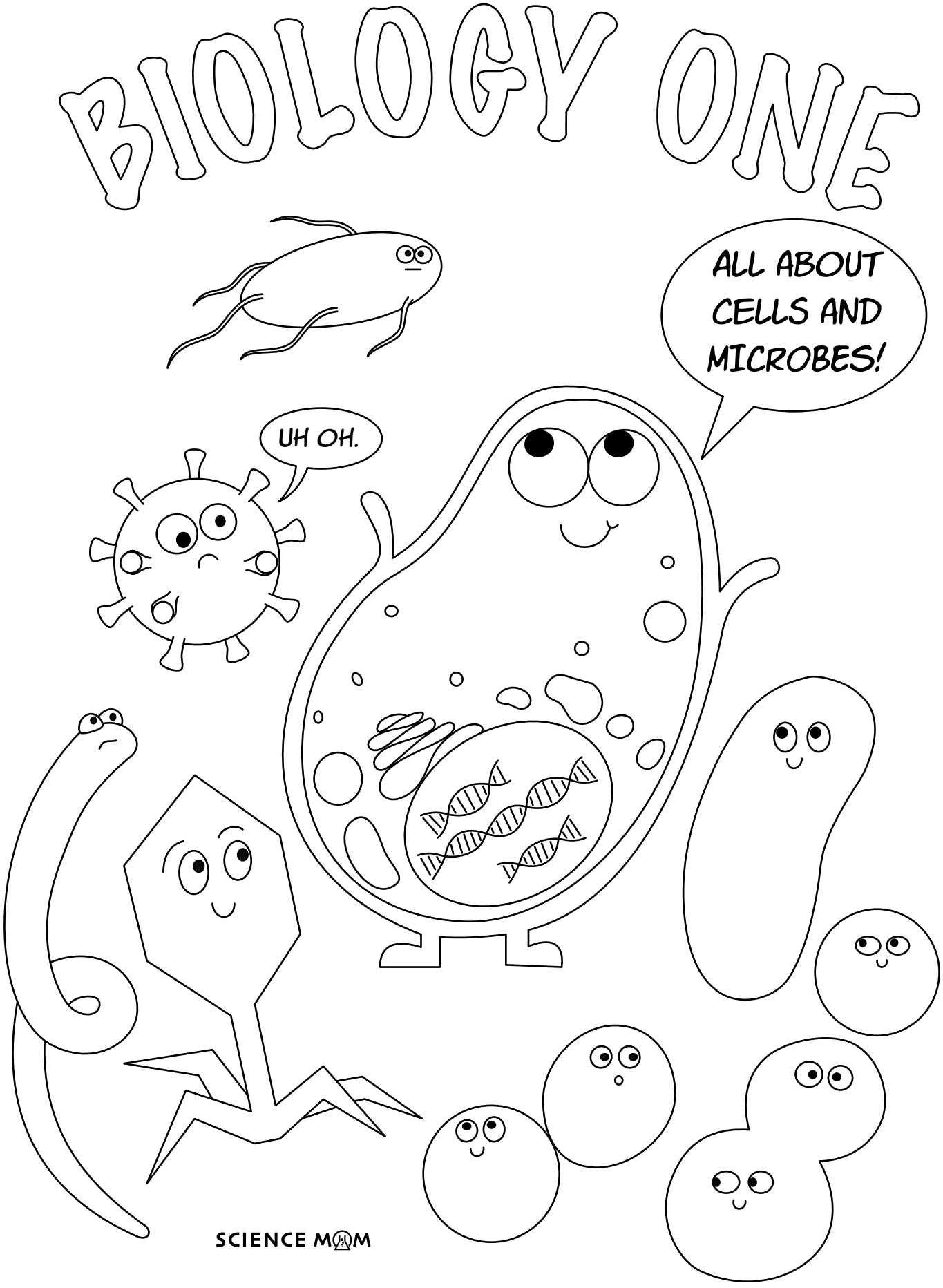
BIOLOGY ONE

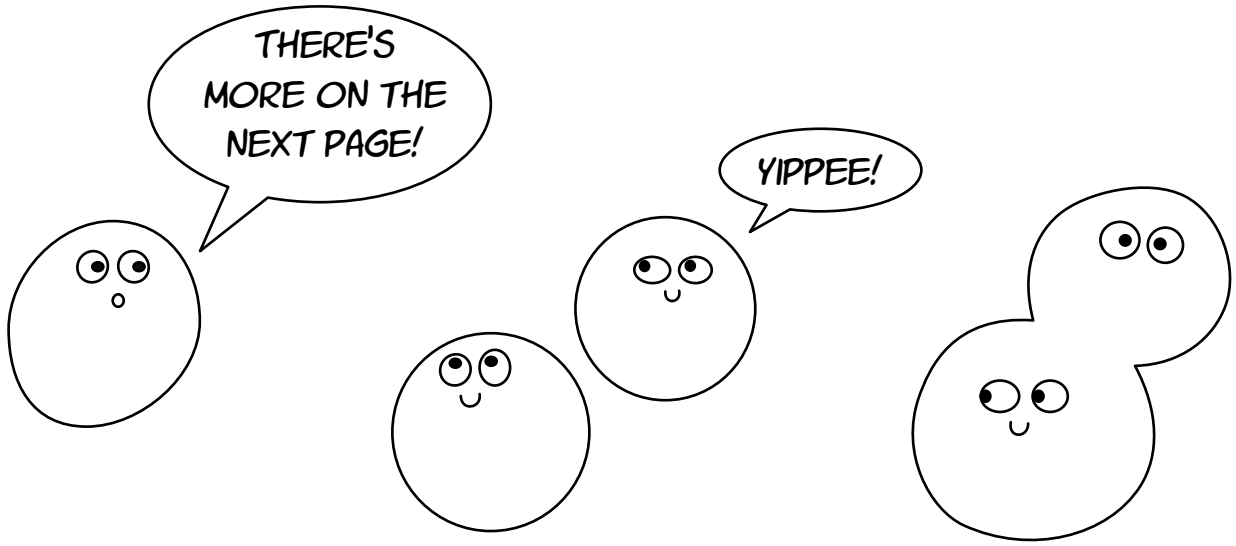


BIOLOGY ONE

~ FALL 2021 ~

	Date	Topic	Page(s)
Week 1	Monday, Aug 30 - Friday, Sep 3	*Small-group meetups! Watch the welcome video explaining how the class works, and then join us for an optional zoom meeting to meet some of your classmates and chat with us face-to-face!*	- - -
Week 2	*Monday, Sep 6*	*Holiday - no class*	
	Wednesday, Sep 8	It's alive! Or is it? *Characteristics of living things and why we study biology.*	-
	Friday, Sep 10	The cell and its parts. *Meet the membrane, nucleus, and more!*	-
Week 3	Monday, Sep 13	Single vs Multi-celled. *Introducing a few of the cells that live on and in you.*	-
	Wednesday, Sep 15	DIY Petri Dish Experiment *Set up your own colonies of bacteria with DIY petri dishes.*	-
	Friday, Sep 17	Practice Quiz 1. ***Intro to Cells Quiz Show***	-
Week 4	Monday, Sep 20	What is blood? *Introduction to circulatory system and different blood cells.*	-
	Wednesday, Sep 22	Why we need to breathe. *An introduction to the respiratory system.*	-
	Friday, Sep 24	How nerves work. *Introduction to the nervous system and the longest cells!*	-
Week 5	Monday, Sep 27	There's more of us than you! *Introduction to the digestive system and the microbiome.*	-
	Wednesday, Sep 29	Why chocolate is bad for dogs. *A deeper look at cell proteins.*	-
	Friday, Oct 1	Osmosis Apoptosis! *All about cell membranes and why we salt our food.*	-
Week 6	*Monday, Oct 4*	Mitosis *DNA and cell division!*	
	Wednesday, Oct 6	The most poisonous toxins in the world. *What happens when things go wrong in the cell.*	
	Friday, Oct 8	Practice Quiz 2. ***Physiology Quiz Show***	

	Date	Topic	NGSS *(if applicable)*	Page(s)
Week 7	Monday, Oct 11	Mighty Mitochondria *All about respiration.*		
	Wednesday, Oct 13	Clever Chloroplasts *Fantastic photosynthesis.*		
	Friday, Oct 15	Animals and Fungi *Diversity of the consumers.*		
Week 8	Monday, Oct 18	Plants *The big producers.*		
	Wednesday, Oct 20	The Single-Celled *The most diverse groups of all.*		
	Friday, Oct 22	Practice Quiz 3. ***Diversity of Life Quiz Show***		
Week 9	Monday, Oct 25	The Immune System *An introduction to the body's most fascinating system.*		
