

Introduction:

This tutorial will teach you how to use the spreadsheet for students’ testing answers. There is information about how to download this spreadsheet and open it in an Excel form at <http://ibis.colostate.edu/WebContent/WS/CTIME/Tutorials/CTIME-How-do-I-analyze-test-results.pdf>. This tutorial will tell you about what information is included in this spreadsheet and how you can use this in several ways.

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1. What is included in the spreadsheet?

When you open this Excel file, on the bottom you can see several tabs. The first several tabs show students' answers and scores for each question. In the following example, tab "Q1" includes all the answers and scores for question 1 in this unit and "Q2" is for question 2, and so on. The final tab, named "All scores" includes all the scores (no answers) of all questions for all students.

| First Name | Last Name | Stu ID | 2A | 2A S | 2B | 2B S | 2C | 2C S | 2D | 2D S | 2E | 2E S | 2F | 2F S | 2G | 2G S | SS for FC | SS for OE |
|------------|-----------|--------|--|------|-------------|------|------|------|-------------|------|------|------|--|------|-----|------|-----------|-----------|
| Amy | Adams | 54215 | a. ALL of the energy came from the match or another source, OR | 1 | None | 1 | Some | 0 | All or most | 1 | None | 1 | Most of the energy came from the high-energy bonds within the match | | Yes | 1 | 5 | 0 |
| Betty | Bethel | 54216 | a. ALL of the energy came from the match or another source, OR | 1 | None | 1 | None | 1 | All or most | 1 | None | 1 | The organic matter has chemical energy that converts to heat and light | | Yes | 1 | 6 | 0 |
| Corv | Cumberla | 54217 | a. ALL of the energy came from the match or another source, OR | 1 | All or most | 0 | Some | 0 | None | 0 | Some | 0 | Flames | | Yes | 1 | 2 | 0 |

Each of these tabs includes answers and scores for one question.

This includes all scores for all questions for all students.

2. What is included in individual question tabs that contain scores and answers for each question?

Following is an example for one tab that includes answers and scores for Question 2 from the *Animals* test.

Important Note: scores are only given for forced-choice questions in these downloaded spreadsheets.

This part shows all the text included in this Question
 2. This part is fixed at the top so even if you scroll
 down, this part will stay on the top

For forced-choice questions, the correct answer
 is given in bold and italic.

When a match burns, there is heat and light energy in the flame. Where did that energy come from?
 2A Which of the following statements is true? Choose the correct answer. ***a. ALL of the energy came from the match or another source,***
OR
 Select the best choice to complete each of the statements about possible places where the energy in the flame might come from.
 2B How much of the energy in the flame comes from the air? ***Some*** None
 2C How much of the energy in the flame came from the person who struck the match? None
 2D How much of the energy in the flame came from the wood of the match? ***All or most***
 2E How much of the energy in the flame came from the water vapor? ***None***
 2F Explain your choices. Where does the heat and light energy in the flame come from?
 2G After the flame goes out

Since 2F is an open-ended
 question, the score is NOT
 provided here.

| First Name | Last Name | Stu ID | 2A | 2A S | 2B | 2B S | 2C | 2C S | 2D | 2D S | 2E | 2E S | 2F | 2F S | 2G | 2G S | SS for FC | SS for OE |
|------------|------------|--------|--|------|-------------|------|------|------|-------------|------|------|------|---|------|-----|------|-----------|-----------|
| Amy | Adams | 54215 | a. ALL of the energy came from the match or another source, OR | 1 | None | 1 | Some | 0 | All or most | 0 | None | 1 | Most of the energy came from the high-energy bonds within the match. | | Yes | 1 | 5 | 0 |
| Betty | Bethel | 54216 | a. ALL of the energy came from the match or another source, OR | 1 | None | 1 | None | 1 | All or most | 0 | None | 1 | The organic matter has chemical energy that converts to heat and light. | | Yes | 1 | 2 | 0 |
| Cory | Cumberland | 54217 | a. ALL of the energy came from the match or another source, OR | 1 | All or most | 0 | Some | 0 | None | 0 | Some | 0 | Flames | | Yes | 1 | 2 | 0 |

Students' names and unique IDs

Scores for question 2B

These are "sum score for forced-choice questions" (SS for FC); "sum score for open-ended questions" (SS for OE).

