

Microscale Survey Screenshots

Page 1:

Welcome!

In this survey we will ask you to compare the different ways that we represent two physiological phenomena associated with the cellular and molecular environment: **signal transduction** and **constitutive activation** (a type of overactivation).

We will present you with two task-based scenarios, **(1) expert** and **(2) general** audience, and ask you to identify the **(1) most** and **(2) least** effective visual representations for each scenario's communication objective for both **signal transduction** and **constitutive activation**, respectively. We will furthermore ask you to provide some basic ratings and keywords for your choices. We will use these data to **analyze and develop a set of recommendations for more effective biomedical process representations** driven by audience and task. Following the conclusion of this study we plan to make these **results and visual assets available to the broader research community**.

In compliance with [redacted] regulations, we will **not** collect or store any personally identifying information unless you choose to provide it. We will keep private any personal information that you provide (*i.e., profession, age, gender, email*), and only use this to identify possible demographic-related patterns in perception, or for follow-up questions we may have. Your data will be stored on Typeform's secure servers with multi-factor authentication (for more information, click [here](#)) and, following the completion of this study, will be moved to a secure server at [redacted]

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Page 2:

1 → First, please tell us about yourself.

What is your profession? *If you prefer not to say, simply write N/A.* *
e.g. Molecular biologist, 10 years

Type your answer here...

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2 → Please provide your email address if you would be willing for us to contact you for further discussion about your responses. *If you prefer not to, simply write N/A.*

Type your answer here...

3 → What gender do you most identify with? *

A Male

B Female

Key C Prefer not to say

4 → How old are you? *

A

Less than 25 years old

B

25-34 years old

C

35-44 years old

D

45-54 years old

E

55-64 years old

F

65-74 years old

G

75 years or older

Key H

Prefer not to say

1 → How would you rate your expertise on molecular signal transduction, relative to the general population? *

0

1

2

3

4

5

No knowledge

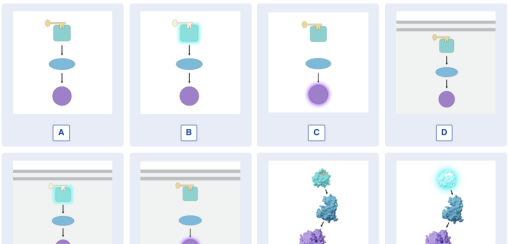
Extremely knowledgeable

2 → Consider the following scenario and communication objective in describing signal transduction for an **expert audience**:

An immunology researcher is publishing in a prominent immunological venue on the newly-discovered pivotal role that a ligand plays in a signaling pathway. Their goal is to communicate the specificity of the activation pathway and its location in the cell with a visual supplement to their publication.

In your opinion, which of the following assets **BEST** visually describes and supports this scenario and communication objective? *

To zoom in on the visuals use Ctrl + on Windows Chrome, on Mac Chrome use Command + OR visit our supplementary website: [GalleryST](#)



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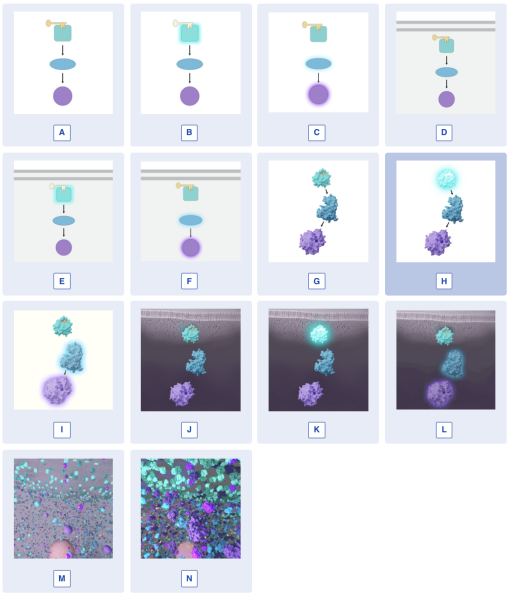
Their goal is to communicate the specificity of the activation pathway and its location in the cell.

3 → What is your **second choice** for this scenario and co...

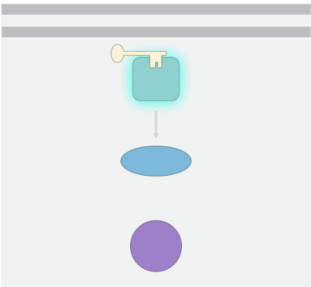


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on the newly-discovered pivotal role that a ligand plays in a signaling pathway. The 4+ What is your **third choice** for this scenario and com... and its location in the cell with a visual supplement to their publication.



5+ Now we will ask you to provide a few ratings of only your **top** choice:

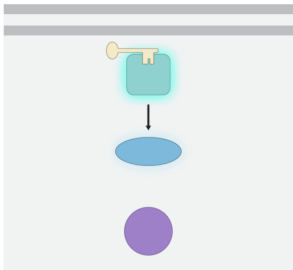


Continue press Enter ↵

5 ➔ Now we will ask you to provide a few ratings of only y...

- a. Rate your **top** choice for **aesthetics** (i.e., How visually appealing do you consider this to be?). *

An immunology researcher is publishing in a prominent immunological venue on the newly-discovered pivotal role that a ligand plays in a signaling pathway. Their goal is to communicate the specificity of the activation pathway and its location in the cell with a visual supplement to their publication.



☐ A 1 - Poor

☐ B 2 - Fair

☐ C 3- Average

☐ D 4 - Very good

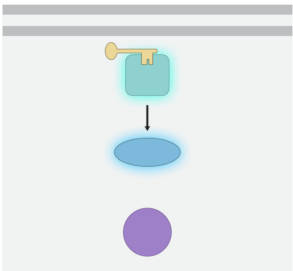
☐ E 5 - Excellent

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5 ➔ Now we will ask you to provide a few ratings of only y...

- b. Rate your **top** choice for **visual clarity**. *

An immunology researcher is publishing in a prominent immunological venue on the newly-discovered pivotal role that a ligand plays in a signaling pathway. Their goal is to communicate the specificity of the activation pathway and its location in the cell with a visual supplement to their publication.



☐ A 1 - Poor

☐ B 2 - Fair

☐ C 3- Average

☐ D 4 - Very good

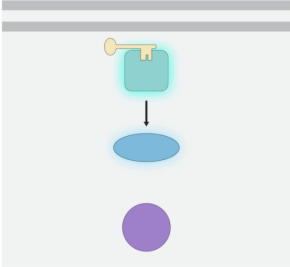
☐ E 5 - Excellent

Powered by **Typeform** ^ v

5 → Now we will ask you to provide a few ratings of only y...

c. Rate your **top choice** for **scientific accuracy**. *

An immunology researcher is publishing in a prominent immunological venue on the newly-discovered pivotal role that a ligand plays in a signaling pathway. Their goal is to communicate the specificity of the activation pathway and its location in the cell with a visual supplement to their publication.



☐ A 1 - Poor

☐ B 2 - Fair

☐ C 3- Average

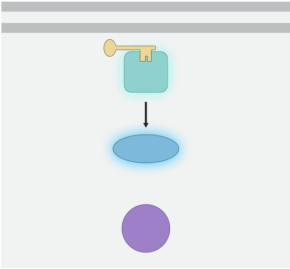
☐ D 4 - Very good

☐ E 5 - Excellent

Powered by Typeform ^ v

5 → Now we will ask you to provide a few ratings of only y...
d. Rate your **top choice** for **communication success** (i...

