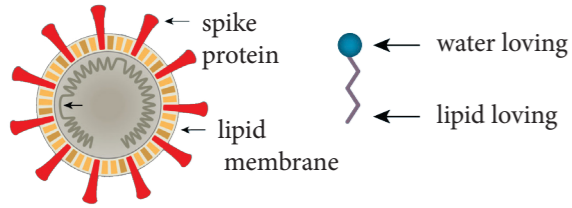
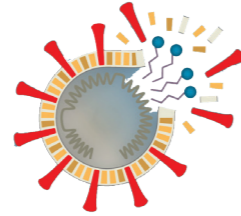


HOW DOES HAND WASHING DESTROY THE CORONAVIRUS?

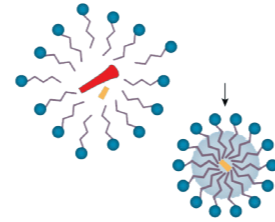


THE CORONAVIRUS has a membrane of oily lipid molecules, which is studded with proteins that help the virus infect cells.

SOAP MOLECULES have a head that bonds to water and a tail that avoids it and instead bonds with oil and fat (lipids).



SOAP DESTROYS THE VIRUS when the water-shunning tails of the soap molecules wedge themselves into the lipid membrane and pry it apart.

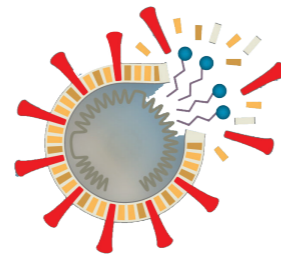


SOAP TRAPS DIRT and fragments of the destroyed virus in tiny bubbles called micelles, which wash away in water.

Source: Jonathan Corum and Ferris Jabr/The NY Times

SEE HOW IT WORKS! You will need: 2 bowls, pepper, liquid soap.

1. Fill the first bowl with water and one tablespoon of pepper.
2. Fill the second bowl with a tablespoon of liquid soap, such as hand or dishwashing soap.
3. Dip your finger into the first bowl of water and watch the pepper stick to your fingers. In this experiment, the pepper flakes represent germ molecules. When you stick your finger into the water, the "germs" all stick to your skin.
4. Coat another finger with soap and dip it into the bowl with the water and pepper mixture.
5. Observe how the soap repels the pepper ("germs") away from your finger.



