

Introduction to Spreadsheets

ISTE Standard: 6: Creative Communicator (6a) - Students choose appropriate platforms and tools to effectively communicate and create digital content.

A. GRADE LEVEL: 7th-8th

B. SUBJECT: STEM/Technology

C. DATE: [Insert Date]

D. DURATION: 3 Days (45 minutes per day)

E. LESSON FOCUS: Introduction to Microsoft Excel basics: creating spreadsheets, entering data, and performing simple calculations.

F. MATERIALS:

- Computers or laptops with Microsoft Excel installed
 - Pre-made practice datasets (e.g., a list of student grades or grocery expenses)
 - Projector or smartboard for demonstration
 - Handouts or digital guides on Excel basics
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G. LESSON OBJECTIVES: By the end of this lesson, students will be able to:

1. Understand the purpose and structure of a spreadsheet.
 2. Create a new spreadsheet and enter data into rows and columns.
 3. Perform basic calculations using formulas (e.g., sum, average).
 4. Apply basic formatting to enhance the readability of their spreadsheets.
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H. PROCEDURES:

1. INTRODUCTION (Day 1):

- Begin with a brief discussion on what spreadsheets are and why they are useful in daily life.
- Show examples of real-life applications of Excel, such as budgeting, tracking attendance, or managing data for projects.
- Demonstrate the interface of Microsoft Excel, highlighting key elements: rows, columns, cells, and the toolbar.

Activity:

- Have students open Excel and explore the interface themselves, identifying the main components.
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2. HANDS-ON PRACTICE (Days 1-2):

Entering Data:

- Teach students how to create a new spreadsheet and enter data.
- Provide a sample dataset (e.g., a list of items and prices) for practice.

Performing Calculations:

- Demonstrate how to use basic formulas:
 - =SUM() to calculate the total.
 - =AVERAGE() to find the average.
 - Simple arithmetic like =A1+B1 for addition.
 - Guide students through creating a table with calculations based on the dataset.
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3. OBSERVATION AND DISCUSSION (Day 2):

- Ask students to analyze the results of their calculations. For example, "What is the average expense?"
 - Encourage them to discuss how this skill could be applied in managing personal finances or school projects.
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4. GENERALIZATION (Day 3):

- Teach formatting tools: bolding, coloring cells, and adjusting column width to make spreadsheets easier to read.
- Discuss the importance of organizing data clearly.

Activity:

- Students create their own mini-project: a monthly budget spreadsheet using hypothetical expenses.
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5. ASSESSMENT:

- Review students' spreadsheets for:
 - Correct data entry and structure.
 - Proper use of formulas for calculations.
 - Application of formatting techniques.
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Note for Safety:

Ensure students save their work frequently to avoid losing progress. Stress the importance of handling shared computers responsibly by logging out and not tampering with others' files.

Note for Accommodation:

For ELL and ESE students:

- Provide step-by-step written guides with visuals.
- Allow extra time to complete activities.
- Pair them with peers for support or provide one-on-one guidance as needed.

For advanced learners:

- Challenge them to use more advanced formulas or explore additional features, such as charts or conditional formatting.