An immunology researcher is publishing in a prominent immunological venue on the newly-discovered pivotal role that a ligand plays in a signaling pathway. Their goal is to communicate the specificity of the activation pathway and its location in the cell with a visual supplement to their publication.



☐ A 1 - Poor

☐ B 2 - Fair

☐ C 3- Average

☐ D 4 - Very good

☒ E 5 - Excellent

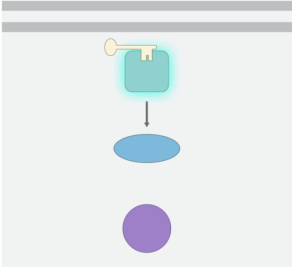
☐ F N/A - I lack the expertise to answer this question

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5 ➔ Now we will ask you to provide a few ratings of only y...

- e. Use the below keywords to describe the **strengths** of your **top** choice. *

An immunology researcher is publishing in a prominent immunological venue on the newly-discovered pivotal role that a ligand plays in a signaling pathway. Their goal is to communicate the specificity of the activation pathway and its location in the cell with a visual supplement to their publication.



Choose as many as you like

☒ A Accurate

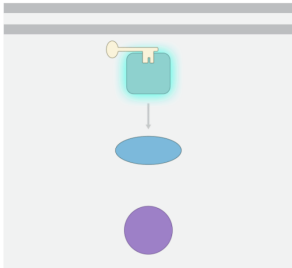
☒ B Clear

☒ C Detailed

☐ D Easy to read

Powered by Typeform ^ v

5 ➔ Now we will ask you to provide a few ratings of only y...
f Use the below keywords to describe the **weaknesse...**



Choose as many as you like

☐ A Confusing

☐ B Distracting

☐ C Excessive

☐ D Inaccurate

☒ E Misleading

☒ F Simplicistic

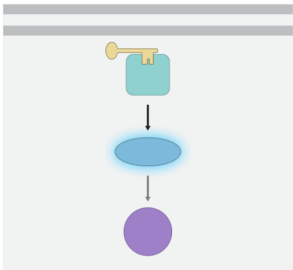
☐ G Visually unappealing

☐ H Other (please separate multiple keywords with a comma)

Powered by Typeform ^ v

5 → Now we will ask you to provide a few ratings of only y...

9. If you have further comments on the options or your **top** choices for this *expert* scenario, please write them here. Otherwise, simply write N. *



Type your answer here...

Shift ⌘ + Enter ↵ to make a line break

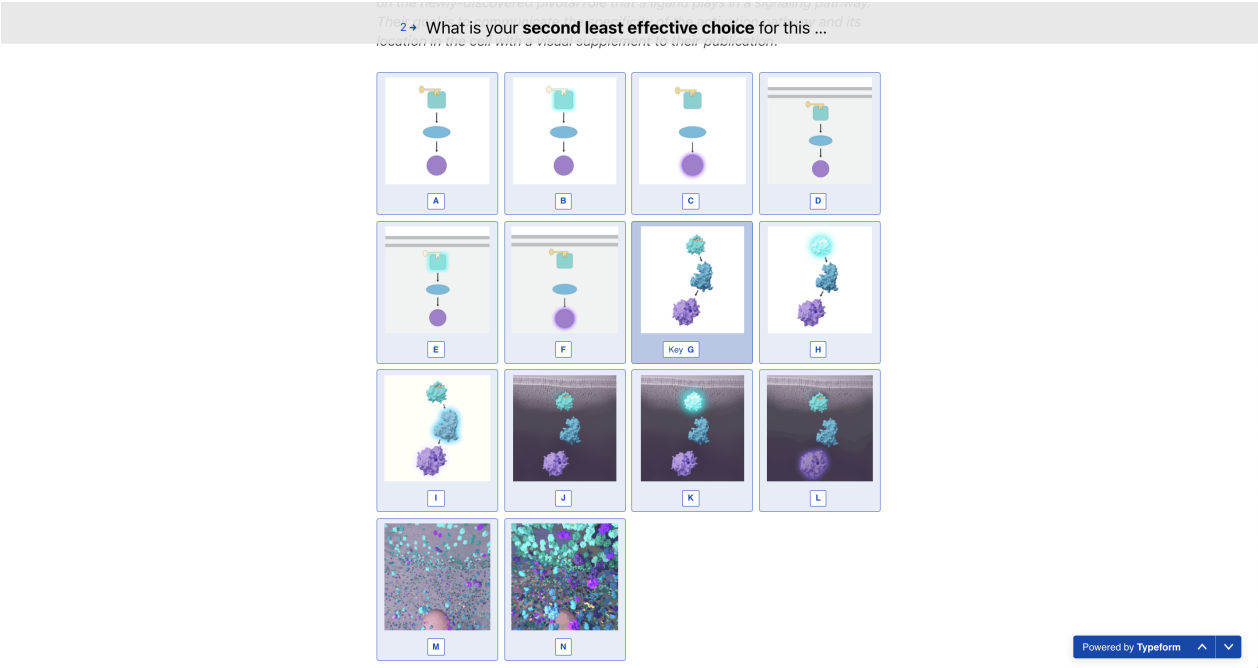
1 → Consider again the same scenario and communication objective in describing signal transduction for an **expert audience**. In your opinion, which of the following assets **LEAST** visually describes and supports this scenario and communication objective (i.e., your **bottom** choice)? Please choose a visual only once. To zoom in on the visuals use Ctrl + on Windows Chrome, on Mac Chrome use Command + OR visit our supplementary website:

GalleryST *
An immunology researcher is publishing in a prominent immunological venue on the newly-discovered pivotal role that a ligand plays in a signaling pathway. Their goal is to communicate the specificity of the activation pathway and its location in the cell with a visual supplement to their publication.



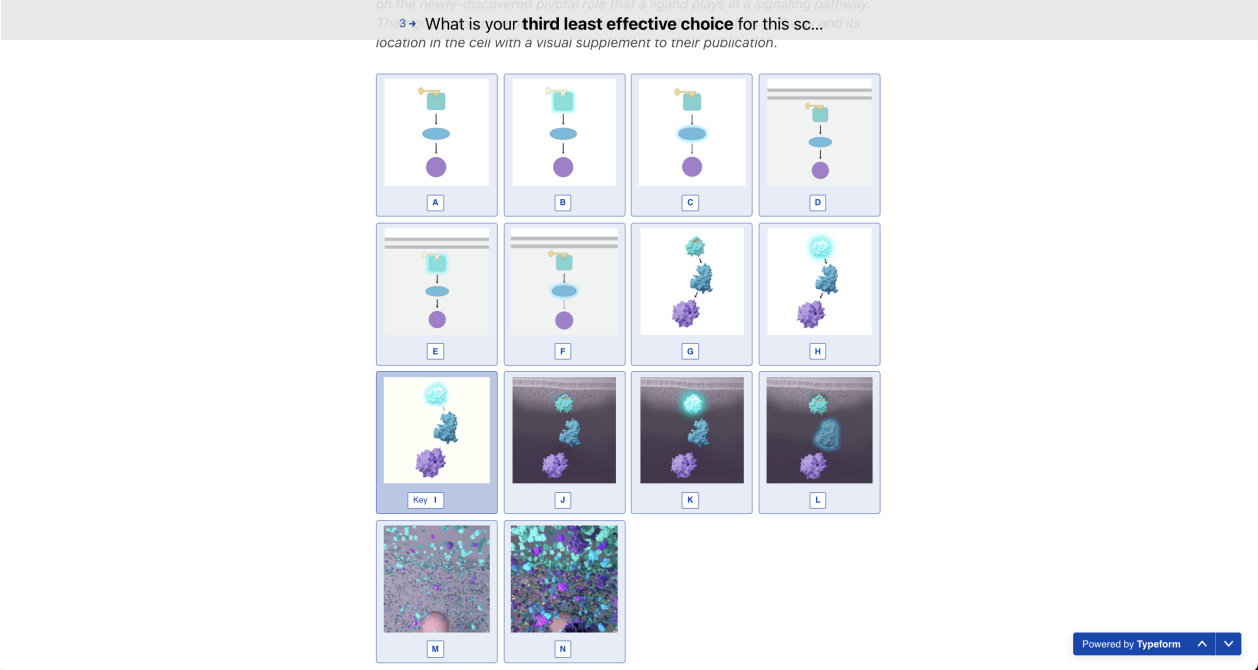
2+ What is your **second** least effective choice for this ...

