

Dear Educator,

TRANSFORMERS has entertained elementary-aged kids for generations, and continues to do so with all new content on Netflix and their own dedicated YouTube channel. This type of action-packed programming can really capture students' attention.

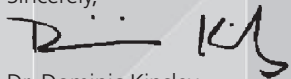
That's why TRANSFORMERS and the curriculum specialists at Young Minds Inspired have partnered to create this standards-based learning program, **Conserve & Create**. The lessons pair important STEAM topics like energy sources and geometry with social-emotional skills like teamwork—a tenet of *Transformers*—that will help you get the school year off to a supercharged start.

Your students can journey to Cybertron and back with hands-on lessons that will channel enthusiasm and imagination, while supporting collaboration. First, your class will discover the many sources of power we use on Earth every day and brainstorm ways to protect the planet with renewable energy. Next, you'll delve into shapes and design with an arts-based math lesson using geometric forms. Finally, students can partner up to engineer a new robot and build it out of recycled materials.

We hope that you will enjoy this program and share it with other teachers in your school. Although the materials are protected by copyright, you may make as many copies as needed for educational purposes.

Please let us know your thoughts on this program at ymiclassroom.com/feedback-hasbro. We look forward to hearing from you.

Sincerely,



Dr. Dominic Kinsley
Editor in Chief
Young Minds Inspired



TRANSFORMERS

CONSERVE & CREATE

ABOUT TRANSFORMERS

The incredible universe of *Transformers* is one of constant change, where nothing is as it seems. A universe where incredible, shape-shifting robots hide in plain sight, disguised as vehicles and beasts, and battle with the future of their world—and ours—at stake. It is a universe that teaches us we all have the power to become something more than others expect and inspires us to reveal the extraordinary in everything we do. The power and resonance of that universe has made *Transformers* a global entertainment brand with millions of fans, a storied legacy, and a revered place in modern popular culture.

TARGET AUDIENCE

Grades 1-3

PROGRAM OBJECTIVES

- Reinforce STEAM skills
- Explore fossil fuels and renewable energy sources
- Identify and create geometric shapes
- Foster teamwork, imagination, and creativity

PROGRAM COMPONENTS

The following resources are available at ymiclassroom.com/hasbro:

- This two-page teacher's guide
- Three reproducible student activity sheets
- A reproducible letter for parents and caregivers in English and Spanish
- A standards alignment chart

HOW TO USE THIS PROGRAM

Review each lesson before starting. Determine whether you want to provide recyclable materials for students to use or schedule a day for students to bring in materials from home. Make copies of the activity sheets for all students. When complete, have students take the sheets home to share with their families. Also make copies of the family letter and send it home, or email it to parents and caregivers.



Questions? Contact YMI toll-free at 1-800-859-8005 or by email at feedback@ymiclassroom.com.



TRANSFORMERS
MORE THAN MEETS THE EYE

Activity 1

GO TO THE SOURCE

Begin the lesson by asking students what they know about “energy.” What is it? Is there more than one type? How do they use electricity every day?

Distribute the activity sheet and review the directions with students. For younger students, complete this exercise together. Have students read the words in the Word Bank aloud and talk about what each word means.

Answers: Part A. 1. batteries; 2. fossil fuels; 3. solar panels; 4. heat; 5. windmills; 6. water. **Renewable Resources:** 3, 5, and 6 should be circled.

Tell students that, in the *Transformers* universe, the source of all life on the planet Cybertron is a powerful metal cube called the AllSpark. On Earth, one of our most important resources is the sun. It gives us light and heat. It also gives us food and energy. Explain that plants use the sun to make their own food. Then animals like cows and chickens eat the plants. Then people eat both plants and products from animals. Have students draw a picture on the back of the activity sheet that shows this solar-powered life cycle.

Extension Activity: One way to conserve resources is to reduce our energy consumption. Ask students to spend a day tracking their electricity usage. That includes every time a grown-up uses a microwave to heat up their snack or they play a video

game, recharge a cellphone, or even flip a light switch. They can even enlist their parents to participate by tracking household activities like laundry and air conditioning. Review the lists and then have students brainstorm three things they can do to use less energy or change to using renewable energy.

