

Week 3: Heroes

July 8-14

Celebrate our nation's birthday and the people we call heroes, whether they are veterans, everyday helpers, or the kind who wear capes.

Use the sheet below to mark off this week's activities as you complete them. See if you can get a BINGO!

Scan the QR code or visit www.michiganlearning.org/heroes to see the playlist of videos for this week.



Watch DIY Science Time	 60 mins. of activity	 Read for 20 minutes	 Do a good deed	Spot a mail truck outside
 Read for 20 minutes	 Watch Story Pirates	Build an inertia walker	Watch Curious About Careers	 60 mins. of activity
 60 mins. of activity	Spot a fire truck outside	 HAVE FUN! (Free Space)	Watch InPACT at Home	 Read for 20 minutes
Watch DIY Science Time	 Do a good deed	 Watch Math Park	 Watch Story Pirates	Draw a plant superhero
Watch Extra Credit	 Read for 20 minutes	Watch Extra Credit	 60 mins. of activity	 Watch Math Park



AT-HOME ACTIVITY

Design Your Own Plant Superhero

Big Idea: There are many different types of plants. Some types of plants are good at cleaning the air to make it better for us to breathe.

Explore: Below are three different types of plants. All of these plants are good at cleaning the air inside your house to get rid of pollutants. Pollutants are small, unhealthy things that can get into the air, sometimes from new rugs or cleaning supplies. These plants breathe in the pollutants when they take in air, making it healthier for us inside.



Peace Lily



Areca Palm



Snake Plant

Look at the three plants above. What do you notice that all of these plants have in common (What color are they? What parts of the plant do you see?) What do all plants need?

How are these plants different from each other?

(continued on page 2)

For more *Cyberchase* adventures with plants, watch "Plantasaurus" on pbskids.org/cyberchase.

Funding for *Cyberchase* is provided by The JPB Foundation, the Heising-Simons Foundation and Ernst & Young LLP. Additional funding is provided by Lynne and Marc Benioff, the Tiger Baron Foundation, Shailaja and Umesh Nagarkatte and Ellen Marcus.

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AT-HOME ACTIVITY

Design Your Own Plant Superhero DRAW PAGE

Take turns drawing your plant superhero on this page. Start with the top section and make sure to draw down just below the dotted line. Fold over the top section when you are done and pass on to the next person for the middle section.

Fold back here when top section is done.

Fold back here when middle section is done.

(continued on page 4)

Funding for *Cyberchase* is provided by The JPB Foundation, the Heising-Simons Foundation and Ernst & Young LLP. Additional funding is provided by Lynne and Marc Benioff, the Tiger Baron Foundation, Shailaja and Umesh Nagarkatte and Ellen Marcus.

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DIY Inertia Walker



FUN FACT

Inertia combined with the gravitational pull from the sun, is what keeps our planet, Earth, orbiting the sun.

MATERIALS

- Inertia walker printout
- Scissors
- Tape
- Marble
- Ramp

DIFFICULTY



INERTIA

Newton's 1st law states an object at rest remains at rest, and an object in motion remains in motion unless acted on by an unbalanced force. In other words, we call the tendency of an object to do nothing or remain unchanged inertia.

We often experience inertia in our lives! Think about driving in a car and someone applies the brakes. Your body tries to keep moving forward, but the seatbelt holds you safely in place. Try looking at your chocolate milk while you are stirring it next time. Although you pull the spoon out, the milk keeps spinning and swirling in the cup.

Why do dentists love riding roller coasters?

**Answer on the next page*

VISIT
DIYSCIENTIME.ORG
FOR MORE SCIENCE FUN!

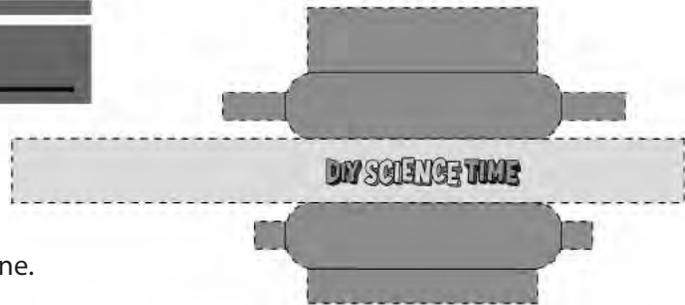


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*Joke Answer -
They know how to
BRACE themselves!

DIY Inertia Walker

EXPERIMENT



Step 1: Print and cut out the walker on the dashed line.

Step 2: Fold and crease the tabs on the solid lines.

Step 3: Tape the walker together where the tabs overlap. Place a marble inside the walker before taping closed.

Step 4: Build a ramp using books and a long flat surface such as a wood board or long box.

Step 5: Place your walker at the top of the ramp and release it!

