

Worthwhile Rubrics: History, Uses, Options, and Tools

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Introduction

- Lost in the shuffle between course developers, limitations of Learning Management Systems, instructors, and students is a more "humanizing pedagogy" wherein rubrics and grades can provide better value towards understanding concepts (Mahmood & Jacobo, 2019).
- **Today's session will cover:**
 - Some historical context
 - Drawbacks and benefits of using rubrics
 - Several styles of rubrics
 - Development tools:
 - Links to LMS rubric instructions
 - Links to free rubric creation websites
 - Information about using Excel and Word

The concept of "grades"

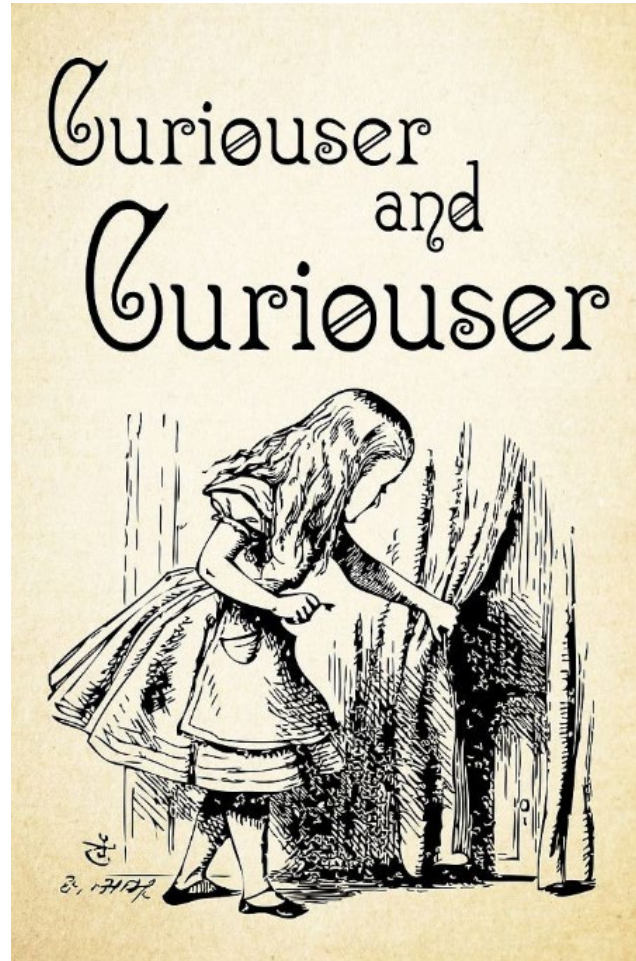


Illustration by John Tenniel from *Alice's Adventures in Wonderland*, 1865 (in public domain)

The concept of "grades"

Yale

- 1785 – Optimi, Second Optimi, Inferiores, and Periores.
- 1813 – 4.0 scale, later changing to 9.0, then back to 4.0.

1848 – Horace Mann introduced age-grouped curriculum and delivery based on the Prussian system (Turner, 2010)

Others were developing pass/no pass and other methods

University of Michigan

- 1867 – P (passing), C (conditioned), and A (absent).

Harvard

- 1883 – First school recorded as awarding a "B" grade.
- 1886 – Class I through Class V grades.

Mount Holyoke College

- 1897 – First to use A, B, C, D, E, F along with percentages (under 75% = F). (Durm, 1993)

Early 20th century rubrics

- Key people:
 - Joseph Mayer Rice (1857-1934)
 - Edward Lee Thorndike (1874-1949)
 - Milo Burdette Hillegas (1872-1961)
- 1894 – J. M. Rice gave his students a spelling test meant to test the effectiveness of how spelling was being taught (Love, 1962).
- 1903 – Rice was using a 5-pile general scale for grading: Excellent, Good, Fair, Poor, or Failure (Hudelson, 1923).
- 1904 – E. L. Thorndike published a book about measuring achievement. This is considered the impetus for academic grading measurement development (Love, 1962).



Early 20th century rubrics

- Noyes (1912) wrote about "a concrete scale of measurement for composition" that would "make it hard to mere opinion to control" grades (p. 532).
 - Hillegas and Thorndike:
 1. ~100 people rated 83 compositions from best to worst.
 2. 27 best examples (plus two others) then rated by over 500 teachers, scholars, and psychologists (Johnson, 1913).
 - The resultant **Hillegas Scale** graded 10 norms, and the overall scale ranged from **0 to 937**, out of which a percentage could be assigned. While the idea was lauded, application was deemed difficult and the lack of grade/maturity level as a condition was questioned as impractical by many (Thomas, 1913).