Activity 2

SHAPE-SHIFTERS

This activity will help students explore the role math plays in art and design. Distribute the activity sheet and review the names of each shape in Part A. Provide time for students to cut out the shapes provided and see how they can be combined to make new forms. Remind students that they can fold the shapes or trace them only partially to make new shapes, like a square or semicircle. Students can then use their new shapes to create a picture or pattern. For Part B, use the examples provided to point out that all designs start out with simple lines and shapes. In these pictures, for example, Bumblebee's eyes are semicircles, and the turbine on Windblade's wing is a circle.

Finally, students will create their own robots on separate paper using the shapes from the activity sheet. Have students share their final robots and the shapes that they used.

Answers: rectangle, circle, pentagon, triangle, hexagon, parallelogram

Extension Activity: Have students measure the shapes and patterns they've created to see how basic geometric concepts and tools

can be applied to even the most complex designs. Students can count the number of sides and angles in their shapes.

Activity 3

TEAMWORK AND THE THREE R's

For this activity, have students bring in materials from home or provide them with clean materials that can be repurposed, such as simple household objects like empty containers and delivery boxes. Divide students into small groups or pairs and lead a discussion about the different types of problems robots can solve. Students who are familiar with the *Transformers* robots can share some of their favorite features, like how Optimus Prime can transport small Autobots in his cargo container. Provide time for each team to come up with a problem or special feature, design their robot, and build it. Invite the teams to share their completed robots.

Extension Activity: Ask students to review their design and propose upgrades for the future. Have them diagram plans or blueprints for construction. As an added challenge, ask students to design a robot that changes into a tool.

RESOURCES

- Transformers.com
- youtube.com/transformersofficial
- ymclassroom.com/hasbro



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TRANSFORMERS
MORE THAN MEETS THE EYE

GO TO THE SOURCE

PART A: ENERGY PLANET In *Transformers*, the Autobots and Decepticons use a special material called Energon as fuel. On Earth, we have many different types of energy. Use the Word Bank clues to complete each sentence about energy that humans use.

Word Bank

heat

fossil fuels

windmills

batteries

solar panels

water

1. _____ produce energy that powers our phones, flashlights, and even some cars.
2. Just like the prehistoric fossils in a museum, _____ like petroleum and coal come from plants and organisms that lived millions of years ago.
3. Some buildings have _____ on the roof. They change energy from the sun into electricity.
4. Burning wood creates _____, another type of energy that can keep us warm and cook our food.
5. Kinetic energy is the power of motion. Kinetic energy from wind is what moves kites and sailboats. _____ capture this power to make electricity.
6. Hydroelectric power uses turbines that are turned by rushing _____.

PART B: RENEWABLE RESOURCES Help the Autobots save planet Earth! Using renewable energy like solar and wind power can help protect our planet. Renewable means that we can never fully use them up. Fossil fuels are not renewable. Renewable energy creates less pollution than fossil fuels. Circle the sentences in Part A that describe a form of renewable energy. Then write a letter to the Autobots explaining how your community might be able to use renewable resources to help the planet.

Families: Discover more about Cybertron and its fearless team of Autobot defenders with *Transformers* episodes and clips at [youtube.com/transformationsofficial](https://www.youtube.com/transformationsofficial). Watch as a family and discuss how the characters use energy.



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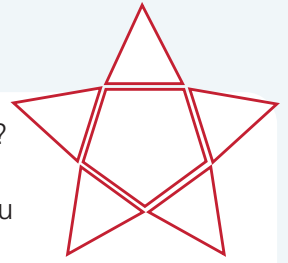
SHAPE-SHIFTERS

Transformers are powerful shape-shifting robots that can turn themselves into nearly any vehicle. That makes it easy for them to hide!

PART A: NAME THAT SHAPE

Can you identify the six shapes below?

Write the name of each shape on the line below it. Use the Word Bank if you need help. Then find out what kinds of new shapes you can make by combining these six shapes. Cut out the shapes, make copies if you need more shapes, or fold them to make different shapes. Need inspiration? The star on the right was made with just two of the shapes.