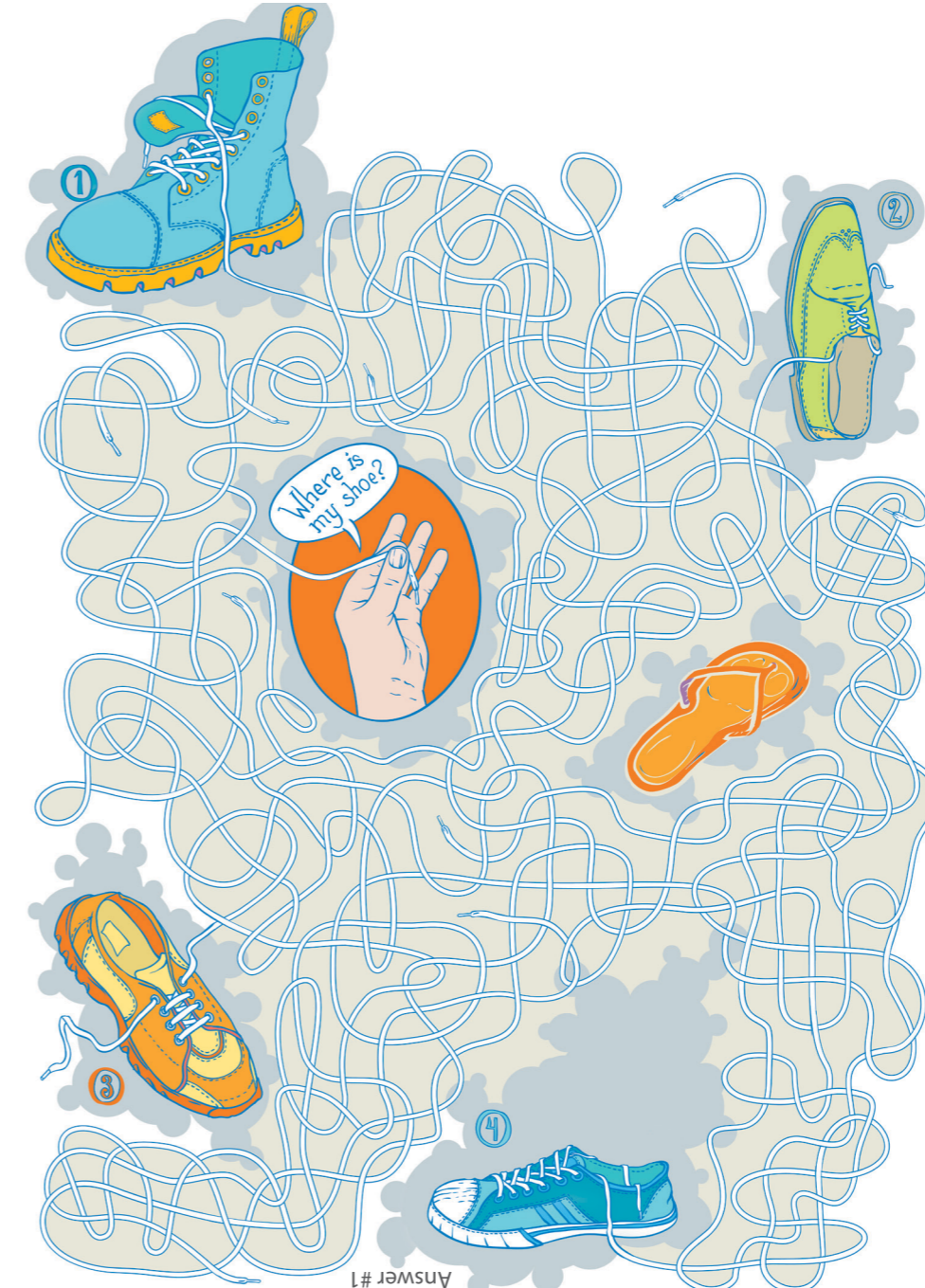
When you wash your hands with soap, the lipid loving tails of the soap molecules will pry the lipid membrane of the virus apart, allowing the water from the faucet to wash the destroyed virus down the drain!

Watch a video to see this experiment in action: <https://youtu.be/nScP-X1BHb8>

Answers to Word Scramble on previous page:
 1. FEVER 2. COUGH 3. MUSCLE PAIN 4. HEADACHE 5. CHILLS 6. SORE THROAT 7. LOSS OF TASTE 8. NAUSEA 9. VOMITING 10. DIARRHEA

I'VE GOTTA HIKE!

You signed up for the *Live Well San Diego Trails Challenge* and you're meeting a friend to hike El Capitan, but your dog just ran away with your shoe! It is important to start this hike early before it gets too hot, follow the shoelace to find your shoe!



Learn about the *Live Well San Diego Trails Challenge* at LiveWellSD.org

GET ACTIVE!

Did you know that kids need **60 minutes** of physical activity every day?

OBSTACLE COURSE

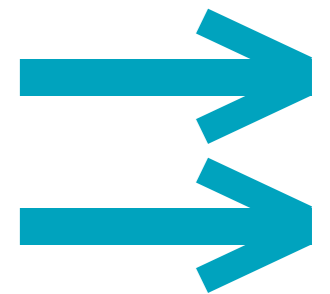
Set up a few different obstacle stations that get you crawling, jumping and moving. Set a goal and a prize and have fun!