When you scroll down to the bottom, you can see a class summary part for this particular question (Question 2 in the following example).

| First Name | Last Name | Stu ID | 2A | 2A S | 2B | 2B S | 2C | 2C S | 2D | 2D S | 2E | 2E S | 2F | 2F S | 2G | 2G S | SS for FC | SS for OE |
|--|-----------|--------|--|------|-------------------|------|-------------------|------|-------------------|------|-------------------|------|---|-------------------|-----|------|-----------|-----------|
| When a match burns, there is heat and light energy in the flame. Where did that energy come from? 2A Which of the following statements is true? Choose the correct answer. <i>a. ALL of the energy came from the match or another source, OR</i> Select the best choice to complete each of the statements about possible places where the energy in the flame might come from. 2B How much of the energy in the flame comes from the air? <i>Some None</i> 2C How much of the energy in the flame came from the person who struck the match? <i>None</i> 2D How much of the energy in the flame came from the wood of the match? <i>All or most</i> 2E How much of the energy in the flame came from the water vapor? <i>None</i> 2F Explain your choices. Where does the heat and light energy in the flame come from? 2G After the flame goes out, does the energy still exist? <i>Yes</i> | | | | | | | | | | | | | | | | | | |
| Saif | Salah | 54233 | a. ALL of the energy came from the match or another source, OR | 1 | Some | 1 | None | 1 | Some | 0 | Some | 0 | when it was struck against the wood and the fuel ignited it | | Yes | 1 | 4 | 0 |
| CLASS SUMMARY | | | Correct: | 12 | Correct: | 13 | Correct: | 8 | Correct: | 10 | Correct: | 13 | | Correct: | 14 | 3.7 | 0 | |
| | | | Incorrect: | 7 | Incorrect: | 6 | Incorrect: | 11 | Incorrect: | 9 | Incorrect: | 6 | | Incorrect: | 5 | | | |

These two cells show: how many students answered the item 2A correctly and how many students answered 2A incorrectly.

These two cells show the average score for forced-choice questions and open-ended questions, respectively. For instance, in this screenshot, on average, each student got 3.7 points for forced-choice questions.

3. What is included in the “All scores” tab?

This tab is a summary tab for all the questions on this test.

Important Note: scores are only given for forced-choice questions in these downloaded spreadsheets. Thus, those summary columns which depend on the score for open-ended questions (such as column AK and column AL in the picture) are not meaningful until you enter the scores for open-ended questions in individual question tabs.

These are the numbers of students that received 1 (correct) or 0 (incorrect) for each FC item. For instance, for item 1B, 10 students got 1 and 9 students got 0.

Correct rate for each student regarding all forced-choice questions. For instance, the student Amy Adams got 50% forced-choice questions right.