A little more background

- Thorndike (1918) himself noted the complexity of assignments and the fact that all things possess quantity and quality.
 - "Great care should be taken in deciding anything about the fate of pupils, the value of methods, the achievement of school systems and the like from the scores made in a test, unless the significance of the test has been determined from its correlations" (Thorndike, 1918, p. 22).
- Over the years, there have been controversies and pushback in using rubrics.
- Popham (1997) identified 3 main features that must be present:
 - Grading criteria (what)
 - Explanation of quality (how good)
 - Scoring scheme (earnings)

Drawbacks of rubrics

- Some consider rubrics too rigid (Chowdhury, 2019).
- Individualized feedback helps to justify numeric grades but should more explicitly point out strengths and weaknesses, areas for improvement, and even offer motivation (Chan & Luo, 2022).
- The grades resulting from rubric evaluations are often perceived as just an "outcome" instead of true feedback (Chan & Luo, 2022).
- Some students may feel assignment instructions not specifically mentioned in the rubric are therefore unimportant (Chowdhury, 2019).
- The law of distal diminishment is a warning not to separate a rubric from its original context (Turley & Gallagher, 2008).

Benefits of rubrics

- Uniformity and fairness is supported (Chowdhury, 2019).
- Well-designed rubrics can provide guidance in breaking work into manageable parts and lead students through steps to self-assessment (Dueck, 2021).
- Rubrics save time in grading, and may bolster student motivation to do well (Ito, 2015)
- Substituting for another teacher is made easier when grading rubrics are used (Ito, 2015).
- Rubrics might reduce grading complaints (Arcuria & Chaaban, 2019).



- In short, a good rubric can make it easier for both student and teacher – and therefore, the institution itself.

What we want

- A balance between quantitative and qualitative feedback within a framework that makes grading fair and consistent.



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Rhetoric and other considerations

- **Field trip!** Word identifiers for various levels of achievement: <https://www.brown.edu/sheridan/teaching-learning-resources/teaching-resources/course-design/classroom-assessment/grading-criteria/rubrics-scales>
- Some sources promote using the fewest possible number of criteria when writing rubrics (Duerr, 2019).
 - This may make it more difficult to write categories that truly meet the needs of the assignment.
- Task-specific assignments may need a different rubric style than other kinds of assignments (Ragupathi & Lee, 2020).

Annotated Bibliography Assignment

Holistic

| Level | Achievements |
|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Meets all expectations (A) | Chose six appropriate sources. Presented correctly written reference entries. Wrote both summative and evaluative comments. Ensured that every annotation met the required length. Formatted per instructions. |
| Acceptable (B) | Chose six appropriate sources. Presented written reference entries; there may have been minor errors. Wrote both summative and evaluative comments. Ensured that most annotations met the required length. Formatted mostly per instructions. |
| Developing competence (C) | Chose six sources, but at least one was not appropriate for master's work. Presented written reference entries; there may have been minor errors. Wrote summative comments; evaluative comments may not have been fact-based. Ensured that most annotations met the required length. Formatted mostly per instructions. |
| Below expectations (D) | Chose only five sources, and/or more than one was not appropriate for master's work. Presented written reference entries but with major errors. Wrote summative comments; evaluative comments may not have been fact-based. Ensured that some annotations met the required length. Formatted somewhat per instructions. |

Holistic

Assignment criteria are grouped so that only one response is chosen by the instructor.

Pros:

- Emphasizes overall achievement (Skibba, n.d.).
- Saves grading time.
- Does not take very long to create.

Cons:

- Relies on generalizations without attention to details.

