

How to prepare student response data files for AACR AutoReporter

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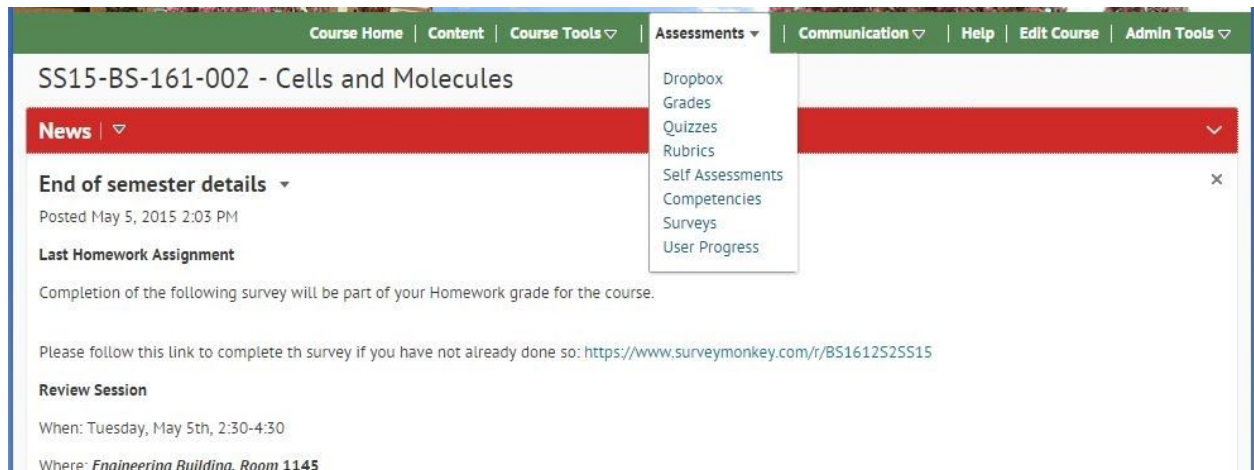
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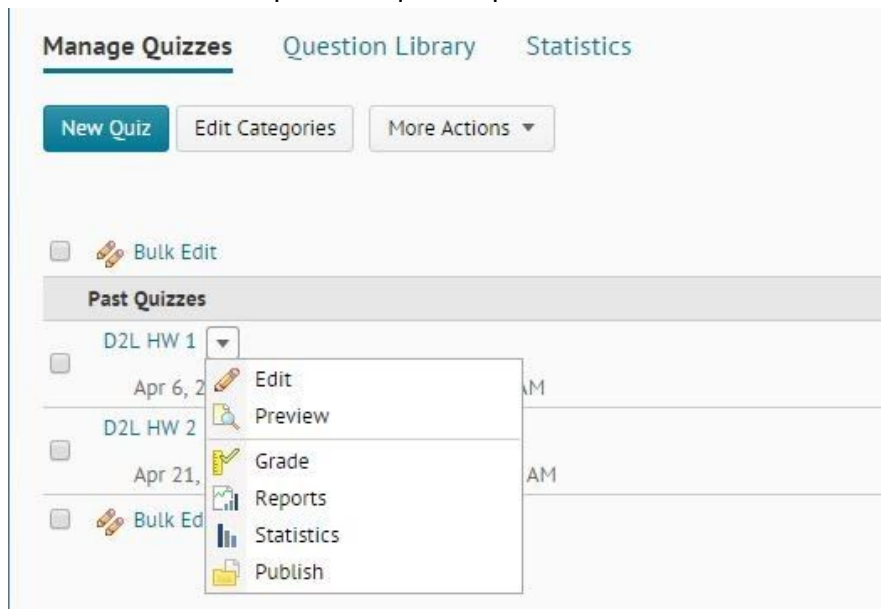
Obtain data

At MSU, obtain data directly from D2L by following these directions:

1. Log in to D2L.
2. From the “Assessments” tab select the appropriate type of assessment.



3. If your assessment was a quiz, then go to Quizzes, Manage Quizzes.
4. Click on the little arrow to open the quiz drop-down menu:



5. Click on Grade, Export to Excel and download.
6. For your benefit and record-keeping, save the downloaded file in this format:
[Instructor's last name]_[Semester code]_[Class ID]_[AACR Question Name]

Format the file (Mac version)

Before you upload student responses in AutoReporter, check that the *CSV or Excel file is free from empty cells in the student response column*. Otherwise, the app will not work as expected.