Word Bank

circle

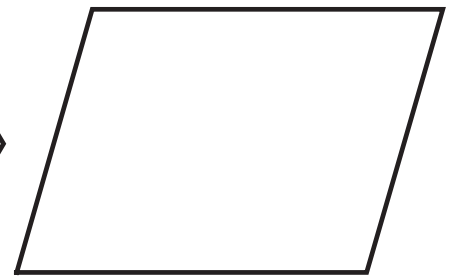
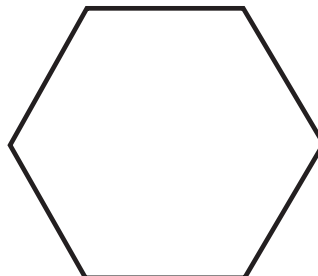
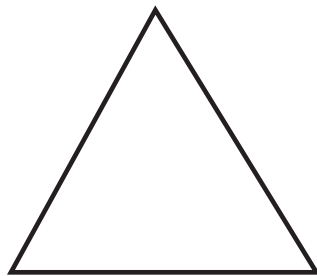
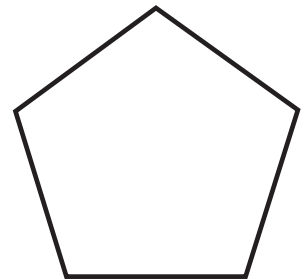
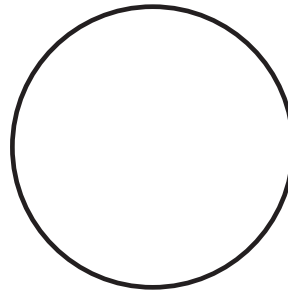
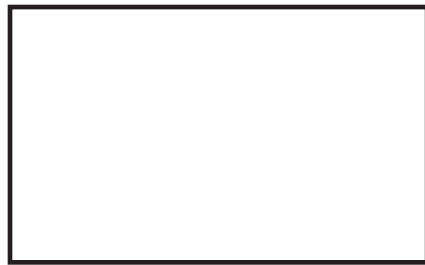
hexagon

parallelogram

pentagon

rectangle

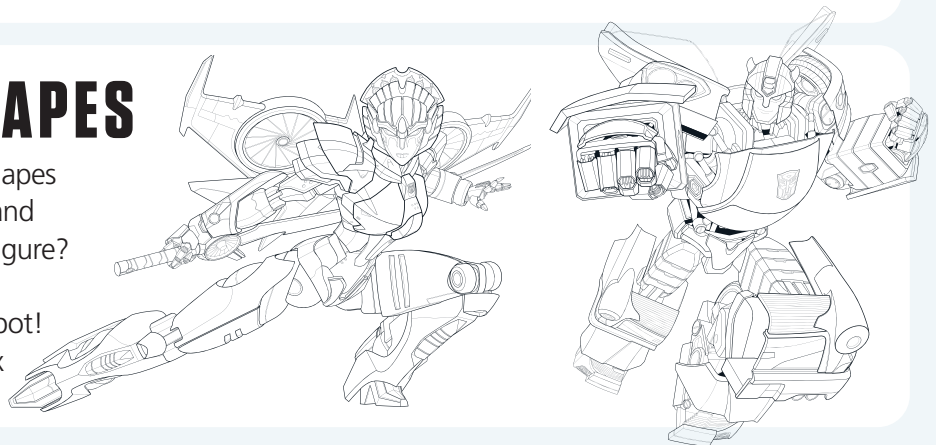
triangle



PART B: SPOT THE SHAPES

The *Transformers* characters are made up of shapes too. Check out these drawings of Windblade and Bumblebee. What shapes do you see in each figure?

Now use your creativity to design your own robot! On separate paper, design a robot using the six shapes from Part A.



Families: Discover more about Cybertron and its fearless team of Autobot defenders with *Transformers* episodes and clips at [youtube.com/transformersofficial](https://www.youtube.com/transformersofficial). Challenge your child to identify all the shapes they see!



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TEAMWORK AND THE THREE R's

Transformers characters Bumblebee and Windblade are friends. They support each other and work together. You can join their team and help protect Earth with the "Three R's": **Reduce**, **Reuse**, and **Recycle**.