SCAVENGER HUNT

Take a quick nature walk around the block and find the following items:

- Pine Cone
- Pink Flower
- Butterfly
- Spider Web
- White Rock
- Roly Poly
- Cricket
- Black Dog

**COVID-19
INFO
INSIDE!**



Learn about coronavirus, testing and vaccines:

Coronavirus-SD.com



04/14/21



STEAM Week: April 24-May 2
LOVESTEMSD.ORG

COVID-19 INFORMATION

Coronaviruses are a large family of viruses that affect humans and animals. They include those that cause the common cold. A new coronavirus was identified in December 2019. The disease it causes is called COVID-19 (**coronavirus disease 2019**).

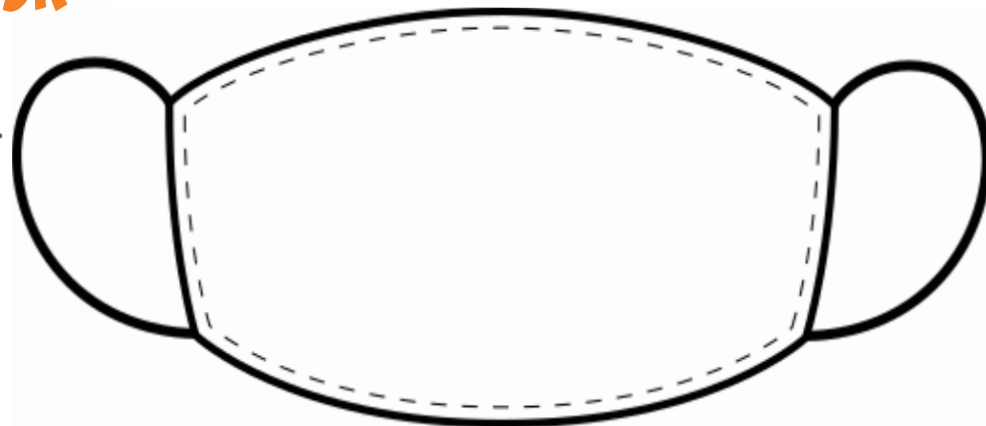
Although children can get sick from COVID-19, and can spread the virus to others, less than 10% of COVID-19 cases in the United States have been among youth aged 5–17 years ([Centers for Disease Control and Prevention](#)). Your help is needed to help prevent the spread of the virus!

PROTECT YOURSELF & OTHERS

- Wash your hands often with soap and water (at least 20 seconds).
- If soap and water are not available, use an alcohol-based hand sanitizer (>60% alcohol).
- Avoid touching your eyes, nose, and mouth with unwashed hands.
- If you are sick, stay home and keep your distance from others to protect them from getting sick too.
- Cover your cough or sneeze with a tissue and throw it away.
- Get plenty of sleep, be physically active, manage your stress, drink plenty of fluids and eat nutritious food.
- When it is your turn, get vaccinated. Vaccination helps protect people from getting sick or severely ill with COVID-19 (Currently, only people age 16 years or older are eligible).

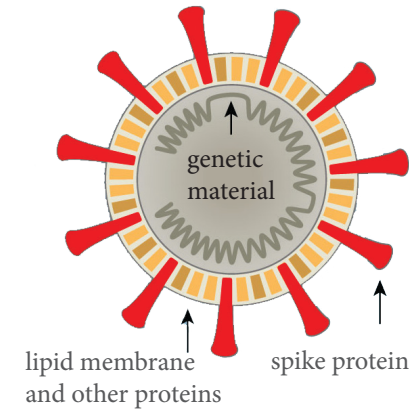
DECORATE A MASK

Masks are an additional step to help prevent people from getting and spreading COVID-19. They provide a barrier that keeps respiratory droplets from spreading. Make sure they completely cover your nose and mouth and fit snugly against the sides of your face.



I wear a mask because: _____

The Coronavirus has a membrane of oily lipid molecules, which is studded with proteins that help the virus infect cells.