In the example shown below, there are empty cells in the column(s) that contain the student responses (highlighted in yellow):

A	B
labeled:Potassium (K+) ion concentrations (measured in mM)	b) Explain how the ways you identified above cause K+ to move INTO the animal cell.
1. deliver more K+ outside the cell	1. concentration of K+ outside the cell is higher, net movement into the
active transport	because it is the opposite of the concentration gradient and requires ATP
Na+ (sodium) influx	if there is a change in membrane potential that would cause the channels
When more sodium ions enter the cell and depolarize	Via the membrane potential
I don't remember.	I don't remember.
Low amounts of K inside the cell	Ions follow a concentration gradient, if there are less ions in the cell then
More K+ outside of the cell.	Concentration gradient.
Repolarization	Potassium would move back into the cell because its attracted to the
1) If there was a higher concentration of K+ outside	1) With a higher concentration of K+ outside the cell the ions would
hyperpolarize the membrane, changing the	the change in the voltage of the membrane causes the membrane to
There needs to be a greater amount of K+ ions outside	If the millivolts increases and the K+ ions are greater outside than inside,
A possible way is the replacement of ion	Movement of ions against the concentration gradient
The electrical charge would need to be more negative	The charge inside the cell would need to be more negative than the
An active K+ pump would have to pump K+ against its	Because this is a K+ channel, it is a form of passive transport, and the K+

To delete empty responses using the Filter function in Excel

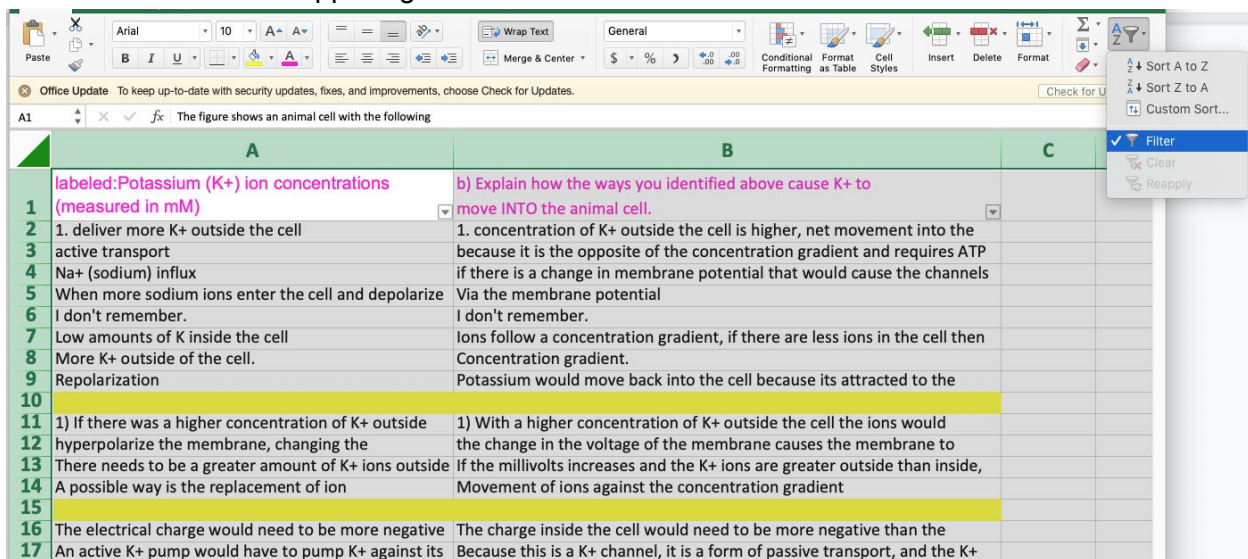
(Note: if you wish to view these instructions in video format, we suggest this tutorial. It is not identical to the steps below, but the final outcome (deletion of empty rows) is the same:

<https://www.youtube.com/watch?v=gLO0Xcxklyc>

1. Move the cursor to the upper-left corner where there is a triangle within a square. Click on it to select the sheet:

	A	B
1	labeled:Potassium (K+) ion concentrations (measured in mM)	b) Explain how the ways you identified above cause K+ to move INTO the animal cell.
2	1. deliver more K+ outside the cell	1. concentration of K+ outside the cell is higher, net movement into the
3	active transport	because it is the opposite of the concentration gradient and requires ATP
4	Na+ (sodium) influx	if there is a change in membrane potential that would cause the channels
5	When more sodium ions enter the cell and depolarize	Via the membrane potential
6	I don't remember.	I don't remember.
7	Low amounts of K inside the cell	Ions follow a concentration gradient, if there are less ions in the cell then
8	More K+ outside of the cell.	Concentration gradient.
9	Repolarization	Potassium would move back into the cell because its attracted to the
10		
11	1) If there was a higher concentration of K+ outside	1) With a higher concentration of K+ outside the cell the ions would
12	hyperpolarize the membrane, changing the	the change in the voltage of the membrane causes the membrane to
13	There needs to be a greater amount of K+ ions outside	If the millivolts increases and the K+ ions are greater outside than inside,
14	A possible way is the replacement of ion	Movement of ions against the concentration gradient
15		
16	The electrical charge would need to be more negative	The charge inside the cell would need to be more negative than the
17	An active K+ pump would have to pump K+ against its	Because this is a K+ channel, it is a form of passive transport, and the K+