Descriptive Essay

Analytic

| | Excellent (3) | Emergent (2) | Needs Improvement (1) | Score |
|--------------------------------|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|-----------|
| Organization of ideas | Paragraphing met instructions. | Paragraphing mostly met instructions but the boundaries of the introduction or conclusion are unclear. | Paragraphing did not clearly show the flow of ideas OR the entire essay was presented in just one paragraph. | 2 |
| Overall length | Overall length/detail fulfilled assignment parameters of 400-500 words. | The overall length/detail was only 300-400 words or significantly more than 500 words | The overall length/detail was less than 300 words but at least 250. | 3 |
| Descriptive content | Details were descriptive without emotional or opinionated connection per instructions. | Details were descriptive but demonstrated some emotional or opinionated connection. This may have included first person wording. | Details did not provide true description and may have included first person wording. | 3 |
| Writing mechanics | There are few to no writing errors. | There are some writing errors. | There are too many writing errors that detract from readability. | 2 |
| Total points out of 12: | | | | 10 |

Scale:

A = 11-12

B = 10

C = 9

D = 8

F = less than 8

Analytic

Parameters are explained in prose and organized in leveled categories.

Pros:

- Good for problem-solving assignments (Skibba, n.d.).

Cons:

- Development takes more time.
- Student work might not fully fit each category.

Single-point

Controversial Topic Presentation

| Needs improvement | Criteria | Meets/Exceeds expectations |
|------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|
| | Debate topic is clearly stated [15] out of 15 points | Great topic choice, and very strong introduction |
| You chose utilitarian, but seemed to gravitate comments towards virtue ethics instead. This made it a little confusing for the audience. | A strong argument using metaethics, normative, deontological, utilitarian, or virtue ethics is presented [15] out of 25 points | |
| | Resources were appropriate to the topic and meet selection parameters given in the instructions [20] out of 20 points | Excellent sources (note that you have a virtue ethics source, which could have helped the argument). |
| | The PowerPoint slides are designed for easy reading [15] out of 15 points | Excellent visuals, thanks |
| A little more practice before talking in front of others is always helpful. Slow down a little and work to avoid "um." | The vocal presentation during the live session was clearly practiced [20] out of 25 points | |

Total points:
[85] out of 100

Single-point

Criteria may be accompanied by a point or percentage structure; either the student met the expectations or they did not. Instructor-input commentary is expected.

Pros:

- Works well for developmental projects to "benchmark" expected outcomes (Duerr, 2019).
- May not take long to develop.

Cons:

- Does not take into consideration criteria that falls between acceptable and not acceptable.

Free Form

Music Research Paper Assignment

| Parameter | Comments | Possible points | Earned points |
|-----------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|---------------|
| Composer biography is covered. | Very good, except his death year is incorrect; Bach died in 1750. | 25 | 23 |
| History of the work is explained. | Good start here. A major omission is that the Christmas Oratorio is actually a set of six cantatas, and that Bach did not use the same librettist for all of them. This caused some inconsistencies. | 30 | 24 |
| Musical terminology is correctly used. | Remember that "song" is not a term used for oratorio/operatic solo pieces; these are arias, duets, instrumental pieces, etc. | 10 | 8 |
| At least three appropriate sources were used | The first two listed works were well chosen. The last one is from Wikipedia, which per the instructions is not a suitable source for college work. Please do be more careful. | 15 | 10 |
| MLA formatting and citation/works cited are included with few errors | Very good MLA work here, thanks. | 10 | 10 |
| Writing style is formal with no first-person wording, and there are few if any writing errors | Be careful with "we" (first person plural). Check for comma splices and a few capitalization errors. | 10 | 6 |
| Point deductions are made if the assignment was submitted late. | | | |
| Total Points | | 100 | 81 |

Free Form

Parameters and point ranges are accompanied by instructor-input commentary.

Pros:

- Allows for individualized feedback and partial points.
- Rather easy to develop.

Cons:

- May take longer to grade (writing the feedback).
- Points awarded within each section may be somewhat subjective (Ito, 2015).

Free Form (variation)

Basic Excel Assignment

| Parameter | 4 | 3 | 2 | 1 | 0 | Comments |
|------------------------------------------------------------|----------|----------|----------|----------|----------|----------------------------------------------------------------------------------------------------------------|
| All required content was included (see instructions) | | X | | | | Everything except the monthly tax was included |
| All calculations were accomplished via formulas | | | X | | | Cells in columns F and H needed to be calculated by formula, not hand-input. The other calculations were good. |
| Formatting is easy to read and includes borders, color | X | | | | | Looks very professional, thanks. |
| Conditional formatting was applied to the bottom row | | | | | X | This was missing; check the textbook page 42 to learn about this |
| The file and the worksheet tab were named per instructions | X | | | | | This was done well. |
| Total points from each column: | 8 | 3 | 2 | 0 | 0 | Points earned: 13 |

Scale:

A = 20-18

B = 15-17

C = 12-14

D = 9-11

F = 0-8

Free Form (variation)

This variant assigns points within a set scale in separate columns. Some call this another kind of single-point rubric and others call it analytic.