2+ What is your **second** least effective choice for this ...

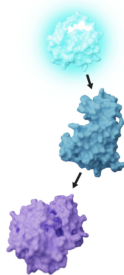


Th:3+ What is your **third least effective choice** for this sc...and its location in the cell with a visual supplement to their publication.

Th:3+ What is your **third least effective choice** for this sc...and its location in the cell with a visual supplement to their publication.



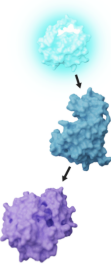
4 → Now we will ask you to provide a few ratings of only your **bottom** choice:



Continue press Enter ↵

4 → Now we will ask you to provide a few ratings of only y...

- a. Rate your **bottom** choice for **aesthetics** (i.e., How visually appealing do you consider this to be?). *
- An immunology researcher is publishing in a prominent immunological venue on the newly-discovered pivotal role that a ligand plays in a signaling pathway. Their goal is to communicate the specificity of the activation pathway and its location in the cell with a visual supplement to their publication.*

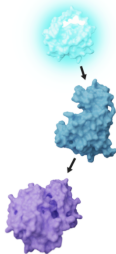


A	1 - Poor
B	2 - Fair
C	3- Average
D	4 - Very good ✓
E	5 - Excellent

4 ➔ Now we will ask you to provide a few ratings of only y...

b. Rate your **bottom** choice for **visual clarity**. *

An immunology researcher is publishing in a prominent immunological venue on the newly-discovered pivotal role that a ligand plays in a signaling pathway. Their goal is to communicate the specificity of the activation pathway and its location in the cell with a visual supplement to their publication.



A

1 - Poor

B

2 - Fair

C

3- Average

Key D

4 - Very good

E

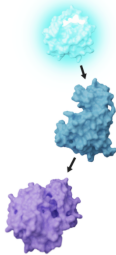
5 - Excellent

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4 ➔ Now we will ask you to provide a few ratings of only y...

c. Rate your **bottom** choice for **scientific accuracy**. *

An immunology researcher is publishing in a prominent immunological venue on the newly-discovered pivotal role that a ligand plays in a signaling pathway. Their goal is to communicate the specificity of the activation pathway and its location in the cell with a visual supplement to their publication.



A

1 - Poor

B

2 - Fair

Key C

3- Average

D

4 - Very good

E

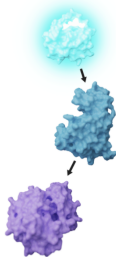
5 - Excellent

Powered by Typeform ^ v

4 → Now we will ask you to provide a few ratings of only y...

d. Rate your **bottom** choice for **communication success** (i.e., How well does it meet the researcher's communication objective?). *

An immunology researcher is publishing in a prominent immunological venue on the newly-discovered pivotal role that a ligand plays in a signaling pathway. Their goal is to communicate the specificity of the activation pathway and its location in the cell with a visual supplement to their publication.



A

1 - Poor

Key B

2 - Fair

C

3 - Average

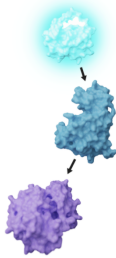
D

4 - Very good

Powered by Typeform ^ v

4 → Now we will ask you to provide a few ratings of only y...

• Use the below keywords to describe the **strengths** o...



Choose as many as you like

A

Accurate

B

Clear

C

Detailed ✓

D

Easy to read

E

Informative

F

Precise

Key G

Pretty ✓

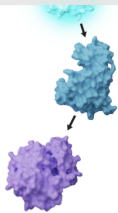
H

Other (please separate multiple keywords with a comma)

Powered by Typeform ^ v

4 → Now we will ask you to provide a few ratings of only y...

f Use the below keywords to describe the **weaknesse...**



Choose as many as you like

A

Confusing✓

B

Distracting

C

Excessive

D

Inaccurate✓

E

Misleading

Key F

Simplicistic

G

Visually unappealing

H

Other (please separate multiple keywords with a comma)

OK

✓

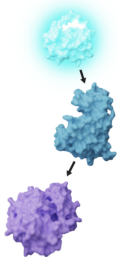
Powered by Typeform

^

▼

4 → Now we will ask you to provide a few ratings of only y...

9. If you have further comments on the options or your **bottom** choices for this *expert* scenario, please write them here. Otherwise, simply write N. *



Type your answer here...

Shift ⌘ + Enter ↵ to make a line break

Powered by Typeform

^

▼

1. Now consider the following scenario and communication objective in describing signal transduction for a **general audience**:

An introductory biology student is studying for an upcoming exam. Their goal is to understand how a 'message' is relayed through a series of messengers inside a cell.

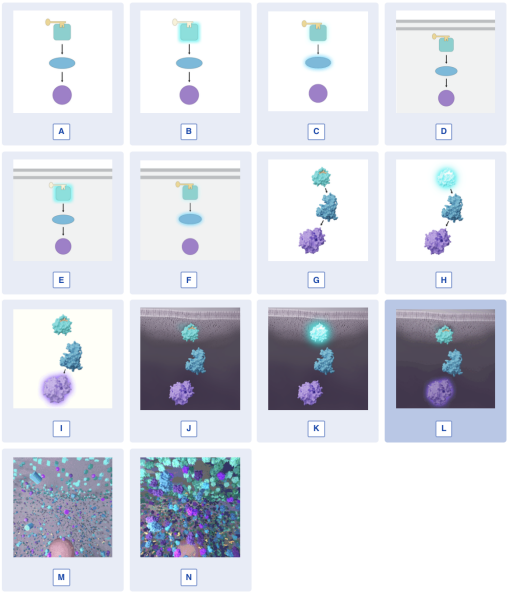
In your opinion, which of the following assets **BEST** visually describes and supports this scenario and communication objective? *

To zoom in on the visuals use Ctrl + on Windows Chrome, on Mac Chrome use Command + OR visit our supplementary website: [GalleryST](#)



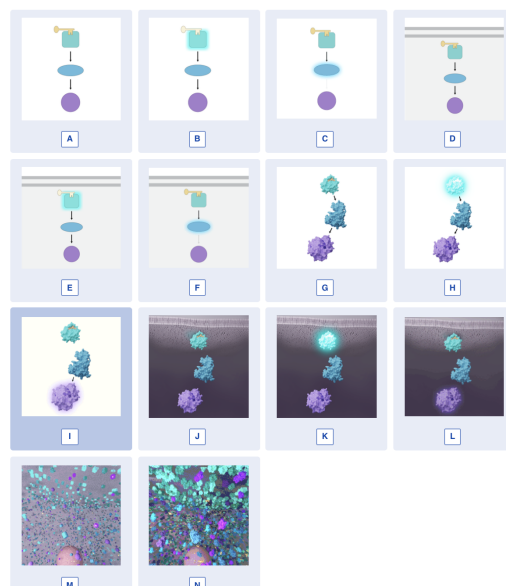
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to understand how a 'message' is relayed through a series of messengers inside a cell. 2. What is your **second choice** for this scenario and co...