2. Locate the Sort & Filter button, click on it, and click on Filter. In the image below, the button is at the upper-right corner:



3. Click on the little arrow that appears on the top of the column with empty responses and unmark "Select all" in the Filtering pane (see the right side of the screenshot):

A	
labeled:Potassium (K+) ion concentrations (measured in mM)	b) Explain how the ways you identify move INTO the animal cell.
1. deliver more K+ outside the cell	The figure shows an animal cell with th...
active transport	
Na+ (sodium) influx	
When more sodium ions enter the cell and depolarize	
I don't remember.	
Low amounts of K inside the cell	
More K+ outside of the cell.	
Repolarization	
1) If there was a higher concentration of K+ outside	
hyperpolarize the membrane, changing the	
There needs to be a greater amount of K+ ions outside	
A possible way is the replacement of ion	
The electrical charge would need to be more negative	
An active K+ pump would have to pump K+ against its	

Sort

A ↓ Ascending Z ↓ Descending

By color: None

Filter

By color: None

Choose One

Search

☐ (Select All)

☐ 1. deliver more K+ outside the

☐ 1) If there was a higher concer

☐ A possible way is the replacem

☐ active transport

☐ An active K+ pump would have

☐ hyperpolarize the membrane,

☐ I don't remember

Clear Filter

4. Scroll down on that little window, checkmark only “(Blanks)”:

The screenshot shows a Google Sheet with columns A and B. Column A contains the text "labeled:Potassium (K+) ion concentrations (measured in mM)". Column B contains the text "b) Explain how the ways you identified ab move INTO the animal cell." Rows 10, 15, and 20 are highlighted in yellow. A filter menu is open over the sheet, showing the 'Filter' section with the '(Blanks)' option selected.

5. Now the sheet will show the rows with empty responses, marked with a bolded line under their row numbers (see left side of screenshot above).

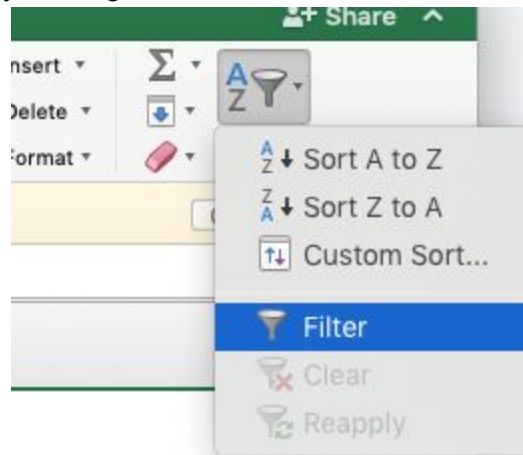
6. Highlight the rows with empty responses. Right-click and select Delete Row:

The screenshot shows the same Google Sheet as before, but now rows 10, 15, and 20 are highlighted in yellow. A right-click context menu is open over the sheet, showing the 'Delete Row' option selected.

7. You will no longer see a bolded line under row numbers. This means that there are no more blank rows and that the rows that you selected were deleted:

	A	B
1	labeled:Potassium (K ⁺) ion concentrations (measured in mM)	b) Explain how the ways you identified above cause K ⁺ to move INTO the animal cell.
16		
17		
18		
19		
20		

8. Remove the Filter by clicking on Sort & Filter. Unmark Filter.



9. You should now see responses again on the sheet and no blank responses:

	A	B	Formula Bar
1	labeled:Potassium (K ⁺) ion concentrations (measured in mM)	b) Explain how the ways you identified above cause K ⁺ to move INTO the animal cell.	
2	1. deliver more K ⁺ outside the cell	1. concentration of K ⁺ outside the cell is higher, net movement into the	
3	active transport	because it is the opposite of the concentration gradient and requires ATP	
4	Na ⁺ (sodium) influx	if there is a change in membrane potential that would cause the channels	
5	When more sodium ions enter the cell and depolarize	Via the membrane potential	
6	I don't remember.	I don't remember.	
7	Low amounts of K inside the cell	Ions follow a concentration gradient, if there are less ions in the cell then	
8	More K ⁺ outside of the cell.	Concentration gradient.	
9	Repolarization	Potassium would move back into the cell because its attracted to the	
10	1) If there was a higher concentration of K ⁺ outside	1) With a higher concentration of K ⁺ outside the cell the ions would	
11	hyperpolarize the membrane, changing the	the change in the voltage of the membrane causes the membrane to	
12	There needs to be a greater amount of K ⁺ ions outside	If the millivolts increases and the K ⁺ ions are greater outside than inside,	
13	A possible way is the replacement of ion	Movement of ions against the concentration gradient	
14	The electrical charge would need to be more negative	The charge inside the cell would need to be more negative than the	
15	An active K ⁺ pump would have to pump K ⁺ against its	Because this is a K ⁺ channel, it is a form of passive transport, and the K ⁺	

