) Give your Class Presentation (40 – 45 minutes total)

xxii) **Turn In Master Copy**

At the start of class, turn in one master copy of any lesson presentation materials that differ from the materials *copied* for the class that have already been submitted. These may include group notes, items to show at the document camera, etc. Laurie will need an exact copy of everything that you use during your presentation.

xxiii) **Give Lesson Presentation**

Your group should organize the class in small working groups as described in your *Outline Summary*.

Your group will present your lesson. You are completely in charge and part of your assessment will include your preparation and effective use of time. By the 40 minute mark, your lesson presentation must end.

xxiv) **Assign Homework**

At the end of your presentation, your group should pass out your homework assignment and give any needed remarks about the homework or required materials for the homework.

VII. Lesson Assessment (10 minutes)

After the lesson, the class (in small groups) will use the ***Math 395 Presentation Rubric*** and assess your group's lesson and presentation.

VIII. (Group work) Collect and Grade Homework

xxv) **Collect Homework**

One class days after your lesson presentation, your group will collect your assigned homework. You may divide the grading work as your group decides, but it is imperative that your group grades the homework uniformly. Note; part of your overall assessment will include your ability to grade fairly and reasonably.

xxvi) **Grade Homework & Record Scores**

Grade (outside of class) your group's homework. Record the homework scores on the provided class list. The members of your group do not do this homework assignment. For group members, record a score of **G** (for group). For students that do not turn in the homework, record a score of 0.

xxvii) **Return Homework & Scores**

One class day after collecting your group's homework assignment, before the beginning of class, return the graded homework and the score sheet to Laurie.

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IX. (Group work) Write Final Lesson Report

xxviii) Lesson Report

After your lesson presentation, meet as a group and type (1 inch margins, Arial font 12, single spaced please) a one – two page final report discussing your lesson. Include comments on, at least:

- The effectiveness of your preparation;
- The effectiveness of your presentation;
- Your ability to run the class;
- Student engagement;
- Student learning (refer to homework success / issues);
- Notes for changes and improvements you would make for a repeat lesson.

At the end of your report, include

1) A Group Score Breakdown. Possibilities include:

- Equal shares
- 50%-25%-25%
- Another distribution your group feels is fair

If your score breakdown is not equal shares, provide a justification.

2) Each group member must sign the end of the report

3) Attach individual activity logs for each student in your group to your report.