WHY IT WORKS

Objects in motion want to stay in motion, and the marble inside the walker wants to roll down the ramp. The marble has enough inertia to push and force the rounded end of the walker down the ramp. Without that extra force from the marble, the walker would not be able to overcome the friction between its long side and the ramp's surface. This allows the walker to tumble and turn all the way down the ramp!

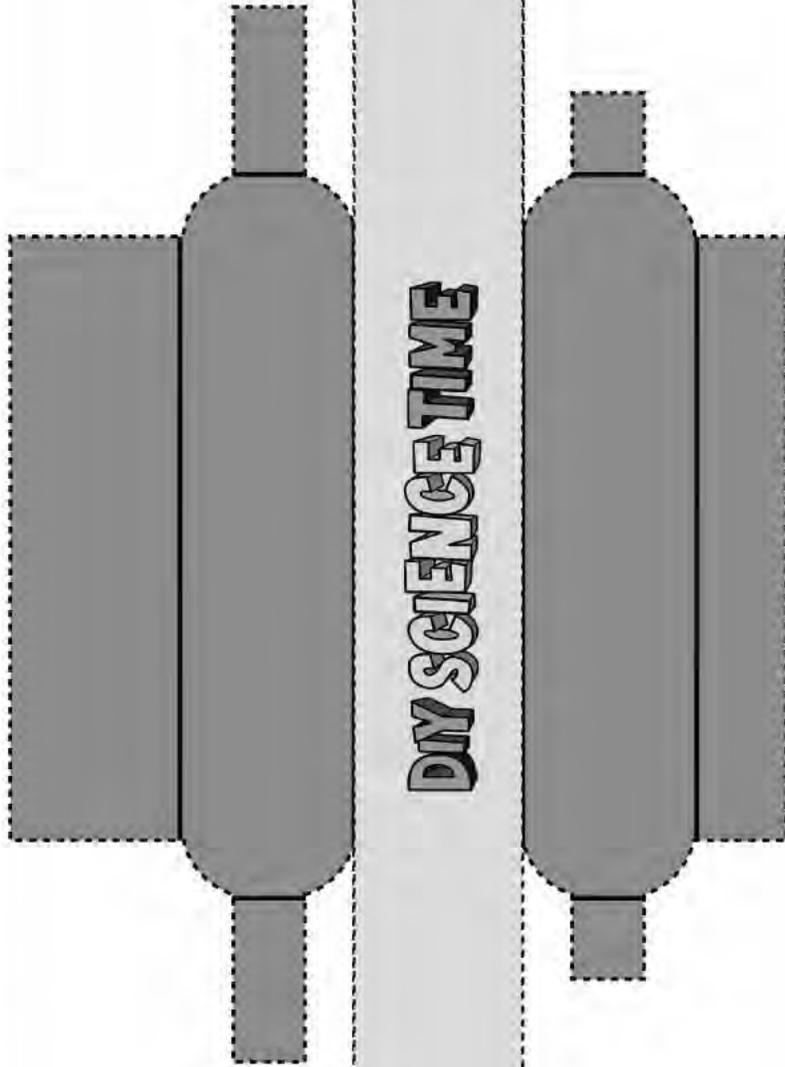
EXTEND YOUR LEARNING

- Could you design your own walker using household materials available to you?
- What happens if you use a larger or smaller marble? Can a smaller marble keep the walker moving?
- What other types of ramps could you test your walker on? Would it work on a slide at the park?
- Could you create a differently-shaped three dimensional object to be a walker? Would a cube work?

WORKFORCE CONNECTION

Biomedical engineers called kinesiologists are scientists who study how people move. Kinesiologists can help athletes improve how they perform in their sports by showing them how their motions can enhance their physical fitness and reduce chances for injuries. They must understand motion and forces, like inertia and gravity, and how they impact athletes' bodies.

DIY Inertia Walker



Fold along solid lines. ✂ Cut along dashed lines.

Directions:

- Step 1:** Cut out the walker on the dashed line.
- Step 2:** Fold and crease the tabs on the solid lines. Place a marble inside the walker before taping it shut.
- Step 3:** Build a ramp using books and a long flat surface such as a wood board or long box.
- Step 4:** Place your walker at the top of the ramp and release it!