10. Save the file.

Your file should be now ready to upload it in AutoReporter.

Format the file (Windows version)

Before you upload student responses in AutoReporter, check that the *CSV or Excel file is free from empty cells in the student response column*. Otherwise, the app will not work as expected.

In the example shown below, there are empty cells in the column(s) that contain the student responses (highlighted in yellow):

_ID	resp1	resp2
22	the concentration	the concentration inside the cell would
23		There is a greater concentration outside
24	To cause a new movement of K ⁺ ions into an anir	If you ingested potassium-rich foods, y
25	To repolarize a cell	During an action potential k ⁺ moves int
26	The concentration would have to be greater outs	A greater concentration outside of the
27	There would have to be a higher concentration o	If there is a higher concentration of K ⁺
28		The K ⁺ concentration inside the cell wo
29	The channel would have to close or the gradient	If the channel closed, potassium would
30	If the concentration of K ⁺ was higher outside of t	It moves from a high concentration to a
31	the membrane potential would have to change to	The resting membrane potential is -70 r
33	There is a flow of Na ions out of the cell	this will cause the concentration gradie
35	After action potential	After the action potential but before th
36	Na ⁺ would need to be present to have K ⁺ move in	Na ⁺ and K ⁺ are always on separate side
38	More sodium in the cell moving out of the cell. C	Sodium opposes potassium. Calcium al
39	There would have to be a higher concentration o	K ⁺ moves from areas of higher concent
18		That is when an action potential occurs
19	The concentration of K ⁺ being higher outside the	Because K would move down the conce
21	K ⁺ concentration is lower inside the cell than out	K ⁺ will move from concentrations of hi
22	the concentration	the concentration inside the cell would

To delete empty responses using the Filter function in Excel

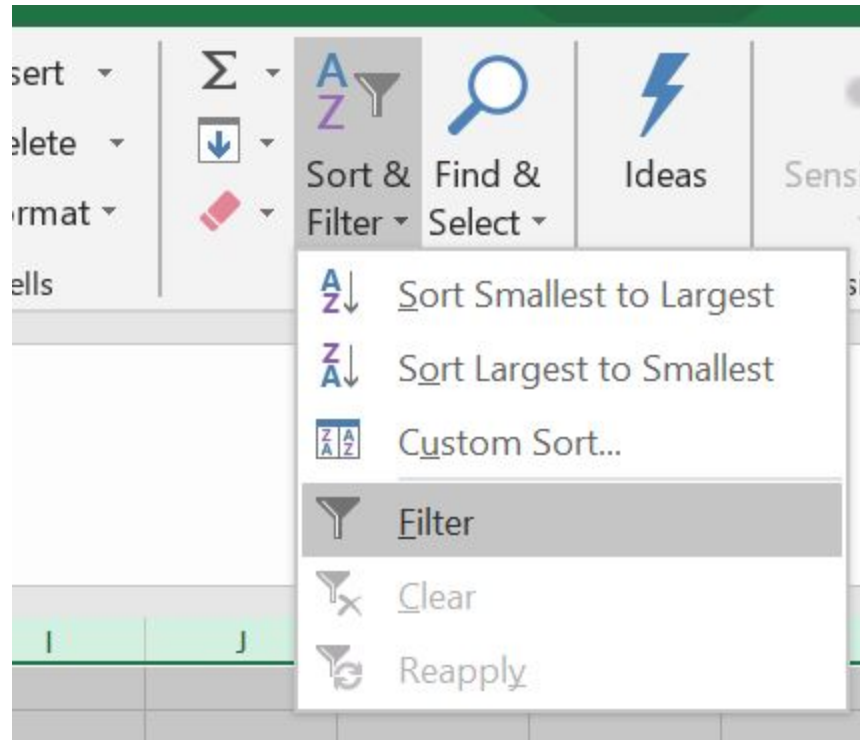
(Note: if you wish to view these instructions in video format, we suggest this tutorial:

