TITLE OF LESSON: Time Management

ESTIMATED TIME FOR LESSON: 50-75 minutes across two class periods that are one week apart

SUGGESTED FORMAT (check all that are appropriate):

- ☑ Individual in-class
- ☑ Collaborative in-class
- ☑ Individual homework
- ☐ Collaborative homework

OVERVIEW:

The key idea of this activity is to help students monitor their time and how it is spent as well as evaluate tasks as being urgent or important. This should help them be more able to meet their desired goals. In this activity, the mathematical content that will appear are pie charts, ratios, and unit conversions. An underlying mathematical concept is the idea of a *whole* and a *fraction of the whole* and the task of identifying what the *whole* is.

PREREQUISITE IDEAS AND SKILLS:
Students need to understand and be able to work with

- Units of time (e.g., 7 days in a week, 24 hours in a day, 60 minutes in an hour)
- Unit conversions between the units of time
- Ratios using the same units of time
- Students need to be able to work with ratios and proportions.
- With angle about the interior of a circle from 0° to 360° to form pie graphs
- Understanding fractions versus a whole
- Identifying what the "whole" is for a given situation/problem (e.g in the use of a pie chart)

MATERIALS NEEDED TO CARRY OUT LESSON:

- Presentation link (also available as a separate file in the MIP website): https://docs.google.com/presentation/d/1rFEN1KJwQ5HV7R7LXIEo2huQv8xAfHwCJi0EV7sS8zY/edit?usp=sharing

STUDY SKILLS UNDERSTANDING:

In engaging in this activity, students will develop a deeper understanding of:

- the amount of time that is available to them and how they spend their time
- the difference between important and unimportant activities; recognizing that completing important activities contribute to one's sense of wellbeing
- the difference between urgent and non-urgent activities; recognizing that urgent activities require immediate attention
- how to set short and long term goals
- how to plan their use of time to achieve their desired goals

INSTRUCTIONAL PLAN:

Preparation (before class)

- Instructor should read through the entire lesson.

Part 1

Lesson Introduction

The instructor explains to students that an important academic success skill is to learn to self-regulate, meaning that students should not only be aware but also take active, meaningful roles in monitoring and managing aspects that impact their learning, such as time management. Then, the instructor presents the presentation slidedeck, with its embedded activities, that goes over different types of tasks.

The slide deck explains what important and urgent tasks are, and provides a quadrant that helps students map out both dimensions for tasks. Important tasks include things that promote well-being both personal and in your workspace (classes, work, etc.). Urgent are things that require immediate attention. President Eisenhower talked about these dichotomies being used by a university president, but he did not give a citation for this.

Quadrant I represents Not Urgent but Important
Quadrant II represents Urgent and Important
Quadrant III represents Urgent and Not Important
Quadrant IV represents Not Urgent and Not Important

Activity 1: 2-Minutes Classification (built into the slide deck, it is to be completed individually)

Instructor: Give the students two minutes to think about what they spend their time doing and where these tasks fit in the quadrant below.

Note that many different answers are to be expected.

	Urgent	**Not Urgent**
Important	II	I
Not Important	III	IV

Activity 2: 3-Minute Group Reflection (built into the slide deck; it is to be completed in pairs or groups of three, but no more)

Instructor: Explain to students that if individuals spend their time on non-urgent tasks, before they become urgent, it is much less stress-inducing. Then have students turn to someone next to them to discuss why people might spend more time than they should in quadrants II, III, and IV.

The students will participate in active learning in this exercise as they select what the "whole" of their pie chart is. In one case it will be a day, and in another case it will be a week. They will then have to perform at least a couple of tasks:

- Determine what the fraction is for a particular activity
    - Possibly do a unit conversion for the fraction of the whole (e.g spent 30 **minutes** napping, but they are wanting to use 24 **hours** as their whole)
    - Calculate the percentage from the fraction
- Divide the pie chart.

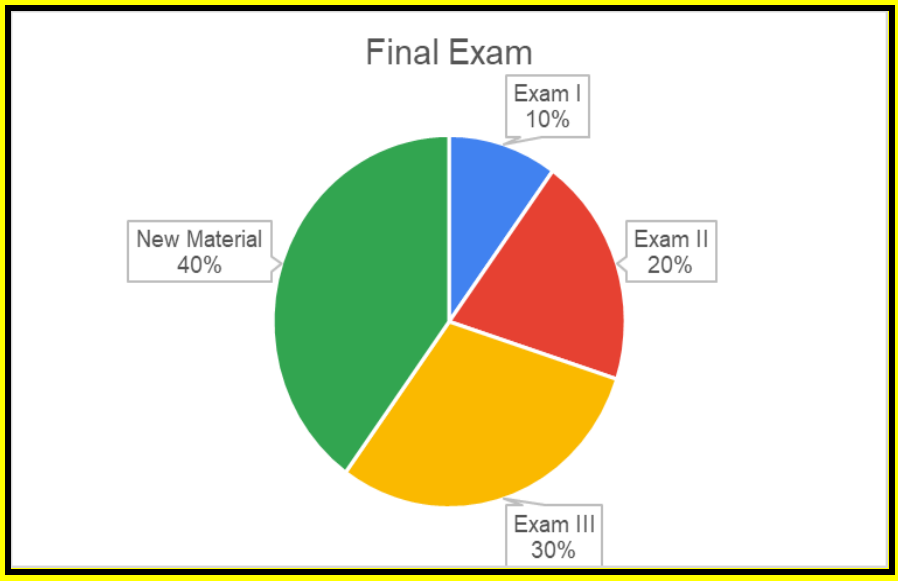
Afterward, they will evaluate their percentages to ensure it equals 100%, and they will check that their slices look to be the right proportion of the circle. In addition to these mathematical evaluations, the students will evaluate their use of time.