| | | Forced-Choice Questions (FC) | | | | | | | | | | | | | | | | | | | | | | | | | | | Open-Ended Questions (OE) | | | | | | | | | | |
|----------------|------------|------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|---------------------------|--------------|-----------------------|----|----|----|----|--------------|---------------|------|------|
| First Name | Last Name | Stu ID | 1A | 1B | 1C | 1D | 1E | 2 | 2B | 2C | 2D | 2E | 2G | 3A | 3B | 3C | 4A | 4B | 4C | 4D | 4E | 5A | 5B | 5C | 5D | 5E | 5F | 5G | Total for FC | Correct Rate | 1F | 2F | 3D | 3E | 4F | Total for OE | Total for ALL | | |
| Amy | Adams | 54215 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 13 | 50% | | | | | | | 0 | 13.0 | |
| Betty | Bethel | 54216 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 18 | 69% | | | | | | | 0 | 18.0 | |
| Cory | Cumberland | 54217 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 15 | 58% | | | | | | | 0 | 15.0 | |
| Daniel | Davidson | 54218 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 13 | 50% | | | | | | | 0 | 13.0 | |
| Erika | Engle | 54219 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 10 | 38% | | | | | | | 0 | 10.0 | |
| Frederica | Falloway | 54220 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 17 | 65% | | | | | | | 0 | 17.0 | |
| Garret | Gregory | 54221 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 15 | 58% | | | | | | | 0 | 15.0 | |
| Hazel | Hattier | 54222 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 17 | 65% | | | | | | | 0 | 17.0 | |
| Isla | Iverson | 54223 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 15 | 58% | | | | | | | 0 | 15.0 | |
| Jordon | Jeffers | 54224 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 18 | 69% | | | | | | | 0 | 18.0 | |
| Kieran | Keller | 54225 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 13 | 50% | | | | | | | 0 | 13.0 | |
| Lucy | Landon | 54226 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 16 | 62% | | | | | | | 0 | 16.0 | |
| Mateo | Matthews | 54227 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 13 | 50% | | | | | | | 0 | 13.0 | |
| Nico | Nicholson | 54228 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 12 | 46% | | | | | | | 0 | 12.0 | |
| Oscar | OBrien | 54229 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 13 | 50% | | | | | | | 0 | 13.0 | |
| Pavel | Peterson | 54230 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 15 | 58% | | | | | | | 0 | 15.0 | |
| Quenton | Quincy | 54231 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 1 | 15 | 58% | | | | | | | 0 | 15.0 |
| Raul | Raimundo | 54232 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 15 | 58% | | | | | | | 0 | 15.0 | |
| Saif | Salah | 54233 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 20 | 77% | | | | | | | 0 | 20.0 | |
| SUMMARY | | Correct (1): | 18 | 10 | 12 | 9 | 14 | 12 | 13 | 8 | 10 | 13 | 14 | 13 | 8 | 13 | 12 | 8 | 11 | 11 | 8 | 14 | 10 | 6 | 11 | 5 | 9 | 11 | | | Class Averages | | | | | | | | |
| | | Incorrect (0): | 1 | 9 | 7 | 10 | 5 | 7 | 6 | 11 | 9 | 6 | 5 | 6 | 11 | 6 | 7 | 11 | 8 | 8 | 11 | 5 | 9 | 13 | 8 | 14 | 10 | 8 | | | | | | | | | | | |
| | | Correct Rate | 95% | 53% | 63% | 47% | 74% | 63% | 68% | 42% | 53% | 68% | 74% | 68% | 42% | 68% | 63% | 42% | 58% | 58% | 42% | 74% | 53% | 32% | 58% | 26% | 47% | 58% | 14.9 | 57% | | | | | | 0.0 | 14.9 | | |

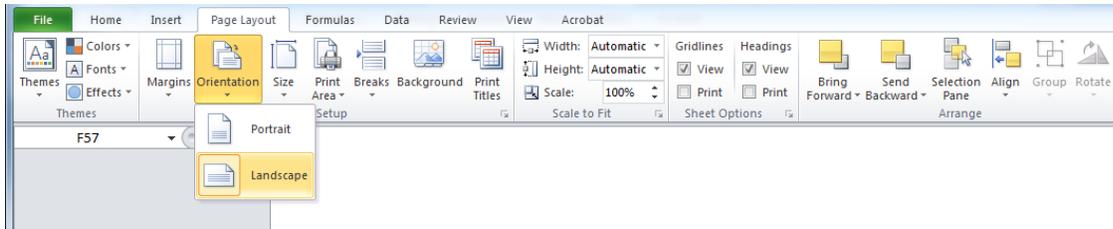
These are correct rates for each forced-choice question: what percentage of students in this class answers this forced-choice question correctly.

Average total score for forced-choice questions and average correct rate for forced-choice questions.

4. How can I use this spreadsheet?

(1) Look at the scores for forced-choice questions, both for individuals and for class summary.

You can print out individual question tabs in a Letter (8.5 *11 inch) or A4 paper by setting the orientation to "Landscape". This should be a default setting for the downloaded spreadsheet. You can also check this out by going to "Page Layout"->"Orientation"->"Landscape". To make sure that the page width is within the paper limit, you can also go to "Page Layout"->"Size" to double check.