<https://www.youtube.com/watch?v=gLO0Xcxklyc>

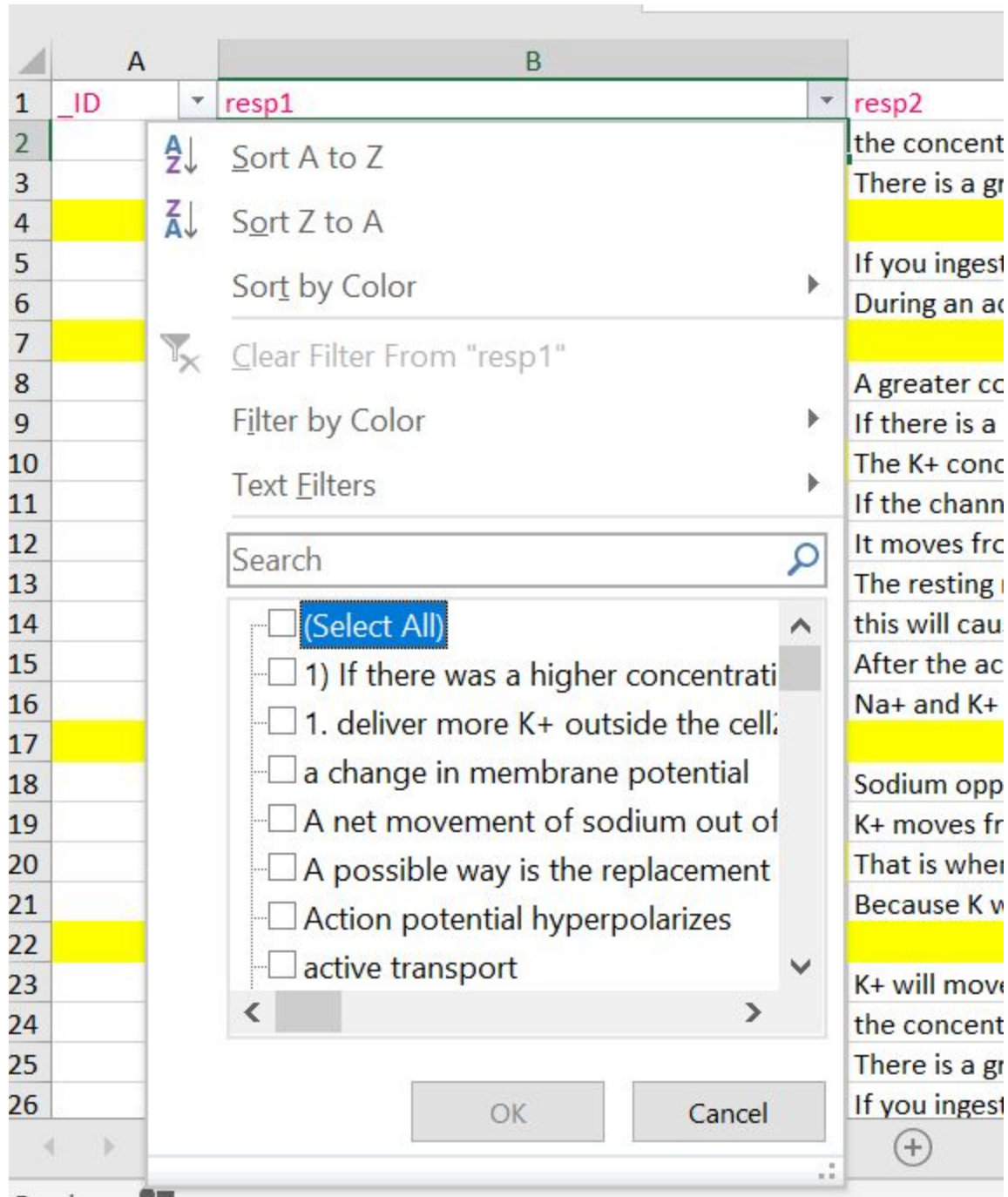
1. Move the cursor to the upper-left corner where there is a triangle within a square. Click on it to select the sheet:

	A	B	C
1	_ID	resp1	resp2
2	22	the concentration	the concentration inside the c
3	23		There is a greater concentrati
4			
5	24	To cause a new movement of K ⁺ ions into an anir	If you ingested potassium-rich
6	25	To repolarize a cell	During an action potential k ⁺ r
7			
8	26	The concentration would have to be greater outs	A greater concentration outsid
9	27	There would have to be a higher concentration o	If there is a higher concentrati
10	28		The K ⁺ concentration inside th
11	29	The channel would have to close or the gradient v	If the channel closed, potassiu
12	30	If the concentration of K ⁺ was higher outside of t	It moves from a high concentr
13	31	the membrane potential would have to change to	The resting membrane potenti
14	33	There is a flow of Na ions out of the cell	this will cause the concentrati
15	35	After action potential	After the action potential but l
16	36	Na ⁺ would need to be present to have K ⁺ move in	Na ⁺ and K ⁺ are always on sepa
17			