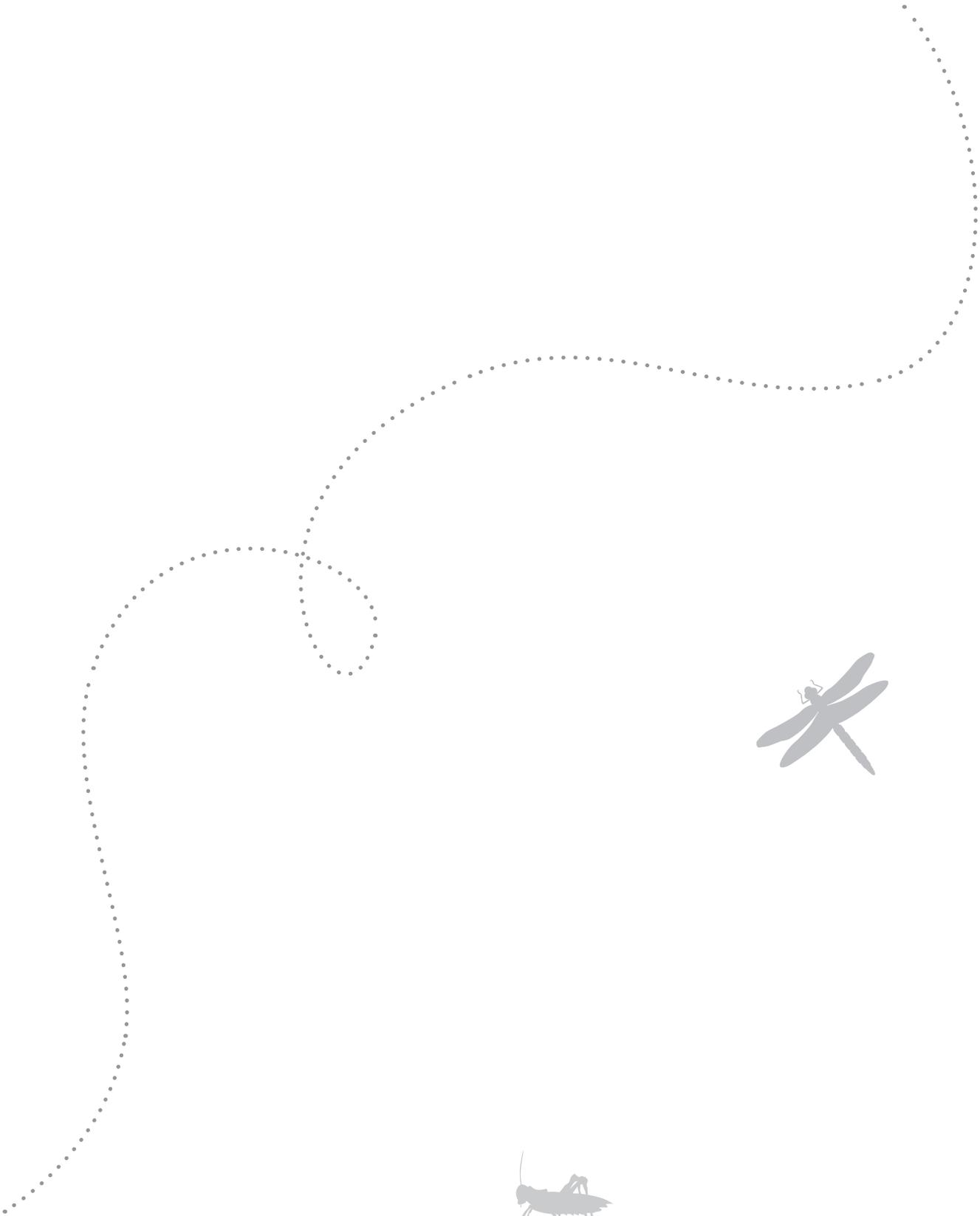


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CREATE YOUR HERO

Time
to Draw!



Draw and label your hero!

Hero's name

it's Storytime CHALLENGE

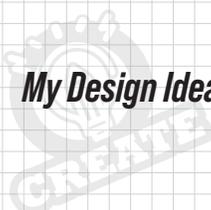
Make Your Own Stethoscope



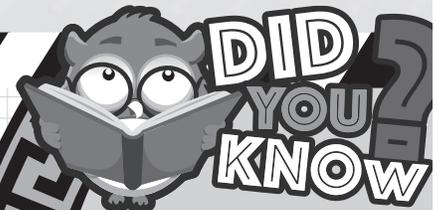
Scan here for instructions from Live From the Opera House Episode 303: Heroes

- Duct tape
- Plastic Funnel
- Stopwatch or Clock
- Scissors
- Cardboard Tube

My Design Ideas:



How could I improve on my design for next time?



Heroes are definitely in the medical field, but there are heroes everywhere! Police officers, teachers, scientists, firefighters, and soldiers are all heroes. And that's not all! Who in your community is a hero?

POWER UP WORDS

- Oxygen
- Exercise
- Heart Rate

CAREER LIFTOFF

- › Physician
- › Biomedical Engineer
- › Nurse
- › Physical Therapist
- › Veterinarian



Learning Standards: 3rd grade

3-5-ETS1-3 Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.



MATH PARK

Fractions of a Set

Directions: Scan the QR code to watch the video, and then write the fraction you see in the picture.

