



# Principles of Biomedical Science

Virtual Learning

**9-12 / PLTW<sup>®</sup> PBS**

May 7, 2020



# Principles of Biomedical Science

9-12/PLTW<sup>®</sup> PBS  
Lesson: May 7, 2020

## Objective/Learning Target:

Students will be able to: identify and describe features of the six major forms of "infectious agents" pathogens. (*Reference: PLTW<sup>®</sup> 5.1.2 Infectious Disease Agents*)



# Let's Get Started (Bell Ringer):

Watch the following Videos about Pathogens:

[Pathogens and Transmission](#)

[What Are Pathogens? | Health | Biology | FuseSchool](#)



# Lesson/Activity:

Start by... Creating the following graphic organizer in your laboratory journal or on a separate piece of paper.

Type of Infectious Agent	Disease Examples	Modes of Transmission	Does the Pathogen Require a Host for Reproduction?	How the Pathogen is Treated
Bacteria				
Fungus				
Helminths				
Prions				
Protozoa				
Viruses				



## Lesson/Activity continued:

Once your Table is complete now time to do some research. Use the [MAYO CLINIC Diseases and Conditions](#) website to help you fill in the table. Find the disease by its first letter and the rest is easy. Here are some ideas to get you started feel free to use all or none of them.

Mycobacterium tuberculosis  
Plasmodium parasite  
Trichinella roundworm  
Rotavirus

Streptococcus Pyogenes  
Cryptosporidium parvum parasite  
Taenia species  
Histoplasma capsulatum

Treponema pallidum  
Prion protein (PrP)  
Rhinovirus  
Tinea corporis

Giardia lamblia parasite  
Ascariasis worm  
Influenza  
Tinea pedis

# Answers:

These are just examples, there are many different correct answers.

Type of Infectious Agent	Disease Examples	Modes of Transmission	Does the Agent Require a Host for Reproduction?	How the Agent is Treated
Bacteria	Strep throat	Airborne	No	penicilin
Viruses	Common cold	Enters body through mouth or nose	No	No cure
Fungus	dermatophytes	Can spread by direct skin to skin	yes	Antifungal or ural medication
Protozoa	malaria	Parasites live in the	yes	Administration of



# Lesson/Activity continued:

In your notebook or separate piece of paper make the new chart below. Using your completed graphic organizer to help you out, what can be done to prevent the transmission for these infectious agent?

<b>Infectious Agent</b>	<b>Transmission Prevention</b>
Bacteria	
Fungus	
Helminths	
Prions	
Protozoa	
Viruses	



## Answers:

Answers will vary, following proper sanitary techniques will work for all, specific ideas for each agent based on pathogens are also accepted. **Some examples of sanitary techniques are as follows: Wash your hands before eating, or touching your eyes, nose or mouth. Wash your hands after touching anyone who is sneezing, coughing or blowing their nose. Don't share things like towels, lipstick, toys, or anything else that might be contaminated with respiratory germs.**





## Practice:

[Unit 5.1.2 Vocabulary](#), quiz yourself over terms you need to know.

Try a [Pathogens and Disease](#) quiz and see what you know, answers will be provided when complete.

[The future of infectious diseases. | Paul Cosford | TEDxUoChester](#)



## Additional Practice:

### Additional Resources to Explore:

Learn better with music? Try this out to help you remember information about Pathogens. [Pathogens Song](#)

Interesting information on how some pathogens affect specific organisms. [How parasites change their host's behavior - Jaap de Roode](#) TED-ED