The screenshot shows the Microsoft Excel interface with the 'Size' dropdown menu open. The 'Letter (8 1/2 x 11 in)' option is highlighted with a yellow box. The spreadsheet data is visible in the background, showing a table of student information and a 'Forced-Choice Questions (FC)' section.

| | A | B | C | D |
|----|------------|------------|--------|----|
| 1 | First Name | Last Name | Stu ID | 1A |
| 3 | Amy | Adams | 54215 | 1 |
| 4 | Betty | Bethel | 54216 | 1 |
| 5 | Cory | Cumberland | 54217 | 1 |
| 6 | Daniel | Davidson | 54218 | 1 |
| 7 | Erika | Engle | 54219 | 1 |
| 8 | Frederica | Falloway | 54220 | 1 |
| 9 | Garret | Gregory | 54221 | 1 |
| 10 | Hazel | Hattier | 54222 | 1 |
| 11 | Isla | Iverson | 54223 | 1 |
| 12 | Jordan | Jeffers | 54224 | 1 |
| 13 | Kieran | Keller | 54225 | 1 |
| 14 | Lucy | Landon | 54226 | 1 |
| 15 | Mateo | Matthews | 54227 | 1 |
| 16 | Nico | Nicholson | 54228 | 1 |
| 17 | Oscar | OBrien | 54229 | 1 |
| 18 | Pavel | Peterson | 54230 | 1 |
| 19 | Quenton | Quincy | 54231 | 1 |
| 20 | Raul | Raimundo | 54232 | 1 |
| 21 | Saif | Salah | 54233 | 1 |

| Forced-Choice Questions (FC) | | | | | | | | | | | | | | | | | Open | | | | |
|------------------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|------|--------------|--------------|----|----|
| D | 2E | 2G | 3A | 3B | 3C | 4A | 4B | 4C | 4D | 4E | 5A | 5B | 5C | 5D | 5E | 5F | 5G | Total for FC | Correct Rate | 1F | 2F |
| 1 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 13 | 50% | | |
| 1 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 18 | 69% | | |
| 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 15 | 58% | | |
| 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 13 | 50% | | |
| 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 10 | 38% | | |
| 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 17 | 65% | | |
| 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 15 | 58% | | |
| 1 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 17 | 65% | | |
| 1 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 15 | 58% | | |
| 1 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 18 | 69% | | |
| 0 | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 13 | 50% | | |
| 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 16 | 62% | | |
| 1 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 13 | 50% | | |
| 1 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 0 | 12 | 46% | | |
| 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 13 | 50% | | |
| 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 15 | 58% | | |
| 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 15 | 58% | | |
| 1 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 15 | 58% | | |
| 0 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 20 | 77% | | |

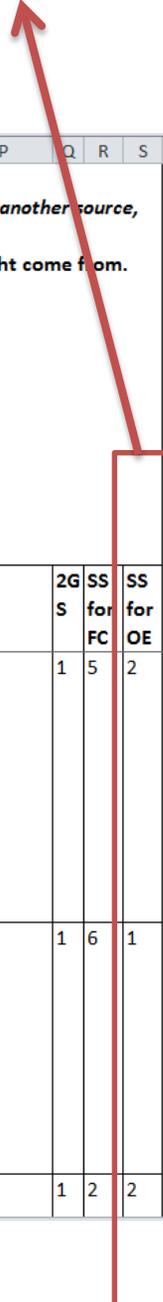
(2) For the purpose of *summative assessment*, you can score students' answers in those individual question tabs. Then you can read the summary for these scores both in individual question tabs and in the "All scores" tab.