	Wednesday, Oct 27	How Antibodies Work *The basic defenses and fighters against infections.*		
	Friday,Oct 29	You're Allergic to What? *How a misbehaving immune system causes allergies.*		
Week 10	Monday, Nov 1	Long term Immunity? *How the body recognizes intruders it has seen before.*		
	Wednesday, Nov 3	Blue Blooded Superpowers *The very different immune system of horseshoe crabs!*		
	Friday, Nov 5	Practice Quiz 4. ***Immune System Quiz Show***		



	Date	Topic	NGSS *(if applicable)*	Page(s)
Week 11	Monday, Nov 8	A deeper look at DNA *The instructions for everything in the cell (or virus).*		
	Wednesday, Nov 10	What's a gene? *A segment of DNA can change everything!*		
	Friday, Nov 12	How proteins are made *An overview of translation.*		
Week 12	Monday, Nov 15	Are viruses alive? *How these ultimate hijackers take over larger cells.*		
	Wednesday, Nov 17	Pre-industrial Medicine *An overview of common 18th century medical treatments.*		
	Wednesday, Nov 19	Anecdote vs Double Blind Trial *The importance of evidence.*		
Week 13	Nov 22 - Nov 26	*Thanksgiving Break - no class*		
Week 14	Monday, Nov 29	Disease-causing Microbes *An overview of the main similarities and differences between viruses, fungi, bacteria, and parasites.*		
	Wednesday, Dec 1	The Story of Smallpox *How a deadly disease led to the first vaccine.*		
	Friday, Dec 3	Tetanus & Rabies *Two of the most fearsome microbes.*		
Week 15	Monday, Dec 6	Malaria *Not a bacteria!*		
	Wednesday, Dec 8	Candida and Black Mold *Fungi can be both friend or foe.*		
	Friday, Dec 10	Penicillin & the discovery of antibiotics *How a moldy dish led to medicine.*		
Week 16	Monday, Dec 13	How antibiotics work *Capitalizing on the cell wall difference!*		
	Wednesday, Dec 15	MRSA and antibiotic resistance *How overuse of a good tool is breeding superbugs.*		
	Friday, Dec 17	Practice Quiz 5. ***Microbiology Quiz Show***		

This is the current draft of our syllabus as of June 30th, 2021. Some minor changes to content may occur before the class starts. Dates and times will not change. Classes will be taught at 1:00 pm Eastern (10:00 a.m. PDT) with the Monday class repeated at 4:00 p.m. EDT.