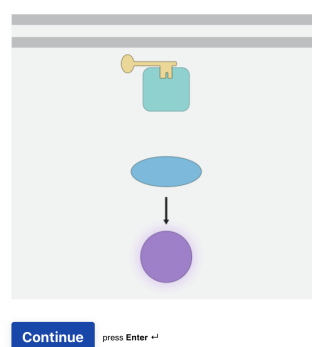


Powered by Typeform

Answer 3 → What is your **third choice** for this scenario and comment on it? *Their goal is to understand how a 'message' is relayed through a series of messengers inside a cell.*



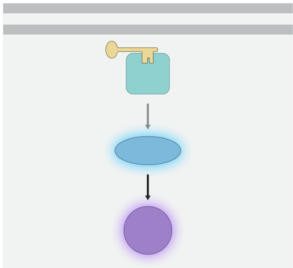
4 → Now we will ask you to provide a few ratings of only your **top** choice:



4 ➔ Now we will ask you to provide a few ratings of only y...

a. Rate your **top** choice for **aesthetics** (i.e., How visually appealing do you consider this to be?). *

An introductory biology student is studying for an upcoming exam. Their goal is to understand how a 'message' is relayed through a series of messengers inside a cell.



☐ A 1 - Poor

☐ B 2 - Fair

☒ C 3- Average

☐ D 4 - Very good

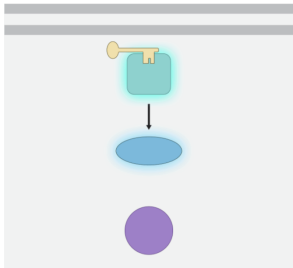
☐ E 5 - Excellent

Powered by **Typeform** ^ v

4 ➔ Now we will ask you to provide a few ratings of only y...

b. Rate your **top** choice for **visual clarity**. *

An introductory biology student is studying for an upcoming exam. Their goal is to understand how a 'message' is relayed through a series of messengers inside a cell.



☐ A 1 - Poor

☐ B 2 - Fair

☐ C 3- Average

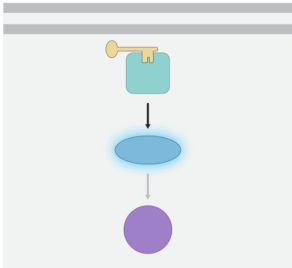
☒ D 4 - Very good

☐ E 5 - Excellent

Powered by **Typeform** ^ v

4 + Now we will ask you to provide a few ratings of only y...

- c. Rate your **top choice for scientific accuracy**. *
- An introductory biology student is studying for an upcoming exam. Their goal is to understand how a 'message' is relayed through a series of messengers inside a cell.*



☐ A 1 - Poor

☐ B 2 - Fair

☐ C 3- Average

☐ D 4 - Very good

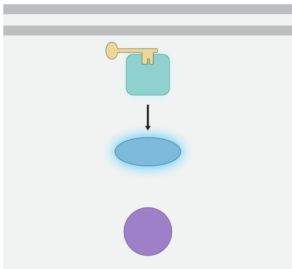
☐ E 5 - Excellent

☐ F NA - I ask the question to answer this question

Powered by Typeform ^ v

4 + Now we will ask you to provide a few ratings of only y...

- d. Rate your **top choice for communication success** (i.e., How well does it meet the student's communication objective?). *
- An introductory biology student is studying for an upcoming exam. Their goal is to understand how a 'message' is relayed through a series of messengers inside a cell.*



☐ A 1 - Poor

☐ B 2 - Fair

☐ C 3- Average

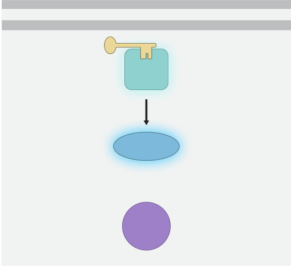
☒ D 4 - Very good

☐ E 5 - Excellent

Powered by Typeform ^ v

4 → Now we will ask you to provide a few ratings of only y...

e Use the below keywords to describe the **strengths** o...



Choose as many as you like

A

Accurate✓

B

Clear✓

C

Detailed

D

Easy to read✓

E

Informative

F

Precise

G

Pretty

H

Other (please separate multiple keywords with a comma)

OK

✓

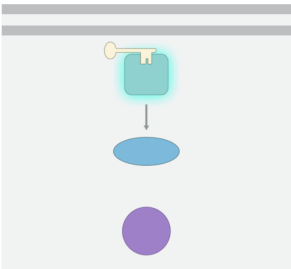
Powered by Typeform

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▼

4 → Now we will ask you to provide a few ratings of only y...

inside f Use the below keywords to describe the **weaknesse**...



Choose as many as you like

A

Confusing

B

Distracting

C

Excessive

D

Inaccurate✓

E

Misleading

F

Simplicistic✓

G

Visually unappealing

H

Other (please separate multiple keywords with a comma)

OK

✓

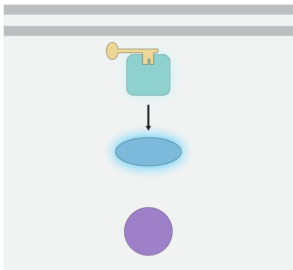
Powered by Typeform

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▼

4 → Now we will ask you to provide a few ratings of only y...

9. If you have further comments on the options or your **top** choices for this *general* scenario, please write them here. Otherwise, simply write N. *



Type your answer here...

Shift ⌘ + Enter ↵ to make a line break

1 → Consider again the same scenario and communication objective in describing signal transduction for a **general audience**. In your opinion, which of the following assets **LEAST** visually describes and supports this scenario and communication objective (i.e., your **bottom** choice)? *Please choose a visual only once. To zoom in on the visuals use Ctrl + on Windows Chrome, on Mac Chrome use Command + OR visit our supplementary website:*

GalleryST *
An introductory biology student is studying for an upcoming exam. Their goal is to understand how a 'message' is relayed through a series of messengers inside a cell.



to understand how a 'message' is relayed through a series of messengers inside a cell. What is your **second least effective** choice for this ...



A



B



C



D



E



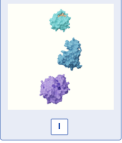
F



G



H



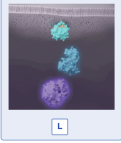
I



J



K



L



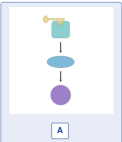
M



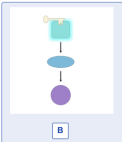
Key N

Powered by Typeform


An introductory biology student is studying for an upcoming exam. Their goal is to understand how a 'message' is relayed through a series of messengers inside a cell. What is your **third least effective** choice for this scenario?