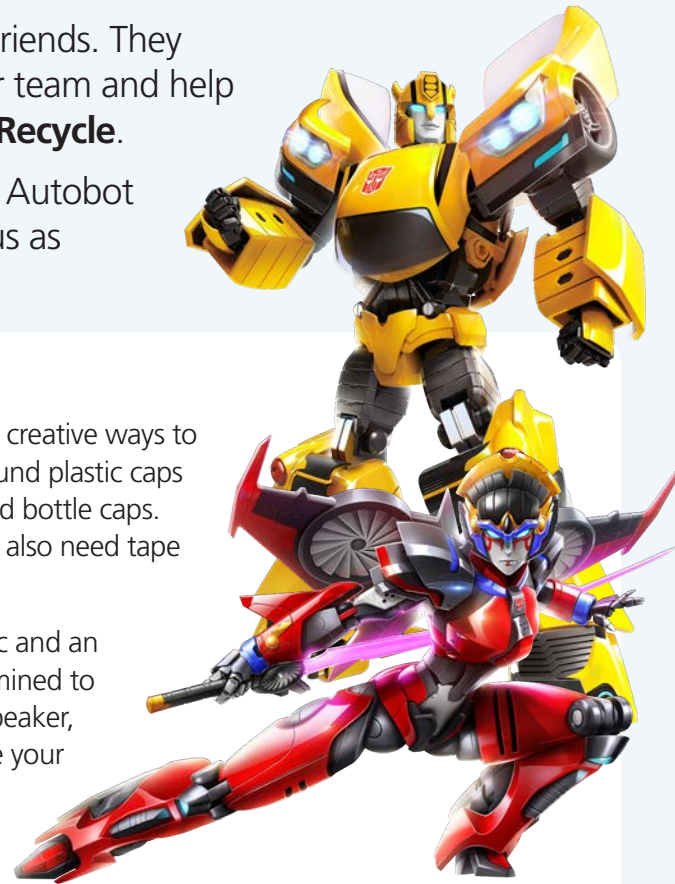
Start by reusing and recycling material to build your own Autobot teammate. You can use any odds and ends you have, plus as much imagination as possible!

Step 1. Work with a partner.

Step 2. Gather your materials. (Be sure they're clean.) There are lots of creative ways to reuse old boxes, empty containers from yogurt or modeling dough, round plastic caps and lids, bits of yarn or felt leftover from craft projects, old buttons, and bottle caps. Recycled newspaper and magazines are great for decorating. You may also need tape or glue, crayons, markers, and other art supplies.

Step 3. Every Autobot has a special skill or job. Bumblebee is optimistic and an energetic adventurer, who is known for his speed. Windblade is determined to right what she sees as wrong, and her greatest power is being a Cityspeaker, which allows her to speak telepathically to ancient giants. What will be your robot's special skill? Is there a problem you need it to solve?

Step 4. Draw a sketch of your robot in the box below.



Step 5. Build and decorate your robot! Don't forget to give it a name!

Families: Discover more about Cybertron and its fearless team of Autobot defenders with *Transformers* episodes and clips at [youtube.com/transformationsofficial](https://www.youtube.com/transformationsofficial). See if you can identify each character's special skill.



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DEAR FAMILIES,

As a new school year begins, it's important for students to be engaged in the learning process both at home and in the classroom. With a classroom program from TRANSFORMERS and the curriculum specialists at Young Minds Inspired, your child's class has traveled into the *Transformers* universe to learn about energy, conservation, geometry, and teamwork. Below are some ideas your family can do together to extend the program and have fun at home. Check out episodes and clips together on the *Transformers* dedicated YouTube channel, youtube.com/transformersofficial, and then try the activities below so the whole family can share the fun.

ENERGY & CONSERVATION

- Talk about the different types of energy and nutrition that our bodies' need as you teach your family to plan balanced meals. Get kids involved in preparing a variety of fruits, vegetables, and protein.
- Keep track of your family's household energy consumption for a week, and make a plan to reduce it.
- Practice the "Three R's": Reduce, Reuse, and Recycle.

GEOMETRY

- Shapes are everywhere! Games like "I Spy with My Little Eye" and scavenger hunts help children train visual perception and observation, as well as social skills. Add another angle by identifying objects by shape.
- Family drawing night can be a fun way to bond! Cut a set of basic shapes out of cardboard and use them as templates to make pictures and patterned artwork.

TEAMWORK & COOPERATION

- Family Game Night! Board and card games are great ways to practice turn taking, patience, and listening skills and even for learning how to win—and lose—gracefully.
- Create a scavenger hunt-type challenge based on your family's interests. Create a fun list of items that you can work together to find either in your home, in your neighborhood, on a drive, or while on vacation.
- Set a goal and try to achieve it together! Does your family like to hike? Visit playgrounds? Make a list of new places to visit and set weekly, monthly, or even annual plans to explore them one by one.

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