Note that many different answers are to be expected, but some reasons are listed on the next slide of the slide deck.

Review and Example (Pie Charts)

Give a quick review of how to make a pie chart. Here is an idea for an example related to percentages on a final exam; however, the instructor may have other examples they prefer or want to use in addition to this example.

> If 100 points comes from material covered on Exam 1, 200 points from material on Exam 2, 300 points from material on Exam 3, and 400 points comes from new material, then create a pie chart to represent the material distribution on the final exam.
>
> Pie chart should look like this:



Activity 3a: 5 minute individual pie chart work (instructions should be given verbally, instructor should circulate about the room as students work on this individually in class; however, students should be told that it is fine to confer with those around them)

Students: Create a pie chart for how much time you think you should spend on various things during a typical school day. Make sure to take into account the time you spend doing all things, including sleeping, grooming, commuting/driving, working, being in class, etc.

Instructor: Have student volunteers to show and explain their pie charts.

Activity 3b: 5 minute individual pie chart work (this can also be completed as Activity 3a was, or it can be completed as individual homework, if time is pressing)

Students: Create a pie chart for how much time you think you should spend on various things during a typical week. Make sure to take into account the time you spend doing all things you marked as well as other activities in which you typically engage over the weekend, including things like visiting with family, volunteering at a local shelter, playing golf, going to religious ceremonies, watching sporting events, going out socially, etc.

Instructor: Ask the students if there was anything that surprised them about their pie charts. After having a few volunteers share their results, then the instructor might prompt:

- Were any categories that were missed?
- Reflect on your pie chart. Where do you spend most of your time, in Quadrant I, II, III, or IV? Is this productive for your academic career?

Homework:

Prompt students to use a schedule for when their classes meet as well as any other work, athletic, family, or religious obligations they may already have as a part of a regular week. Then give the following homework assignment:

> *For one week, log how you spend your time each day. If you watched a movie, write it in a note (on paper or on your phone). If you went on a date, log how much time you spent. If you studied, log how much time you spent. If you work out, track how much time you spend. For one week, track how you spend your time. With log entries that involve tasks (do not do this for everyday things that we do, such as sleeping, grooming, or eating, but do this for tasks like doing homework, working out, playing on Xbox, etc.), you should write if the time spent falls in quadrant I, II, III, or IV. Create a pie chart of how you spend your time, group the categories however you like, but try to use no more than 12 categories. Here are some general ideas for categories: paid work, grooming, eating, sleeping, in-person socializing, leisure screen time (e.g., TV, computer games, social media), exercising, hobbies/other pastimes, cleaning/upkeep (e.g., cleaning house, doing laundry, filling up gas tank), religious activities, travel time (e.g., walking to and from school, driving to work).*
>
> *Once you have collected the information consider the following goals and write a short answer to each:*
>
> 1. State one to three goals to meet by the end of the semester.
> 2. State one to three goals to meet by the end of the school year.
> 3. State one to three goals to meet by the time of graduation.
> 4. State one or more goals that you have in 10-years.

<u>Part 2</u>

Part 2 takes place one week following the first part.

Instructor: Give a quick review for activities 4a and 4b of the following material.

The students will participate in active learning in this exercise as they select the different objects that they are wanting to compare (e.g minutes spent on exercise : minutes spent on homework). Once they select these objects, they will need to perform at least the following tasks:

- Sum up time (for the important versus unimportant ratios)
    - This can involve unit conversions depending on the selection they make (e.g they could select hours instead of minutes for the unit of measurement)

- Put the ratio in the correct order based upon what is suggested.

After performing these tasks, they will evaluate their ratios to see if they make sense. In addition to this mathematical evaluation, the students will evaluate how they used their time.

Review and Example (Ratios)

Provide a quick reminder of what ratios are and their importance.

> ***Definition:***
> A ratio is the comparison of two numbers or measurements that involve the same units. Ratio expressions can be expressed as a simplified fraction in the form $\frac{a}{b}$, with a colon in the form a:b and verbally in the form "a to b."
>
> Example: A store employee is doing an inventory of items near the register. They found 51 bags of chips, 62 candy bars, 47 bags of candy, 121 packs of gum, 16 bags of nuts, 20 soft drinks and 20 bottles of water.
>
> What is the ratio of candy bars to bags of candy?
>
> 62:47

Activity 4a: 5 minutes individual and group work (Students can compare with one another and are encouraged to do so)

Students: Look at how you logged your time, and look at your phones to see how much time was spent on your phones in the last week (e.g Using *Digital Wellbeing* in Android).