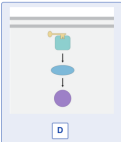
A



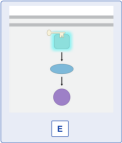
B



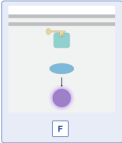
C




D




E




F




G




H




I



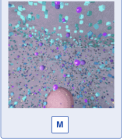
Key J



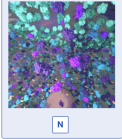
K



L



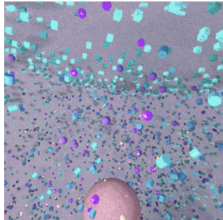
M



N

Powered by Typeform

4 → Now we will ask you to provide a few ratings of only your **bottom** choice:

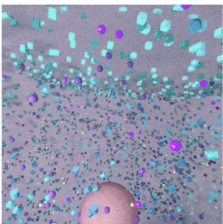


Continue press Enter ↵

4 → Now we will ask you to provide a few ratings of only y...

a. Rate your **bottom** choice for **aesthetics** (i.e., How visually appealing do you consider this to be?). *

An introductory biology student is studying for an upcoming exam. Their goal is to understand how a 'message' is relayed through a series of messengers inside a cell.



☐ A 1 - Poor

☒ B 2 - Fair

☐ C 3- Average

☐ D 4 - Very good

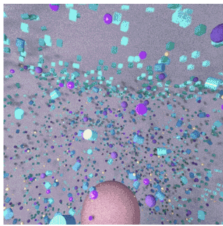
☐ E 5 - Excellent

☐ F N/A - I lack the expertise to answer this question

4 → Now we will ask you to provide a few ratings of only y...

b. Rate your **bottom** choice for **visual clarity**. *

An introductory biology student is studying for an upcoming exam. Their goal is to understand how a 'message' is relayed through a series of messengers inside a cell.



Key A 1 - Poor

B 2 - Fair

C 3- Average

D 4 - Very good

E 5 - Excellent

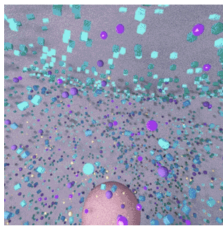
F N/A - I lack the expertise to answer this question

Powered by Typeform ^ v

4 → Now we will ask you to provide a few ratings of only y...

c. Rate your **bottom** choice for **scientific accuracy**. *

An introductory biology student is studying for an upcoming exam. Their goal is to understand how a 'message' is relayed through a series of messengers inside a cell.



Key A 1 - Poor

B 2 - Fair

C 3- Average

D 4 - Very good

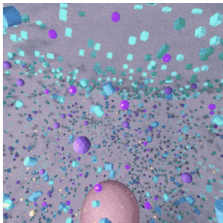
E 5 - Excellent

F N/A - I lack the expertise to answer this question

Powered by Typeform ^ v

4 → Now we will ask you to provide a few ratings of only y...

- d. Rate your **bottom** choice for **communication success** (i.e., How well does it meet the student's communication objective?). *
- An introductory biology student is studying for an upcoming exam. Their goal is to understand how a 'message' is relayed through a series of messengers inside a cell.*



Key A

1 - Poor

B

2 - Fair

C

3- Average

D

4 - Very good

E

5 - Excellent

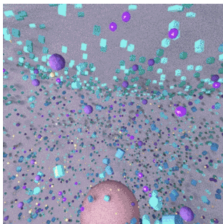
F

N/A - I lack the expertise to answer this question

Powered by Typeform ^ v

4 → Now we will ask you to provide a few ratings of only y...

- e Use the below keywords to describe the **strengths** o...



Choose as many as you like

A

Accurate

B

Clear

C

Detailed ✓

D

Easy to read

E

Informative

F

Precise

G

Pretty

H

Other (please separate multiple keywords with a comma)

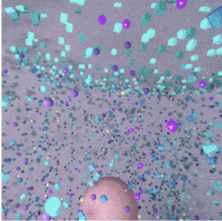
OK ✓

Powered by Typeform ^ v

4 → Now we will ask you to provide a few ratings of only y...

f Use the below keywords to describe the **weaknesse...**

to understand how a message is relayed through a series of messengers inside a cell.



Choose as many as you like

A Confusing ✓

B Distracting ✓

C Excessive ✓

D Inaccurate

E Misleading

F Simplistic

Key G Visually unappealing

H Other (please separate multiple keywords with a comma)

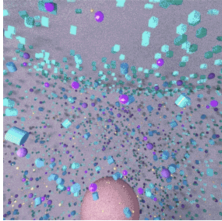
OK ✓

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Page 50:

4 → Now we will ask you to provide a few ratings of only y...

9: If you have further comments on the options or your **bottom** choices for this *general* scenario, please write them here. Otherwise, simply write N. *



Type your answer here...

Shift ⌘ + Enter ↵ to make a line break

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1 → How would you rate your expertise on molecular constitutive activation, relative to the general population? *

0

1

2

3

4

5

No knowledge

Extremely knowledgeable

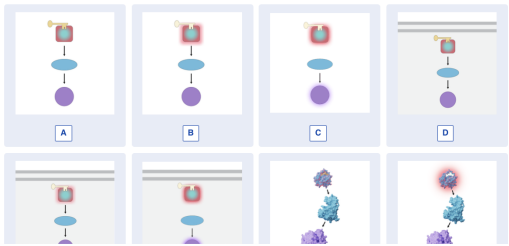
2 → Consider the following scenario and communication objective in describing constitutive activation for an **expert audience**:

An oncology researcher would like a visual supplement that demonstrates to the readership of a prominent immunology journal the mechanism of disease in which a key molecule in the signal transduction chain is constitutively activated, which produces an unregulated positive feedback loop.

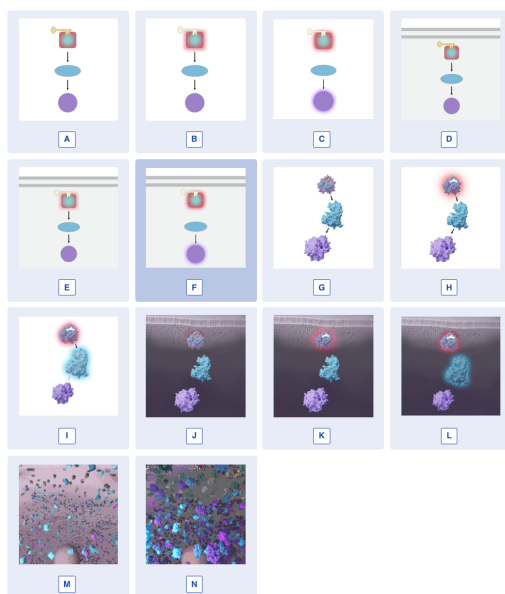
In your opinion, which of the following assets **BEST** visually describes and supports this scenario and communication objective? *

To zoom in on the visuals use Ctrl + on Windows Chrome, on Mac Chrome use Command + OR visit our supplementary website: [\[redacted\]](#)

[\[redacted\]](#) GalleryCA



3→ What is your **second choice** for this scenario and co...
which produces an unregulated positive feedback loop.



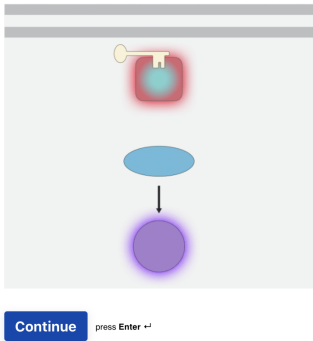
Powered by **Typeform**

4 → What is your **third choice** for this scenario and com...
which a key molecule in the signal transduction chain is constitutively activated, which produces an unregulated positive feedback loop.