Pros:

- Column values can easily be added.

Cons:

- Each criteria needs to be worth the same value for this to work.

Checklist

Beginning HTML and CSS Assignment

HTML file:

- The DOCTYPE tag is included and is correct.
- There are properly placed html, head, and body tag pairs.
- A correctly placed title tag pair includes suitable content.
- The language is declared in the beginning html tag.
- A link tag correctly connects the html file to a CSS file.
- At least two different levels of heading tag pairs are used in the body.
- An explanatory paragraph is coded per instructions and includes a CSS class.
- A bulleted or numbered list is correctly coded.
- An image is placed in a file named "images."
- The image is properly coded for the page and includes alt text.
- A comment with the student's name and date is inserted in the head.

CSS file:

- The body includes a correctly defined font-family declaration.
- h1 headings are styled for a defined hexcode color.
- A class is defined for the paragraph that includes a border.
- Margins are declared for at least one selector.

Scale:

A = 14-15

B = 12-13

C = 10-11

D = 9

F = 8 or less

Total checked boxes: 11 out of 15

Checklist

Demonstrated skills are listed and checked only if the actions were indeed demonstrated

Pros:

- Works well for outcome-based assignments.
- Easy to create.

Cons:

- Not all skills might work in this format ("Types, n.d.").
- All items have the same value towards the grade.
- Some checklists become too long/wieldy.

Sliding Scale

Math Assessment

| | | | | | | | | | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|----------|---|------------|---|------------|---|---------|----|
| Student shows an understanding of strategies, patterns, and processes. | | | | | | | | | |
| Novice | | Emergent | | Acceptable | | Proficient | | Mastery | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | ⑩ |
| Excellent work explaining your strategies and especially in finding the Fibonacci pattern in exercise #4. | | | | | | | | | |
| Student's submission contains correct answers. | | | | | | | | | |
| Poor | | Emergent | | Acceptable | | Proficient | | Mastery | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | ⑨ | 10 |
| Overall good but the decimal points in exercises #7 and #8 should have been included in the answer; they were not to be rounded. | | | | | | | | | |
| Student shows their work, and explains clearly the processes used. | | | | | | | | | |
| Poor | | Emergent | | Acceptable | | Proficient | | Mastery | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | ⑨ | 10 |
| Again, overall you did well, but use the most logical operation such as 4×8 instead of $8 + 8 + 8 + 8$. | | | | | | | | | |
| Student created a graph and then analyzed the data with fine detail. | | | | | | | | | |
| Poor | | Emergent | | Acceptable | | Proficient | | Mastery | |
| 1 | 2 | 3 | ④ | 5 | 6 | 7 | 8 | 9 | 10 |
| Make sure you read instructions carefully; steps 2 and 6 were missed, resulting in a graph that had too many errors. This made it more difficult to analyze the graph. | | | | | | | | | |

Total Points: [32] of 40 possible.

Sliding Scale

A consistent point structure is shown in grid format (starting with 1 or 0) for each criteria. A section for instructor feedback for each parameter is most helpful.

Pros:

- Can show growth when the same scale is used for subsequent assignments (Mahmood & Jacobo, 2019).
- Easy to grade.

Cons:

- Sections for comments need to be included, as numeric values alone may not provide enough reasoning for grades.

Option: Likert Scale

- Similar to sliding scale rubrics.
- This makes use of a numeric scale, typically an odd number, to identify polar opposites:

1 2 3 4 5 6 7

Option: Developmental rubric

- This is for formative feedback based on instructor comments; it does not typically include numeric or letter grades.
- Often considered a subset of Analytic rubrics – but could be organized in any form.

