Mount Aloysius College
Education Department
Lesson Plan Format

Lesson Title: Measurement Conversion
Teacher Name: Ms. Weyant
Date Lesson is Taught: TBD
Subject/Discipline: Math
Grade Level: 3rd
Number of Students: 15 or more students
Allocated Instructional Time: 30 to 40 minutes
Multiple Intelligences Addressed:
Pennsylvania Common Core Standards or Early Learning Standards:
CC.2.4.3.A.1 Solve problems involving measurement and estimation of temperature, liquid volume, mass, and length

I. Rationale and Background (Danielson 1b: Demonstrating Knowledge of Students)

1. The students are familiar with both measurement systems (imperial and metric). They are able to appropriately measure and identify the unit of measurement in each system.
2. The purpose of this lesson is for students to understand how to convert the units of measurement within each system. For example feet to yards, inches to yards, and millimeters to meters.

II. Lesson Objectives (Danielson 1c: Setting Instructional Objectives)

TWBAT– solve conversion measurement problems to the best of their ability
TWBAT– Understand the concept of converting measurements of length to other units within the same measurement system

III. Materials (Danielson 1d: Demonstrating Knowledge of Resources)

Teacher's Material:
- Powerpoint
- Conversion Student Guide
- Desk of Cards
- Conversion Worksheet

Students' Material:

- Pencils

IV. Procedures (Danielson 1a: Demonstrating Knowledge of Content and Pedagogy) (Danielson 1e: Designing Coherent Instruction) (Danielson 3a: Communicating with Students) (3b Using Questioning and Discussion Techniques) (Danielson 3c Engaging Students in Learning)

A. Introduction, Motivation, and Setting the Stage

- "Today friends we are going to learn how to convert units of measurement so that we can compare two sets of measurements to one another. Have you ever had a situation where someone said to you I am so many inches tall and they ask you how tall you are and you said 4ft and so many inches? How can you compare your heights when you used two different units of measurement."
- The lesson today is going to help you understand how we can convert a unit and solve comparison problems

B. Lesson Body

Whole Group Lesson:

Begin the lesson by going through the lecture PowerPoint

- Review Knowledge
- Discuss Two Systems and Units
- Converting Metric Units
- Converting U.S (imperial) units
- Practice Problems
  - While going through the PowerPoint make sure children are comprehending the information and see if they have any questions

After going through the lecture, we will begin the whole class practice game

Explain the activity and directions to the students

- We are going to practice converting measurements with a deck of cards (just face-value cards in the deck)
  - Activity will split the class into two teams
  - Each team will send one person to the front table
  - The teacher will pick a card from the deck & will take the students to the unit they are at and what the end unit needs to be
    - Scrap Paper, a Conversion Guide, and pencils will be on the table
  - The two students will race to see who will get the correct answer first
    - Provide assistance as needed
  - Continue this game until everyone has had a chance to come up or until students become uninterested in the game

After the game return students to their own desks and have them get a pencil out to complete 3 questions individually

Individual Practice:

- Pass out the practice to each of the students
- Tell them not to begin until directions have been given and they receive the que to start
  - Try your best to answer the questions the three following questions, you can use your conversion guides, and raise your hand if you have any questions.
  - Begin working

- Work around the room checking on students' progress
- Tell them to turn in the work once they have finished

C. Strategies for Differentiated Instruction (Danielson 3e: Demonstrating Flexibility and Responsiveness)

1. Enrichment- During the card game partner up with Enrichment students to go head to head to provide more challenging conversion questions.
2. For a student with autism who doesn't like to be in the spotlight- allow this child to have the choice to complete this round for the game from their own desk rather than coming
3. English Language Learners- make sure that they understand the directions and what the procedure in the game will look like before giving them and the other team's player the cue to begin.

D. Closure/Conclusion

- Review the Units of each system and see how well they remember how to convert from one unit to another.
- Go over answers from the worksheet– see if anyone had any questions.

E. "If-Time Activity" (Danielson 3e: Demonstrating Flexibility and Responsiveness)

1. What will you do if you finish teaching the lesson early? This should relate to the topic that was taught.

- Pull out the desk of cards again and have the student play for a reward before moving on to the next subject

2. What should the students be doing if they finish their independent work early?

- Quietly finish any work they may have or go to the back folder to get a fun measurement worksheet

V. Communicating with Families/Homework Assignment/Independent Practice (Danielson 4c: Communicating with Families)

Prior to the start of the new unit on measurement, a newsletter will be sent home explaining the upcoming two weeks in math class. On the newsletter will be a 2-week calendar of the activities that will be taking place, resources for parents to use for homework help, vocabulary words, books, and a link to the unit plans. This can all be used to help inform the families about what to be discussing or ask the students when they want to know what took place in math class.

- Encourage students and family members to practice conversion problems at home

VI. Evaluation

A. Student Assessment (Danielson 1f: Designing Student Assessment) (Danielson 3d: Using Assessment in Instruction)

Formative assessment will take place when reviewing the student's individual worksheet and by observations of each individual student during the conversion card game.

B. Reflective Practice/Self-Evaluation (To be completed after the lesson is taught) (Danielson 4a: Reflecting on Teaching)

Reflect on your teaching experience and answer these questions:

1. What were two strengths of the lesson?
2. What are two areas of the lesson that need improvement?
3. What would I do differently, if I were to reteach this lesson?
4. What biases, if any, existed in the materials, activities, language, or interactions with children?
5. Did anything surprise me?

Be sure to add all resources such as handouts, PowerPoint or Google Slides, teacher-created materials, templates, examples, and assessment instruments.

Student Guide:

METRIC CONVERSIONS					
1 centimetre	=	10 millimetres	1 cm	=	10 mm
1 decimetre	=	10 centimetres	1 dm	=	10 cm
1 metre	=	100 centimetres	1 m	=	100 cm
1 kilometre	=	1000 metres	1 km	=	1000 m

IMPERIAL CONVERSIONS					
1 foot	=	12 inches	1 ft	=	12 in
1 yard	=	3 feet	1 yd	=	3 ft
1 chain	=	22 yards	1 ch	=	22 yd
1 furlong	=	220 yards (or 10 chains)	1 fur	=	220 yd (or 10 ch)
1 mile	=	1760 yards (or 8 furlongs)	1 mi	=	1760 yd (or 8 fur)

Conservation Worksheet

Converting Measurement Lengths

Direction: Convert the following U.S Imperial measurements

1) 60 inches= _____feet
2) 12 feet= _____inches
3) 216 inches= _____ yards
4) 15 feet= _____ yards
5) 5,280 yards= _____ miles

Direction: Convert the following Metric measurements

1) 33mm= _____cm
2) 3 ½ m= _____cm
3) 15 cm= _____mm
4) 1 ½ m= _____mm
5) 10000mm= _____ m
6) 750cm=_____m

Direction: circle the largest measurements in each group

7250 mm 350 cm 2 meters	5 miles 5,280 yards 1000 feet 3000 inches	12 feet 70 inches 6 yards 78 inches	80 meters 200 mm 900 cm