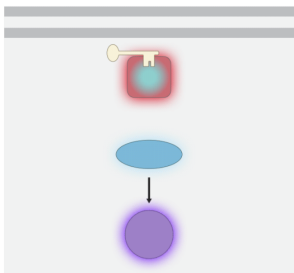


Powered by **Typeform** ^ v

5 → Now we will ask you to provide a few ratings of only your **top** choice:



5 → Now we will ask you to provide a few ratings of only y...
the **Rate your top choice for aesthetics** (i.e., How visually appealing is the **case in**
which a key molecule in the signal transduction chain is constitutively activated,
which produces an unregulated positive feedback loop.

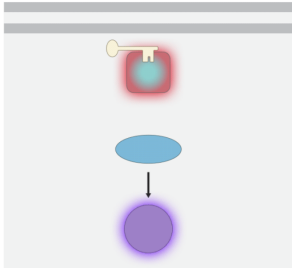


- ☐ A 1 - Poor
- ☐ B 2 - Fair
- ☒ C 3- Average
- ☐ D 4 - Very good
- ☐ E 5 - Excellent
- ☐ F N/A - I lack the expertise to answer this question

5 ➔ Now we will ask you to provide a few ratings of only y...

b. Rate your **top choice for visual clarity**. *

An oncology researcher would like a visual supplement that demonstrates to the readership of a prominent immunology journal the mechanism of disease in which a key molecule in the signal transduction chain is constitutively activated, which produces an unregulated positive feedback loop.



☐ A 1 - Poor

☐ B 2 - Fair

☐ C 3- Average

☒ D 4 - Very good

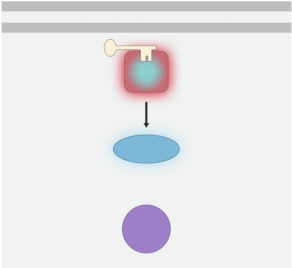
☐ E 5 - Excellent

Powered by Typeform ^ v

5 ➔ Now we will ask you to provide a few ratings of only y...

d. Rate your **top choice for communication success** (i.e., How well does it meet the researcher's communication objective?). *

An oncology researcher would like a visual supplement that demonstrates to the readership of a prominent immunology journal the mechanism of disease in which a key molecule in the signal transduction chain is constitutively activated, which produces an unregulated positive feedback loop.



☐ A 1 - Poor

☐ B 2 - Fair

☒ C 3- Average

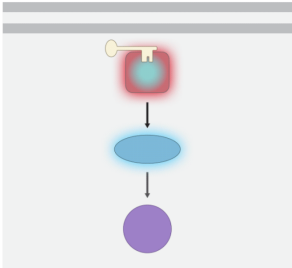
☐ D 4 - Very good

Powered by Typeform ^ v

5 → Now we will ask you to provide a few ratings of only y...

c. Rate your **top choice for scientific accuracy.** *

An oncology researcher would like a visual supplement that demonstrates to the readership of a prominent immunology journal the mechanism of disease in which a key molecule in the signal transduction chain is constitutively activated, which produces an unregulated positive feedback loop.



☐ A 1 - Poor

☐ B 2 - Fair

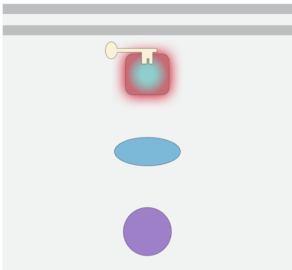
☐ C 3- Average

☒ D 4 - Very good

☐ E 5 - Excellent

Powered by Typeform ^ v

5 → Now we will ask you to provide a few ratings of only y...
which e Use the below keywords to describe the **strengths** o...



Choose as many as you like

☐ A Accurate

☒ B Clear ✓

☐ C Detailed

☒ D Easy to read ✓

☒ E Informative ✓

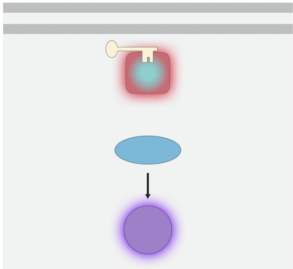
☐ F Precise

☐ G Pretty

☐ H Other (please separate multiple keywords with a comma)

Powered by Typeform ^ v

5 → Now we will ask you to provide a few ratings of only y...
which f. Use the below keywords to describe the **weaknesse...**



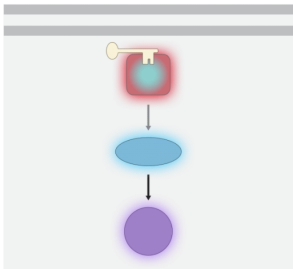
Choose as many as you like

- ☐ A Confusing
- ☐ B Distracting
- ☐ C Excessive
- ☐ D Inaccurate
- ☐ E Misleading
- ☒ F Simplistic
- ☐ G Visually unappealing
- ☐ H Other (please separate multiple keywords with a comma)

Powered by Typeform ^ v

5 → Now we will ask you to provide a few ratings of only y...

9. If you have further comments on the options or your **top** choices for this *expert* scenario, please write them here. Otherwise, simply write N. *



Type your answer here...

Shift ⌘ + Enter ↵ to make a line break

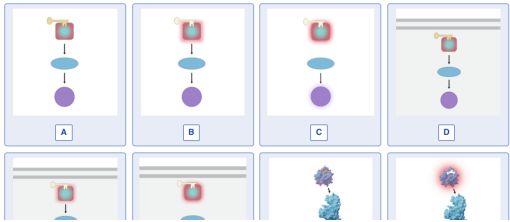
Powered by Typeform ^ v

1+ Consider again the same following scenario and communication objective in describing constitutive activation for an **expert audience**:

An oncology researcher would like a visual supplement that demonstrates to the readership of a prominent immunology journal the mechanism of disease in which a key molecule in the signal transduction chain is constitutively activated, which produces an unregulated positive feedback loop.

In your opinion, which of the following assets **LEAST** visually describes and supports this scenario and communication objective? *

To zoom in on the visuals use Ctrl/ + on Windows Chrome, on Mac Chrome use Command + OR visit our supplementary website: [GalleryCA](#)



the readership of a prominent immunology journal the mechanism of disease in which a key molecule in the signal transduction chain is constitutively activated, which produces an unregulated positive feedback loop.

2+ What is your **second least effective choice** for this ...



which a key molecule in the signal transduction chain is constitutively activated, what is your **third least effective choice** for this scenario?

A

B

C

D

E

F

G

H

I

J

K

L

M

Key N

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Page 66:

Now we will ask you to provide a few ratings of only your **bottom** choice:

Continue

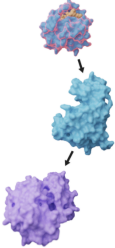
press Enter

Powered by Typeform

4 → Now we will ask you to provide a few ratings of only y...

a. Rate your **bottom** choice for **aesthetics** (i.e., How visually appealing do you consider this to be?). *

An oncology researcher would like a visual supplement that demonstrates to the readership of a prominent immunology journal the mechanism of disease in which a key molecule in the signal transduction chain is constitutively activated, which produces an unregulated positive feedback loop.



A 1 - Poor

B 2 - Fair

C 3- Average

D 4 - Very good

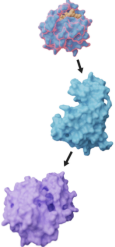
E 5 - Excellent

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4 → Now we will ask you to provide a few ratings of only y...

a. Rate your **bottom** choice for **visual clarity**.

An oncology researcher would like a visual supplement that demonstrates to the readership of a prominent immunology journal the mechanism of disease in which a key molecule in the signal transduction chain is constitutively activated, which produces an unregulated positive feedback loop.



