COVID HACKS Field Test

9th/10th Grade Biology
PRE-assessment
PDF Scantron Version

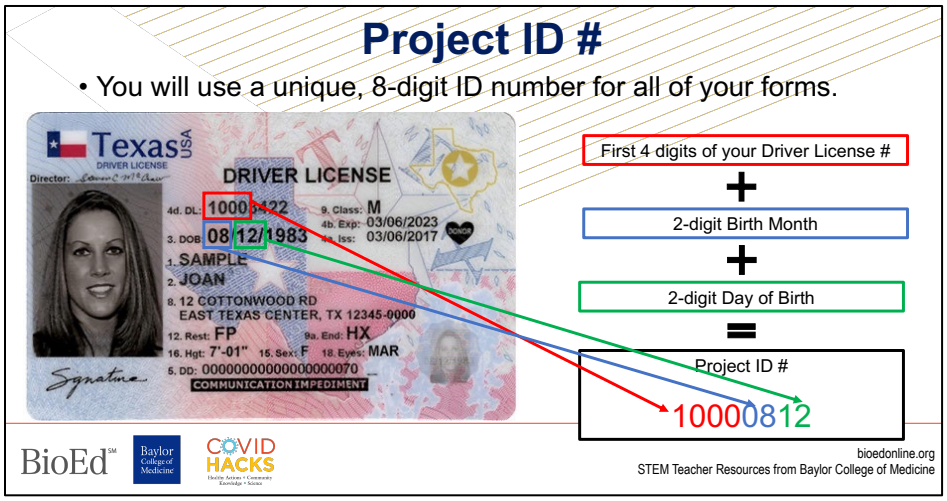
Instructions

1. NO STUDENT NAMES! Assign each student an ID number and instruct them to write it at the top of the front page of the assessment. This number can be any number of your choosing.

2. Please ask the students not to make stray marks through bubbles they do not intend to use as their answers. Please eliminate answers using the text instead.

3. DO NOT discuss the answers to any questions until AFTER the POST-assessment. Let your students know they will learn more soon!

4. Once finished, SAVE all tests into one document named using your Project ID number as the document name.



Upload the file with the student tests to the field test project website.

837588-980957

Student Number: _____

Baylor College of Medicine

COVID HACKS
9th/10th Grade Biology
Pre-assessment

COVID HACKS
Healthy Actions • Community Knowledge • Science

Fill in the bubble next to the best answer for each question below.

1. What is the name of the virus that causes COVID-19?

- Ⓐ SARS-CoV-1
- Ⓑ SARS-CoV-2
- Ⓒ COVID-19
- Ⓓ MERS-CoV

2. Why are viruses like the one that causes COVID-19 called coronaviruses?

- Ⓐ Corona is the last name of the person who discovered them.
- Ⓑ The “spikes” on the outside can look like a crown.
- Ⓒ Their lipid envelope is made of corona molecules.
- Ⓓ They originate from the Corona genus of animals.

3. Which of the following is a similarity between animal cells and viruses?

- Ⓐ Must carry out metabolic functions to survive
- Ⓑ Can produce proteins from genetic material
- Ⓒ Have proteins on the outer surface
- Ⓓ Require a host to reproduce

4. Which of the following is true of viruses?

- Ⓐ Viruses lack many of the properties of living things.
- Ⓑ Once you have had a virus, you cannot catch the same one again.
- Ⓒ Viruses can replicate on hard surfaces.
- Ⓓ Viruses can be killed with antibiotics.

5. What is herd immunity?

- Ⓐ When everyone in a community has already been infected with a disease.
- Ⓑ Most of the people in a community are protected from a disease so it cannot spread.
- Ⓒ When other animals are not able to contract a disease.
- Ⓓ When some people in a community are infected with a disease but do not have symptoms.

6. How does the virus that causes COVID-19 enter cells?

- Ⓐ It coats itself in the cell’s endoplasmic reticulum to pass through the cell membrane.
- Ⓑ It binds itself to a receptor on the cell membrane and fuses its membrane to that of the cell.
- Ⓒ It binds itself to macrophages and is carried through the cell membrane.
- Ⓓ It does not enter cells, but attacks them from the outside.

7. Which of the following is one way that the virus that causes COVID-19 causes illness?

- Ⓐ It destroys lung cells by attaching to the outside and blocking needed oxygen flow.
- Ⓑ It destroys lung cells by using all the cell resources to replicate itself.
- Ⓒ It destroys lung cells by attacking the energy system inside the cell.
- Ⓓ It destroys lung cells by producing a surplus of interferon proteins.

8. **Which of the following is a step in vaccine development?**

   Ⓐ Increase the number of antigens on a live attenuated virus

   Ⓑ Use animal models to determine the appropriate amount of vaccine

   Ⓒ Isolate plasma from those who have already recovered from the target disease

   Ⓓ Give the vaccine to healthy volunteers to evaluate safety and immune response

9. **How do vaccines work?**

   Ⓐ Vaccines give people the illness caused by the pathogen so they cannot get sick again.

   Ⓑ Vaccines train the immune system to recognize the pathogen.

   Ⓒ Vaccines provide an extra source of adjuvant, a chemical that blocks pathogens.

   Ⓓ Scientists are not entirely certain how vaccines work.

10. **Which of the following components are part of the adaptive immune system?**

    Ⓐ Cytokines

    Ⓑ T Cells

    Ⓒ Neutrophils

    Ⓓ Protease enzymes

11. **What is unique about mRNA vaccines?**

    Ⓐ They only are active inside the cell nucleus.

    Ⓑ They can trick the immune system.

    Ⓒ They tell cells to make viral proteins.

    Ⓓ They recruit mitochondria inside cells.

What actions can help prevent catching an infection with COVID-19?
Write your answer in the box below.

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There are no correct answers for the following questions. You are simply being asked your opinion. Indicate your true feelings, not what you think may be an answer that is expected. Fill in the appropriate answer bubble according to the scale below. It is important that all questions are answered by filling in only one answer:

1 = Strongly Disagree, 2 = Disagree, 3 = Neither agree nor disagree, 4 = Agree, 5 = Strongly Agree

		Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree
1.	I know how to reduce my risks of contracting COVID-19.	①	②	③	④	⑤
2.	I know where to find trustworthy health information on the Internet.	①	②	③	④	⑤
3.	I can explain how vaccines work to friends and family.	①	②	③	④	⑤
4.	I can explain how COVID-19 infects people.	①	②	③	④	⑤
5.	Learning about science is interesting.	①	②	③	④	⑤
6.	I would like to work in a field related to science.	①	②	③	④	⑤
7.	I expect to use science when I get out of school.	①	②	③	④	⑤
8.	I am curious about the science behind COVID-19.	①	②	③	④	⑤
9.	I would like to know more about how scientists make discoveries.	①	②	③	④	⑤
10.	I enjoy learning about science topics related to health.	①	②	③	④	⑤