Common LMS rubric instructions

- Bright Space (D2L):
 - https://documentation.brightspace.com/EN/le/rubrics/instructor/managing_rubrics.htm
- Blackboard (Anthology):
 - <https://help.blackboard.com/Learn/Instructor/Ultra/Grade/Rubrics>
- Canvas (Instructure):
 - <https://community.canvaslms.com/t5/Instructor-Guide/How-do-I-add-a-rubric-to-an-assignment/tap/1058>
- Moodle:
 - <https://docs.moodle.org/401/en/Rubrics>

Free online rubric creation sites

- iRubric:
 - <https://www.rcampus.com/indexrubric.cfm>
- Rubistar:
 - <http://rubistar.4teachers.org/index.php>
- Teach-nology:
 - https://www.teach-nology.com/web_tools/rubrics/general/
- Quick Rubric:
 - <https://www.quickrubric.com/r#/create-a-rubric>
- Rubric Creator:
 - <https://www.rubriccreator.com/rubrics/create>

DIY: Excel worksheets

| Complete | Criteria | | | | | |
|------------|-------------------------|----------|----------|----------|----------|--|
| x | Item #1 | 4 | | | | |
| x | Item #2 | | 3 | | | |
| | Item #3 | | 3 | | | |
| x | Item #4 | | | | 1 | |
| x | Item #5 | | | | | |
| x | Item #6 | | | | | |
| x | Item #7 | | | | | |
| x | Item #8 | | | | | |
| | Item #9 | | | | | |
| 7 | Total (out of 9) | 4 | 6 | 0 | 1 | |
| 78% | Grade | | | | | |

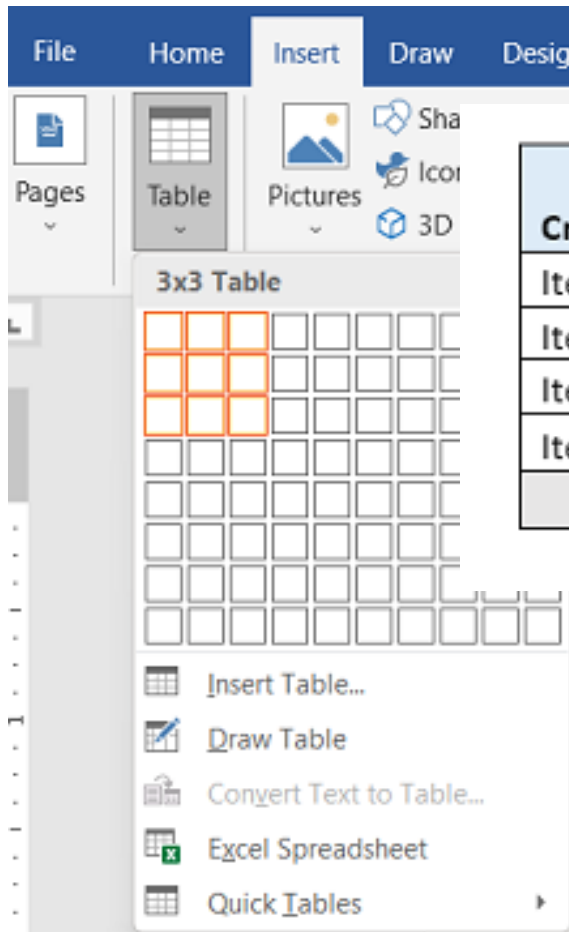
| Criteria | | | | | Comments |
|-----------------------|----------|----------|----------|----------|----------|
| Item #1 | 4 | | | | |
| Item #2 | | 3 | | | |
| Item #3 | | 3 | | | |
| Item #4 | | | | 1 | |
| Subtotals > | 4 | 6 | 0 | 1 | |

Total >

Style with borders, cell color, font changes, text alignment, merging cells, etc. Apply "wrap text" option to cells expected to contain more content.

Use formulas to add points, calculate percentages, etc.