Source: Jonathan Corum and Ferris Jabr/The NY Times

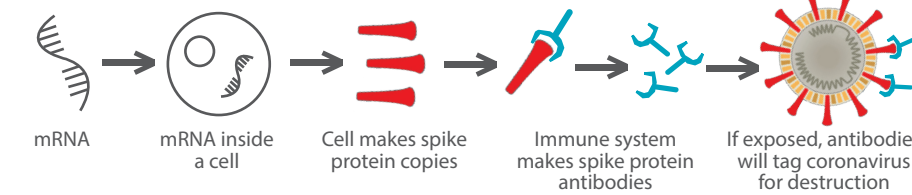
DID YOU KNOW?

The name Coronavirus is derived from the Latin word corona which means “crown or wreath”. These viruses get their name from the spikes on the viral envelope that resemble a crown.

VACCINES FOR COVID-19

HOW DO mRNA VACCINES WORK?

Messenger RNA, or mRNA, is genetic material that tells your body how to make proteins. mRNA vaccines contain mRNA that teaches your cells how to make copies of the coronavirus’s spike protein. In response to the spike protein, your body’s immune system will make antibodies to help you fight off the virus if you are exposed to the real virus later ([Centers for Disease Control and Prevention](#)).



DID YOU KNOW?

The vaccine DOES NOT contain live virus, so it CANNOT give you COVID-19. When your body responds to the vaccine, it can sometimes cause a mild fever, headache, or chills - all signs that the vaccine is working.

COVID-19 WORD SEARCH

P	O	Z	L	S	U	R	I	V	A	N	O	R	O	C	Q
C	I	C	U	E	I	C	Y	Y	T	N	D	U	A	Y	E
N	I	N	F	E	C	T	I	O	N	C	N	H	C	Y	L
S	X	A	T	E	M	M	A	S	K	S	O	X	U	Q	M
N	O	I	S	S	I	M	S	N	A	R	T	V	A	U	E
O	M	D	U	Y	T	I	N	U	M	M	I	A	K	A	E
T	N	Y	V	C	K	R	U	U	C	R	H	C	A	R	E
C	I	T	A	M	O	T	P	M	Y	S	A	C	E	A	I
C	I	T	A	M	O	T	P	M	Y	S	X	I	R	N	U
T	F	M	E	S	A	E	S	I	D	I	H	N	B	T	E
O	F	Q	U	I	F	T	O	G	W	E	Q	E	T	I	K
E	M	W	N	E	Q	F	N	X	E	E	P	P	U	N	B
R	V	S	C	A	N	T	I	B	O	D	Y	P	O	E	P
O	V	N	O	I	O	T	C	I	M	E	D	N	A	P	F

- CORONAVIRUS
- ANTIBODY
- ASYMPTOMATIC
- DISEASE
- PANDEMIC
- TRANSMISSION
- INFECTION
- QUARANTINE
- VACCINE
- MASKS
- OUTBREAK
- SYMPTOMATIC
- PPE

WORD SCRAMBLE

Symptoms of COVID-19 can vary from mild to severe. Someone that has COVID-19 may suffer from these symptoms:

1. FEREV
2. OGUHC
3. ECSUML PNAI
4. ECEAADHH
5. LCILHS
6. ORSE RTTAOH
7. LSOS FO ASETT
8. SNUAAE
9. TVOIIMGN
10. RDRHAEIA

Answers on back



UNDERSTANDING COVID-19 - A CONVERSATION FOR KIDS & TEENS
Tuesday, April 27 | 3:30-5:00pm | FESTIVAL LIVE STAGE
 Speakers in this session will break down the complexity of COVID-19 into an engaging, casual conversation starting with an experiment with germs and washing hands. Get your questions answered live by submitting questions at: [lovestemsd.org/covid-conversation!](https://lovestemsd.org/covid-conversation/)

THE SAN DIEGO FESTIVAL OF SCIENCE AND ENGINEERING
STEAM WEEK April 24-May 2
 This virtual educational experience will have a main stage with livestreaming events, demonstrations, activities and dynamic speakers to engage kids and families in all that encompasses STEAM (science, technology, engineering, arts and math).