A 1 - Poor

B 2 - Fair

C 3- Average

D 4 - Very good

E 5 - Excellent

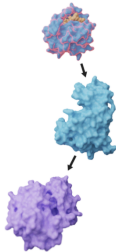
F N/A - I lack the expertise to answer this question

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4 → Now we will ask you to provide a few ratings of only y...

c. Rate your **bottom** choice for **scientific accuracy**. *

An oncology researcher would like a visual supplement that demonstrates to the readership of a prominent immunology journal the mechanism of disease in which a key molecule in the signal transduction chain is constitutively activated, which produces an unregulated positive feedback loop.



☐ A 1 - Poor

☐ B 2 - Fair

☐ C 3- Average

☒ Key D 4 - Very good

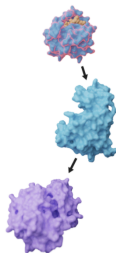
☐ E 5 - Excellent

Powered by Typeform ^ v

4 → Now we will ask you to provide a few ratings of only y...

Rate your **bottom** choice for **communication succe...**

An oncology researcher would like a visual supplement that demonstrates to the readership of a prominent immunology journal the mechanism of disease in which a key molecule in the signal transduction chain is constitutively activated, which produces an unregulated positive feedback loop.



☐ A 1 - Poor

☐ B 2 - Fair

☐ C 3- Average

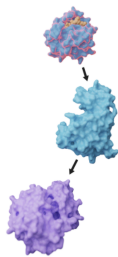
☐ D 4 - Very good

☐ E 5 - Excellent

☐ F N/A - I lack the expertise to answer this question

Powered by Typeform ^ v

4 → Now we will ask you to provide a few ratings of only y...
e Use the below keywords to describe the **strengths** o...



Choose as many as you like

☐ A Accurate

☒ Key B Clear

☐ C Detailed

☐ D Easy to read

☐ E Informative

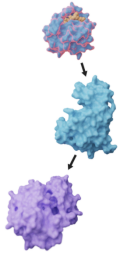
☐ F Precise

☐ G Pretty

☐ H Other (please separate multiple keywords with a comma)

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4 → Now we will ask you to provide a few ratings of only y...
f Use the below keywords to describe the **weaknesse**...



Choose as many as you like

☐ A Confusing

☐ B Distracting

☐ C Excessive

☐ D Inaccurate

☐ E Misleading

☒ Key F Simplistic

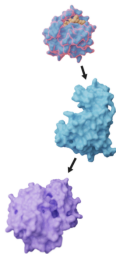
☐ G Visually unappealing

☐ H Other (please separate multiple keywords with a comma)

Powered by **Typeform** ^ v

4 → Now we will ask you to provide a few ratings of only y...

9. If you have further comments on the options or your **bottom** choices for this *expert* scenario, please write them here. Otherwise, simply write N. *



Type your answer here...

Shift ⌘ + Enter ↵ to make a line break

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1 → Now consider the following scenario and communication objective in describing constitutive activation for a **general audience**:

The same introductory biology student is tasked with identifying where in the signaling pathway a molecule is constantly activated when it should not be. This causes the entire signaling pathway to be always switched 'on'.

In your opinion, which of the following assets **BEST** visually describes and supports this scenario and communication objective? *

To zoom in on the visuals use Ctrl + on Windows Chrome, on Mac Chrome use Command + OR visit our supplementary website: [GalleryCA](#)



Waiting for visualization-uib.typeform.com...

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[http://2+](#) What is your **second choice** for this scenario and co...

The same introductory biology student is tasked with identifying where in the signaling pathway a molecule is constantly activated when it should not be. This causes the entire signaling pathway to be always switched 'on'!



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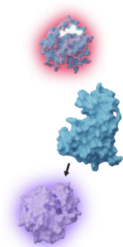
3→ What is your **third choice** for this scenario and com...

37 What is your **third choice** for this scenario and con...
 The same introductory biology student is tasked with identifying where in the signaling pathway a molecule is constantly activated when it should not be. This causes the entire signaling pathway to be always switched 'on'.



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4 → Now we will ask you to provide a few ratings of only your **top** choice:



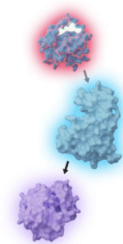
Continue press Enter ↵

Powered by Typeform ^ v

4 → Now we will ask you to provide a few ratings of only y...

a. Rate your **top** choice for **aesthetics** (i.e., How visually appealing do you consider this to be?). *

The same introductory biology student is tasked with identifying where in the signaling pathway a molecule is constantly activated when it should not be. This causes the entire signaling pathway to be always switched 'on'.



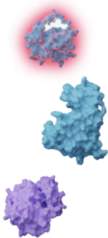
- ☐ A 1 - Poor
- ☐ B 2 - Fair
- ☐ C 3- Average
- ☐ D 4 - Very good
- ☐ E 5 - Excellent
- ☐ F N/A - I lack the expertise to answer this question

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4 + Now we will ask you to provide a few ratings of only y...

b. Rate your **top** choice for **visual clarity**. *

The same introductory biology student is tasked with identifying where in the signaling pathway a molecule is constantly activated when it should not be. This causes the entire signaling pathway to be always switched 'on'.



☐ A 1 - Poor

☐ B 2 - Fair

☒ C 3- Average

☐ D 4 - Very good

☐ E 5 - Excellent

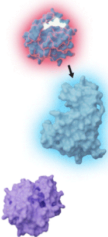
☐ F N/A - I lack the expertise to answer this question

Powered by **Typeform** ^ v

4 + Now we will ask you to provide a few ratings of only y...

c. Rate your **top** choice for **scientific accuracy**. *

The same introductory biology student is tasked with identifying where in the signaling pathway a molecule is constantly activated when it should not be. This causes the entire signaling pathway to be always switched 'on'.



☐ A 1 - Poor

☐ B 2 - Fair

☒ C 3- Average

☐ D 4 - Very good

☐ E 5 - Excellent

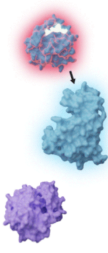
☐ F N/A - I lack the expertise to answer this question

Powered by **Typeform** ^ v

4 + Now we will ask you to provide a few ratings of only y...

d. Rate your **top** choice for **communication success** (i.e., How well does it meet the student's communication objective?). *

The same introductory biology student is tasked with identifying where in the signaling pathway a molecule is constantly activated when it should not be. This causes the entire signaling pathway to be always switched 'on'.



☐ A

 1 - Poor

☐ B

 2 - Fair

☒ C

 3- Average

☐ D

 4 - Very good

☐ E

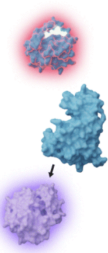
 5 - Excellent

Powered by **Typeform** ^ v

4 + Now we will ask you to provide a few ratings of only y...

e. Use the below keywords to describe the **strengths** of your **top** choice. *

The same introductory biology student is tasked with identifying where in the signaling pathway a molecule is constantly activated when it should not be. This causes the entire signaling pathway to be always switched 'on'.