Step 1: Enter scores for open-ended question 2F here in column O. In this example, scores 2, 1, 2 are entered for the first 3 students.

| A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S |
|--|-----------|--------|--|------|-------------|------|------|------|-------------|------|------|------|---|------|-----|------|-----------|-----------|
| <p>When a match burns, there is heat and light energy in the flame. Where did that energy come from?</p> <p>2A Which of the following statements is true? Choose the correct answer. a. ALL of the energy came from the match or another source, OR</p> <p>Select the best choice to complete each of the statements about possible places where the energy in the flame might come from.</p> <p>2B How much of the energy in the flame comes from the air? Some None</p> <p>2C How much of the energy in the flame came from the person who struck the match? None</p> <p>2D How much of the energy in the flame came from the wood of the match? All or most</p> <p>2E How much of the energy in the flame came from the water vapor? None</p> <p>2F Explain your choices. Where does the heat and light energy in the flame come from?</p> <p>2G After the flame goes out, does the energy still exist? Yes</p> | | | | | | | | | | | | | | | | | | |
| First Name | Last Name | Stu ID | 2A | 2A S | 2B | 2B S | 2C | 2C S | 2D | 2D S | 2E | 2E S | 2F | 2F S | 2G | 2G S | SS for FC | SS for OE |
| Amy | Adams | 54215 | a. ALL of the energy came from the match or another source, OR | 1 | None | 1 | Some | 0 | All or most | 1 | None | 1 | Most of the energy came from the high-energy bonds within the match | 2 | Yes | 1 | 5 | 2 |
| Betty | Bethel | 54216 | a. ALL of the energy came from the match or another source, OR | 1 | None | 1 | None | 1 | All or most | 1 | None | 1 | The organic matter has chemical energy that converts to heat | 1 | Yes | 1 | 6 | 1 |
| Cory | Cumberla | 54217 | a. ALL of the energy came from the match or another source, OR | 1 | All or most | 0 | Some | 0 | None | 0 | Some | 0 | Flames | 2 | Yes | 1 | 2 | 2 |

Step 2: The score you entered will be automatically updated into summary parts in “SS for OE” in individual question tabs as well as “Open-Ended Questions” and “Total score for all questions” in tab “All scores”.

This summary column in individual question tabs will be updated automatically after you enter scores in the previous step.



| A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S |
|--|-----------|--------|--|------|-------------|------|------|------|-------------|------|------|------|---|------|-----|------|-----------|-----------|
| <p>When a match burns, there is heat and light energy in the flame. Where did that energy come from?</p> <p>2A Which of the following statements is true? Choose the correct answer. a. ALL of the energy came from the match or another source, OR</p> <p>Select the best choice to complete each of the statements about possible places where the energy in the flame might come from.</p> <p>2B How much of the energy in the flame comes from the air? Some None</p> <p>2C How much of the energy in the flame came from the person who struck the match? None</p> <p>2D How much of the energy in the flame came from the wood of the match? All or most</p> <p>2E How much of the energy in the flame came from the water vapor? None</p> <p>2F Explain your choices. Where does the heat and light energy in the flame come from?</p> <p>2G After the flame goes out, does the energy still exist? Yes</p> | | | | | | | | | | | | | | | | | | |
| First Name | Last Name | Stu ID | 2A | 2A S | 2B | 2B S | 2C | 2C S | 2D | 2D S | 2E | 2E S | 2F | 2F S | 2G | 2G S | SS for FC | SS for OE |
| Amy | Adams | 54215 | a. ALL of the energy came from the match or another source, OR | 1 | None | 1 | Some | 0 | All or most | 1 | None | 1 | Most of the energy came from the high-energy bonds within the match | 2 | Yes | 1 | 5 | 2 |
| Betty | Bethel | 54216 | a. ALL of the energy came from the match or another source, OR | 1 | None | 1 | None | 1 | All or most | 1 | None | 1 | The organic matter has chemical energy that converts to heat | 1 | Yes | 1 | 6 | 1 |
| Cory | Cumberla | 54217 | a. ALL of the energy came from the match or another source, OR | 1 | All or most | 0 | Some | 0 | None | 0 | Some | 0 | Flames | 2 | Yes | 1 | 2 | 2 |

These scores and summaries in the tab "All scores" will also be updated automatically after you enter scores for open-ended questions in individual question tabs.