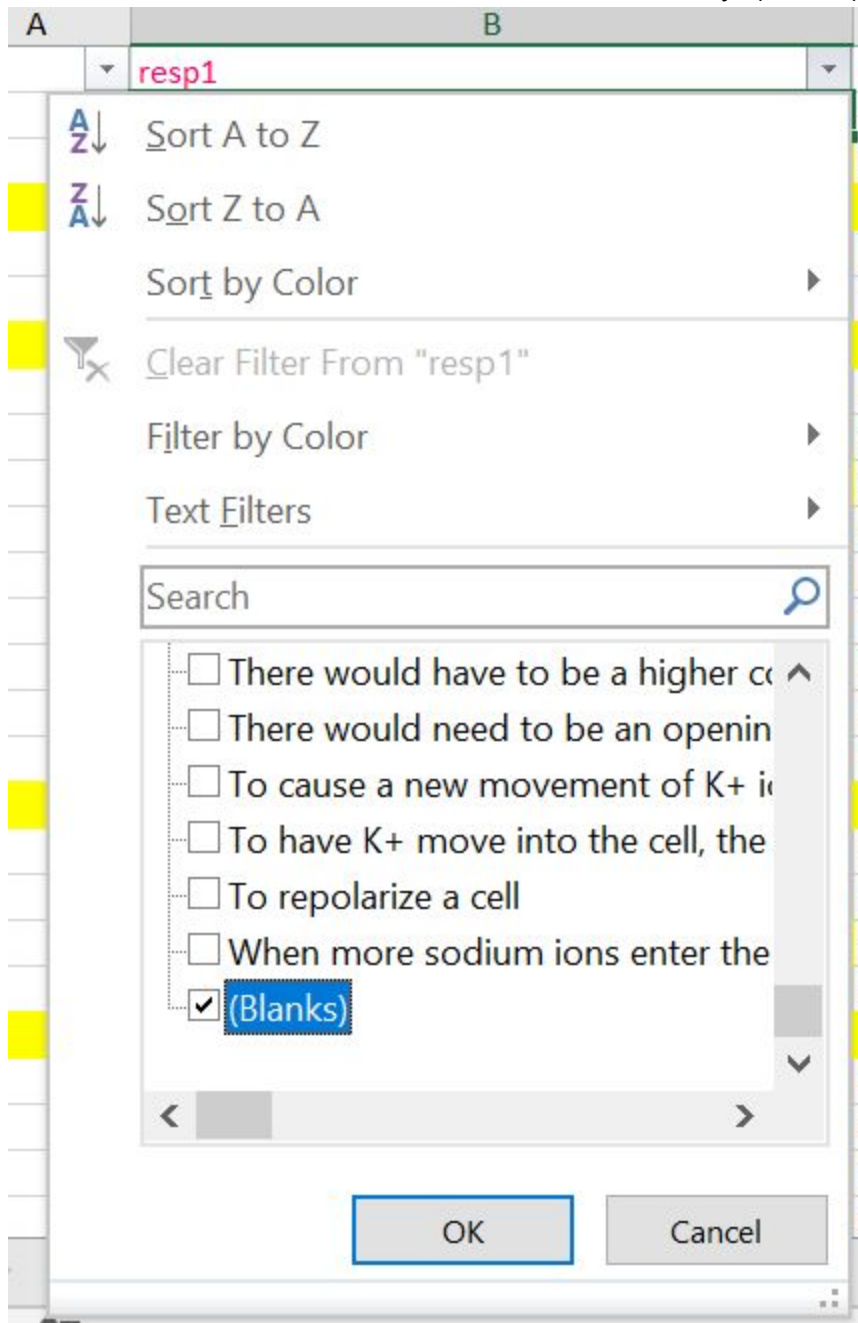
2. Locate the Sort & Filter button, click on it, and click on Filter.



11. Click on the little arrow that appears on the top of the column with empty responses and unmark "Select all" in the Filtering pane:



12. Scroll down on that little window, checkmark only "(Blanks)." Click on "OK":



13. Now the sheet will show the rows with empty responses, marked with a double line under their row numbers (see left side of screenshot above).