DIY: Word tables

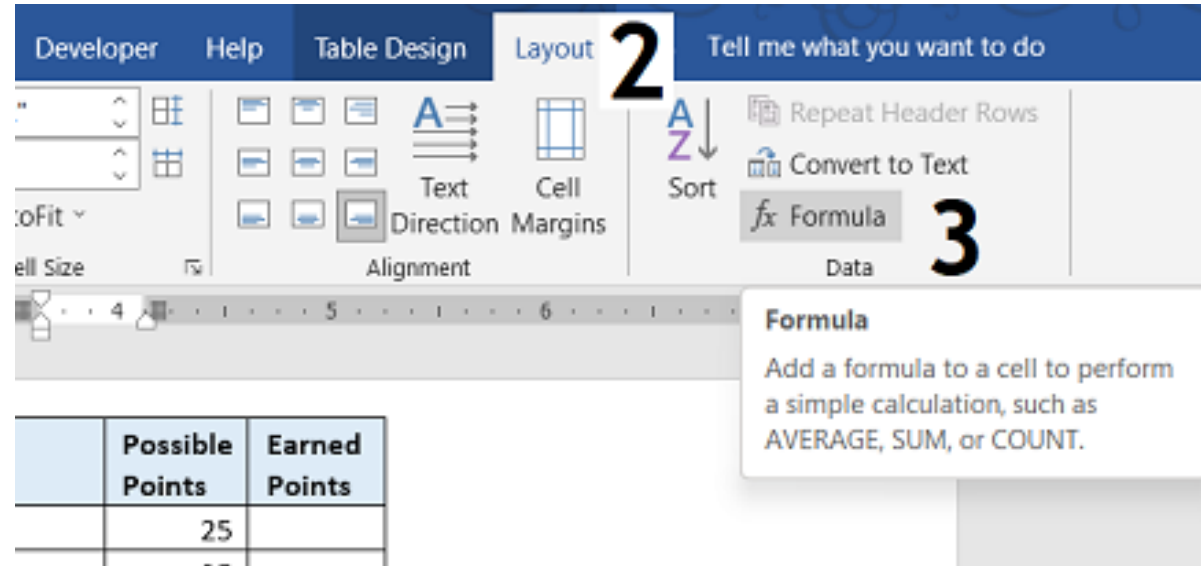


| Criteria | Comments | Possible Points | Earned Points |
|--------------|----------|-----------------|---------------|
| Item #1 | | 25 | |
| Item #2 | | 25 | |
| Item #3 | | 40 | |
| Item #4 | | 10 | |
| Total | | 100 | |

Style with cell color, font changes, text alignment, merging cells, etc.

Save and make a copy for each student's grading.

DIY: Word tables

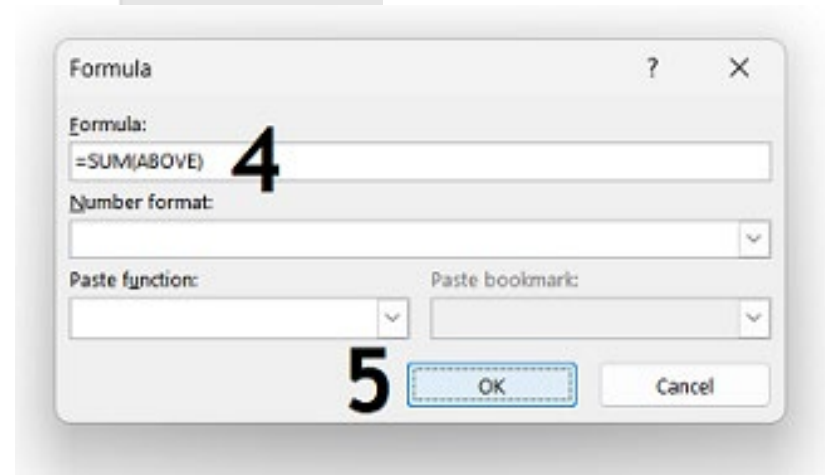


Use formulas to add scores!

| | Possible Points | Earned Points |
|--------------|-----------------|---------------|
| | 25 | |
| | 25 | |
| | 40 | |
| | 10 | |
| Total | 100 | |

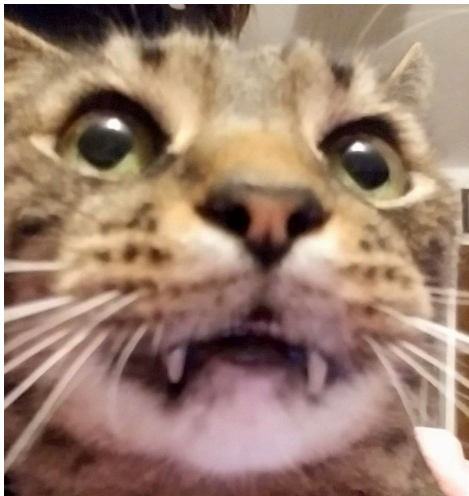
1

Update the total by right-clicking in the middle of the number > Update Field



Thank you!

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Help with Excel: <https://support.microsoft.com/en-us/office/basic-tasks-in-excel-dc775dd1-fa52-430f-9c3c-d998d1735fca>

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All rubrics shown were created specifically for this presentation by the presenter.