| | | Forced-Choice Questions (FC) | | | | | | | | | | | | | | | | | | | | | | | | | | | Open-Ended Questions (OE) | | | | | | | | | | | | |
|----------------|-----------------------|------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|---------------------------|--------------|----|----|----|---------------------|---------------------|--------------|---------------|--|--|---------------------|----------------------|
| A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | AA | AB | AC | AD | AE | AF | AG | AH | AI | AJ | AK | AL | | | | |
| First Name | Last Name | Stu ID | 1A | 1B | 1C | 1D | 1E | 2A | 2B | 2C | 2D | 2E | 2G | 3A | 3B | 3C | 4A | 4B | 4C | 4D | 4E | 5A | 5B | 5C | 5D | 5E | 5F | 5G | Total for FC | Correct Rate | 1F | 2F | 3D | 3E | 4F | Total for OE | Total for ALL | | | | |
| Amy | Adams | 54215 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 13 | 50% | | | 2 | | | 2 | 15.0 | | | | |
| Betty | Bethel | 54216 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 18 | 69% | | 1 | | | 1 | 19.0 | | | | | |
| Cory | Cumberland | 54217 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 15 | 58% | | 2 | | | 2 | 17.0 | | | | | |
| Daniel | Davidson | 54218 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 13 | 50% | | | | | 0 | 13.0 | | | | | | |
| Erika | Engle | 54219 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 10 | 38% | | | | | 0 | 10.0 | | | | | | |
| Frederica | Falloway | 54220 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 17 | 65% | | | | | 0 | 17.0 | | | | | | |
| Garret | Gregory | 54221 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 15 | 58% | | | | | 0 | 15.0 | | | | | | |
| Hazel | Hattier | 54222 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 17 | 65% | | | | | 0 | 17.0 | | | | | | |
| Isla | Iverson | 54223 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 15 | 58% | | | | | 0 | 15.0 | | | | | | |
| Jordon | Jeffers | 54224 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 18 | 69% | | | | | 0 | 18.0 | | | | | | |
| Kieran | Keller | 54225 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 13 | 50% | | | | | 0 | 13.0 | | | | | | |
| Lucy | Landon | 54226 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 16 | 62% | | | | | 0 | 16.0 | | | | | | |
| Mateo | Matthews | 54227 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 13 | 50% | | | | | 0 | 13.0 | | | | | | |
| Nico | Nicholson | 54228 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 12 | 46% | | | | | 0 | 12.0 | | | | | | |
| Oscar | O'Brien | 54229 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 13 | 50% | | | | | 0 | 13.0 | | | | | | |
| Pavel | Peterson | 54230 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 15 | 58% | | | | | 0 | 15.0 | | | | | | |
| Quenton | Quincy | 54231 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 15 | 58% | | | | | 0 | 15.0 | | | | | | |
| Raul | Raimundo | 54232 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 15 | 58% | | | | | 0 | 15.0 | | | | | | |
| Saif | Salah | 54233 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 20 | 77% | | | | | 0 | 20.0 | | | | | | |
| SUMMARY | | Correct (1): | 18 | 10 | 12 | 9 | 14 | 12 | 13 | 8 | 10 | 13 | 14 | 13 | 8 | 13 | 12 | 8 | 11 | 11 | 8 | 14 | 10 | 6 | 11 | 5 | 9 | 11 | Class Averages | | | | | | | | | | | | |
| | Incorrect (0): | 1 | 9 | 7 | 10 | 5 | 7 | 6 | 11 | 9 | 6 | 5 | 6 | 11 | 6 | 7 | 11 | 8 | 8 | 11 | 5 | 9 | 13 | 8 | 14 | 10 | 8 | | | | | | | Total for FC | Correct Rate | | | | | Total for OE | Total For ALL |
| | Correct Rate | 95% | 53% | 63% | 47% | 74% | 63% | 68% | 42% | 53% | 68% | 74% | 68% | 42% | 68% | 63% | 42% | 58% | 58% | 42% | 74% | 53% | 32% | 58% | 26% | 47% | 58% | 14.9 | 57% | | | | | 0.3 | 15.2 | | | | | | |