	A	B	
1	_ID	resp1	re
3	23		Th
4			
7			
10	28		Th
17			
20	18		Th
22			
597			
598			
599			

14. Highlight the rows with empty responses. Right-click and select Delete Row:

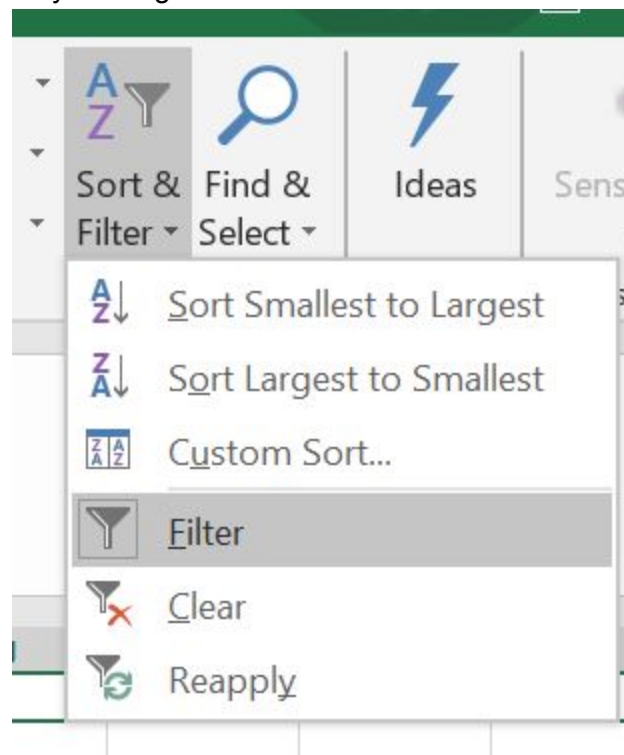
The screenshot shows a spreadsheet with columns A and B. Row 1 has headers 'ID' and 'resp1'. Rows 3, 4, 7, 10, 17, 20, and 22 are highlighted in yellow. A right-click context menu is open over the yellow-highlighted area, showing options: Cut, Copy, Paste Options (with a sub-menu icon), Paste Special..., Insert Row, Delete Row (highlighted), Clear Contents, Format Cells..., Row Height..., Hide, and Unhide. The spreadsheet rows are numbered 1, 3, 4, 7, 10, 17, 20, 22, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, and 613. The 'Delete Row' option is highlighted in the context menu.

	A	B
1	ID	resp1
3	23	
4		
7		
10	28	
17		
20	18	
22		
597		
598		
599		
600		
601		
602		
603		
604		
605		
606		
607		
608		
609		
610		
611		
612		
613		

15. You will no longer see a bolded line under row numbers. This means that there are no more blank rows and that the rows that you selected were deleted:

	A	B	
1	_ID	resp1	resp2
590			
591			
592			
593			
594			
595			
596			
597			
598			
599			

16. Remove the Filter by clicking on Sort & Filter. Unmark Filter.



17. You should now see responses again on the sheet and no blank responses:

	A	B	C	D
1	_ID	resp1	resp2	
2	22	the concentration	the concentration inside the cell would have to	
3	24	To cause a new movement of K ⁺ ions into an animal	If you ingested potassium-rich foods, you would	
4	25	To repolarize a cell	During an action potential K ⁺ moves into the ex	
5	26	The concentration would have to be greater outside	A greater concentration outside of the cell would	
6	27	There would have to be a higher concentration outside	If there is a higher concentration of K ⁺ outside	
7	29	The channel would have to close or the gradient would	If the channel closed, potassium would not be able	
8	30	If the concentration of K ⁺ was higher outside of the cell	It moves from a high concentration to an area of	
9	31	the membrane potential would have to change to	The resting membrane potential is -70 mV in order	
10	33	There is a flow of Na ⁺ ions out of the cell	this will cause the concentration gradient to change	
11	35	After action potential	After the action potential but before the relative	
12	36	Na ⁺ would need to be present to have K ⁺ move in	Na ⁺ and K ⁺ are always on separate sides of the	
13	38	More sodium in the cell moving out of the cell.	Sodium opposes potassium. Calcium allows for	
14	39	There would have to be a higher concentration outside	K ⁺ moves from areas of higher concentration to	
15	19	The concentration of K ⁺ being higher outside the	Because K would move down the concentration	
16	21	K ⁺ concentration is lower inside the cell than outside	K ⁺ will move from concentrations of high to low	
17	22	the concentration	the concentration inside the cell would have to	
18	23	The amount of K ⁺ outside of the cell would have	There is a greater concentration outside of the	
19	24	To cause a new movement of K ⁺ ions into an animal	If you ingested potassium-rich foods, you would	

18. Save the file.

Your file should be ready to upload it in AutoReporter.