Activity 4b: 7 minutes individual and group work (Students should reflect individually, but share their ideas after making the ratios with one another)

Students: Discuss with a classmate how you used your time and how it compares to the pie charts you made one week earlier. Create and/or discuss the following:

- Create ratios for how much time was spent on your phone (or gaming or watching something) versus how much time was spent studying.
- Create a ratio for important vs unimportant tasks.
- Discuss how you could have used your time better or more efficiently (e.g "How much of your study time involved scroll-breaks?").
- Use the goals you created over the past week as a target to aim for as you consider different things you should do to spend your time better.

Instructor: Some ideas to share with the students at the end of the activity to ensure that some good ideas are mentioned for things the students should consider doing to better spend their time:

- Create a schedule in your phone's calendar that specifically sets aside time for studying and other important things and has reminders/alarms for such things
    - Be sure to schedule activities that are important for your health (broadly speaking) such as religious activities, exercise, healthy eating, and healthy socialization (e.g a simple meet up at a coffee shop)
- Set alarms for in the morning that will be consistent from week to week
- Look at your instructors' office hours and make note of them for when you need help
- Set restrictions within your phone to limit the amount of time that can be spent on Instagram, TikTok, etc.

Completing This Activity in One Class Period Suggested Flow:

Lesson Introduction
Activity 1
Review and Example for Pie Charts and Ratios
Activity 3a and 3b
Modified Activity 4a and 4b provided below

Modified Activity 4a and 4b

Students: Look at your phone to see how much time was spent on it in the past week (e.g Using *Digital Wellbeing* in Android). Reflect on how much time was spent in their past week doing other unimportant tasks (e.g XBox, partying, etc.). Complete the following.

1. State one to three goals to meet by the end of the semester.
2. State one to three goals to meet by the end of the school year.
3. State one to three goals to meet by the time of graduation.
4. State one or more goals that you have in 10-years.

Students: Discuss with a classmate how you have typically used your time and how it compares to the pie charts you made. Create and/or discuss the following:

- Create ratios for how much time was spent on your phone (and gaming or watching something) in the past week versus how much time you put in your pie chart from Activity 3b for studying and other Important tasks.
- Discuss how you should use your time better or more efficiently (e.g "How much time should be spent playing video games?").

- Use the goals you created as a target to aim for as you consider different things you should do to spend your time better.

Instructor: Some ideas to share with the students at the end of the activity to ensure that some good ideas are mentioned for things the students should consider doing to better spend their time:

- Create a schedule in your phone's calendar that specifically sets aside time for studying and other important things and has reminders/alarms for such things
    - Be sure to schedule activities that are important for your health (broadly speaking) such as religious activities, exercise, healthy eating, and healthy socialization (e.g a simple meet up at a coffee shop)
- Set alarms for in the morning that will be consistent from week to week
- Look at your instructors' office hours and make note of them for when you need help
- Set restrictions within your phone to limit the amount of time that can be spent on Instagram, TikTok, etc.

What in the Math is Going On?

Instructor: This activity requires students to use/understand at least three different concepts from mathematics: pie charts, ratios, and unit conversions. The point of this section is to provide students with a form of reflection on the kinds of mathematics they utilized.

Students: In this activity, you will reflect on the mathematical procedures from the tasks above and you will consider how you can utilize those procedures in another real life situation. Mathematically, this requires you to determine what the "whole" is, determine what the most appropriate units are, and to do unit conversions. The two procedures below help to demonstrate the usefulness of these visual and computational aids.

- Consider your use of a pie chart. This same kind of tool can be used for many real life scenarios such as budgeting money. What would a pie chart look like for how you spend your money over the course of a month?
    - Write a sentence or two describing how you determined what units to use, and how big your slices of the pie chart should be. What do you spend the most money on?
- Consider your use of ratios. This tool can be used for understanding how two different similar categories compare with one another. One example could be the number of times you texted your parents to the number of times you texted your best friend.
    - Write a sentence or two describing what this ratio means regarding your texting conversations. Who do you text the most and by how much more?

Instructor Reflection:

1. This activity addresses the need for Active Learning in what ways? How am I supporting active learning in the mathematics topics that are covered in this course? How am I helping students learn the need to engage with one another in the learning process? How am I impacting the culture of the classroom to be one that is active and not static?
2. This activity addresses the need for Meaningful Applications in what ways? How am I including meaningful application in the material that is covered in this course? How will this activity help the students in other courses now and in the future? What other life-skills can they become better at by engaging in this activity? To be more specific, if your course has an emphasis on circles, how can you connect the activities with the pie chart with sector areas or angles? Also, how can you connect the unit conversions and identifications in these tasks with other aspects of your course later on?
3. This activity addresses the need for Academic Success Skills in what ways? How am I supporting students in taking control of their own learning and helping them feel that they are capable and able to learn mathematics? How am I helping them feel like they not only belong but are an integral part of my math course? How are the activities in this course building fundamental vocabulary and concepts for their use in other courses or later in life (e.g pronouncing a ratio “1:2”; percentages; pie charts)?