Choose as many as you like

☐ A

 Accurate

☒ B

 Clear ✓

☐ C

 Detailed


☐ D

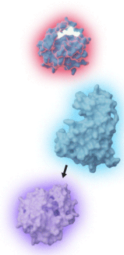
 Easy to read

☐ E

 Informative

Powered by **Typeform** ^ v

4 → Now we will ask you to provide a few ratings of only y...
This  Use the below keywords to describe the **weaknesse...**



Choose as many as you like

A

 Confusing ✓

B

 Distracting

C

 Excessive

D

 Inaccurate

E

 Misleading

F

 Simplistic

G

 Visually unappealing

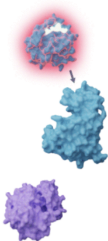
H

 Other (please separate multiple keywords with a comma)

Powered by **Typeform** ^ v

4 → Now we will ask you to provide a few ratings of only y...

9. If you have further comments on the options or your **top** choices for this *general* scenario, please write them here. Otherwise, simply write N. *



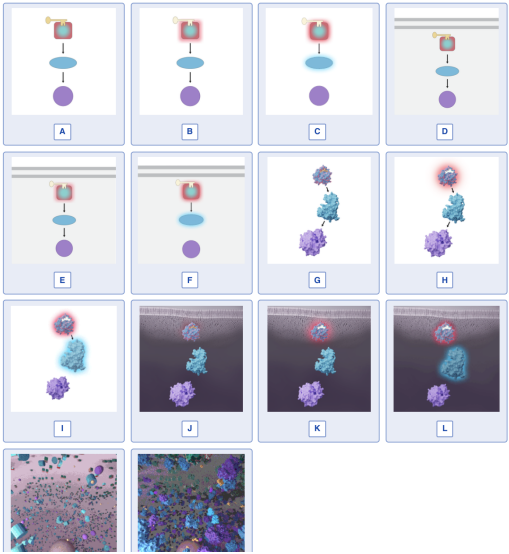
Type your answer here...

Shift ⌘ → Enter ↵ to make a line break

Powered by **Typeform** ^ v

Command + ⌘ visit our supplementary website:
[http://1+](#) Consider again the same scenario and communicatio...

The same introductory biology student is tasked with identifying where in the signaling pathway a molecule is constantly activated when it should not be. This causes the entire signaling pathway to be always switched 'on'.



The same introductory biology student is tasked with identifying where in the signaling pathway a molecule is constantly activated when it should not be. This causes the entire signaling pathway to be always switched 'on'.
2+ What is your **second least effective choice** for this ...



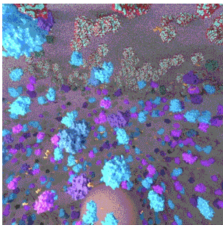
3 → What is your **third least effective choice** for this scenario and communication objective? *Please choose a visual only once. To zoom in on the visuals use Ctrl + on Windows Chrome, on Mac Chrome use Command + OR visit our supplementary website: [GalleryCA *](#)*

The same introductory biology student is tasked with identifying where in the signaling pathway a molecule is constantly activated when it should not be. This causes the entire signaling pathway to be always switched 'on'.



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4 → Now we will ask you to provide a few ratings of only your **bottom** choice:



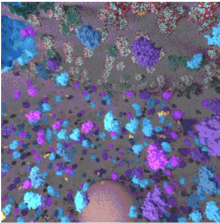
Continue press Enter ↵

Powered by **Typeform** ^ v

4 ➔ Now we will ask you to provide a few ratings of only y...

- a. Rate your **bottom** choice for **aesthetics** (i.e., How visually appealing do you consider this to be?). *

The same introductory biology student is tasked with identifying where in the signaling pathway a molecule is constantly activated when it should not be. This causes the entire signaling pathway to be always switched 'on'.



☐ A 1 - Poor

☐ B 2 - Fair

☒ C 3- Average

☐ D 4 - Very good

☐ E 5 - Excellent

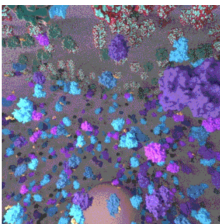
☐ F N/A - I lack the expertise to answer this question

Powered by **Typeform** ^ v

4 ➔ Now we will ask you to provide a few ratings of only y...

- b. Rate your **bottom** choice for **visual clarity**. *

The same introductory biology student is tasked with identifying where in the signaling pathway a molecule is constantly activated when it should not be. This causes the entire signaling pathway to be always switched 'on'.



☒ A 1 - Poor

☐ B 2 - Fair

☐ C 3- Average

☐ D 4 - Very good

☐ E 5 - Excellent

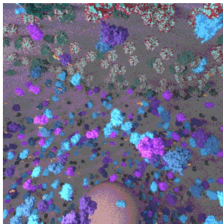
☐ F N/A - I lack the expertise to answer this question

Powered by **Typeform** ^ v

4 ➔ Now we will ask you to provide a few ratings of only y...

c. Rate your **bottom** choice for **scientific accuracy**. *

The same introductory biology student is tasked with identifying where in the signaling pathway a molecule is constantly activated when it should not be. This causes the entire signaling pathway to be always switched 'on'.



☐ A 1 - Poor

☒ B 2 - Fair

☐ C 3- Average

☐ D 4 - Very good

☐ E 5 - Excellent

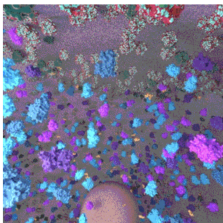
☐ F N/A - I lack the expertise to answer this question

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4 ➔ Now we will ask you to provide a few ratings of only y...

d. Rate your **bottom** choice for **communication success** (i.e., How well does it meet the student's communication objective?). *

The same introductory biology student is tasked with identifying where in the signaling pathway a molecule is constantly activated when it should not be. This causes the entire signaling pathway to be always switched 'on'.



☒ A 1 - Poor

☐ B 2 - Fair

☐ C 3- Average

☐ D 4 - Very good

☐ E 5 - Excellent

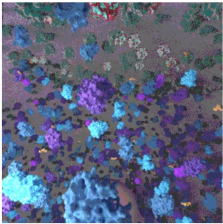
☐ F N/A - I lack the expertise to answer this question

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4 → Now we will ask you to provide a few ratings of only y...

e Use the below keywords to describe the **strengths** o...

The same introductory biology student is tasked with identifying where in the signaling pathway a molecule is constantly activated when it should not be. This causes the entire signaling pathway to be always switched 'on'.



Choose as many as you like

A

Accurate

B

Clear

C

Detailed ✓

D

Easy to read

E

Informative

F

Precise

Key G

Pretty

H

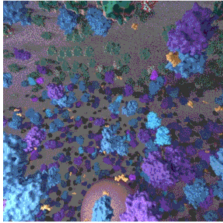
Other (please separate multiple keywords with a comma)

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4 → Now we will ask you to provide a few ratings of only y...

f. Use the below keywords to describe the **weaknesses** of your **bottom** choice. *

The same introductory biology student is tasked with identifying where in the signaling pathway a molecule is constantly activated when it should not be. This causes the entire signaling pathway to be always switched 'on'.



Choose as many as you like

Key A

Confusing

B

Distracting ✓

C

Excessive ✓

D

Inaccurate

E

Misleading

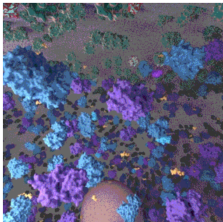
F

Simplicistic

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4 → Now we will ask you to provide a few ratings of only y...

9. If you have further comments on the options or your **bottom** choices for this *general* scenario, please write them here. Otherwise, simply write N. *



Type your answer here...

Shift ⌘ + Enter ↵ to make a line break

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Thank you for your participation!

If you have questions or are interested in updates on this work please feel free to reach out to: [redacted]

How you ask is everything [Create a typeform](#)