To upload a file in AutoReporter

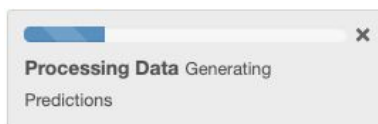
1. Go to <https://apps.beyondmultiplechoice.org/AutoReport/>
2. (Note: Instructions below the screenshot correspond to the (a) through (g) symbols in the screenshot.)

The screenshot shows the AACR AutoReport interface. On the left, the 'Input File' section has a 'Browse...' button (a), a file named 'example.xlsx' with an 'Upload complete' status, and a checked 'First Row is Header' option (b). Below this is a 'Select Question' dropdown set to 'Holistic Example' (c), a 'Student Identifier Column' dropdown set to '1' (d), and a 'Student Response Column' dropdown set to '2' (e). At the bottom left, there is a 'Send report to' field with 'name@URL.edu' (f) and a 'Make Report' button (g). A small 'Acknowledgements' text is at the bottom left. On the right, the 'Preview Data' section shows '16 Rows Read' and a 'Scoring Model' tab. It displays a table with two columns: a long alphanumeric ID and a description of the student's response. The table has 6 rows of data.

ID	Response
22a4546287aff5dc99f3f0d41bf353ce	1. concentration of K ⁺ outside the cell is higher, net movement into the cell 2. positive charge repel, K ⁺ will move into the cell due to voltage difference 3. active transport because it's against the concentration gradient, which requires ATP
5efdcc14ea2405633dfa1b72c508598a	because it is the opposite of the concentration gradient and requires ATP Action potential will trigger and cause K ⁺ to flow into the cell
043e6c3b53cb03916f5779323456306	if there is a change in membrane potential that would cause the channels to open (those channels also close with a delay) active transport is required if there is movement against a concentration gradient
f561aaf6ef0bf14d4208bb46a4cb3ad	xxx
365631c3368b57611151985be7ac4141	Via the membrane potential
1b9efddfd4071ba21476de1c6ad8f0a	I don't remember.

- (a) Click on Browse and choose your file
- (b) If the first row of your file has a "header" (e.g., column title, question), leave the "First Row is Header" checkmarked. If it has responses (no column header), uncheck the option.
- (c) Select the question
- (d) Select the student identifier column. If none, choose "None"
- (e) Select the column number with the student responses
- (f) Type your e-mail address
- (g) Click on Make Report

3. After you clicked on "Make Report", you should see a progress bar at the bottom-right of the page:



- When the process is ready, you will receive an e-mail from aacr.report@gmail.com with subject “Your AACR Instructor Feedback Report” and the page will display “Report Address” and a link as show below:

AACR AutoReport | Data Upload | Interactive Report | Downloads

Input File

Browse... No file selected

☒ First Row is Header

Use Holistic Example Data Use Analytic Example Data

Select Question

Holistic Example

Student Identifier Column

1

Student Response Column

2

Send report to

mercad23@msu.edu

Make Report

Preview Data | Scoring Model

100 Rows Read

Report Address: <https://apps.beyondmultiplechoice.org/AutoReport/?reportID=nfpFva7RigLwPCuvSLuo>

x	StudentResponse
c4ca4238a0b923820dcc509a6f75849b	this sequence will not change the processes or performance of a cell's ability to
c81e728d9d4c2f636f067f89cc14862c	of a C, but other than that there will be sequences with errors. This alteration will not influence dna
eccbc87e4b5ce2fe28308fd9f2a7baf3	the persons DNA but the DNA doesnt
a87ff679a2f3e71d9181a67b7542122c	the gene that
e4da3b7fbce2345d7772b0674a318d5	that the only change
1679091c5a880faf6fb5e6087eb1b2dc	DNA replication. dna replicaton will not be affected Replication will not be read after the new stop o able to replicate. The protein made could be affected though. It would not affect DNA replication It v

(Note: Please do not respond to the e-mail from aacr.report@gmail.com. It is not a monitored account. If you cannot find the e-mail, check in your spam e-mail folder.)

To access thereport in that same moment:

Click on the Interactive Report tab at the top of the screen.

To access the report later:

Go to the e-mail that you received and click on the link.

To download a PDF copy of your report:

Click on the Downloads tab at the top of the screen and then on “Download PDF.”

To download predictive scores for each of your student responses:

Click on Downloads at the top of the screen and then on “Download CSV.”

For additional help

If you need more help on how to use the report that was generated, please follow the guidelines found in this document:

<https://apps.beyondmultiplechoice.org/Using%20the%20AACR%20Reports%20V3.pdf>

If you run into issues that you cannot solve using this guide (e.g., a grey screen appeared), please contact M. M. Santiago at mercad23@msu.edu. We will do our best to respond to your request within 48 hours.