SUPER WHO? SUPER YOU!

WEEK FOUR

DAY THIRTEEN: TOOLS OF THE TRADE

Superheroes need gadgets. Sure, some can get by on their powers alone (here's looking at you Superman), but even they often need to turn to technology for help when it comes to fighting crime. And there are hundreds of superheroes and supervillains that don't have a power to their name, just lots of cool gadgets to help them do their thing. Let's get inspired by a few before we begin to design and build our own hero's awesome gadgets!

SPIDER-MAN

He may have the proportionate strength, speed and agility of a spider, but Peter Parker still relies on gadgets to help him protect New York City against the likes of the Green Goblin and The Lizard.

Outside of the suit, Peter Parker is a very smart guy, and created his own web-shooters! These allow Spider-Man to easily swing from skyscraper to skyscraper.

CAPTAIN AMERICA

For the most part, Steve Rogers relies on himself when it comes to battling it out with a rogues gallery which includes the Red Skull and Crossbones, but where would Captain America be without his shield?

Created for him by Howard Stark (the father of Tony Stark, a.k.a. Iron Man) during World War II, Cap's shield is made from near indestructible Vibranium. It's so far protected him from Hydra, the Chitauri and more, and is used expertly by the star spangled superhero to both defend himself and as a weapon.

WONDER WOMAN

Justice enforcer Wonder Woman's Lasso of Truth is so-called because it is able to prise the truth out of anybody at all. Simply by wrapping it around the person in question, all will be revealed.

It's also got the added bonus of being entirely unbreakable.

IRON MAN

Iron Man's suit is possibly one of the greatest gadgets of all time. You can fly, fight and basically become a superhero even if you have no super abilities at all. Some of the features include jet boots to fly with, repulsor rays to fight with, and a cybernetic helmet to use to control all the various devices within the armor. Despite all of the awesome features in this full-body gadget, perhaps the best feature is the inbuilt computer within the helmet.

BATMAN

"Where does he get those wonderful toys?"
–The Joker, Batman (1989)

The name Batman is undoubtedly synonymous with the word 'gadgets'. They're how he defeats his enemies, how he solves mysteries, even how he gets around Gotham City. Even the immortal James Bond can't match the Caped Crusader when it comes to hardware. All his gadgets are a constant reminder of how **his brain, his ability to deduce and engineer, is what forms the basis of his superpower.**

Often in battling these foes, Batman relies not just on deduction or brute force, but on an arsenal of spectacular gadgetry. Having sworn off killing his enemies, one of the most important weapons that Batman uses is his Batarang, which, among other things, can disarm opponents or knock them unconscious. The earliest depictions of Batman in comics show him with his yellow utility belt, but it wasn't until a few issues later, where we actually see him use the belt as a utility belt—placing choking gas pellets in it. Since those early panels Batman's utility belt has gone on to house all sorts of nifty items, from the sublime, like a piece of kryptonite—"just in case"—to the ridiculous, like shark repellant spray.

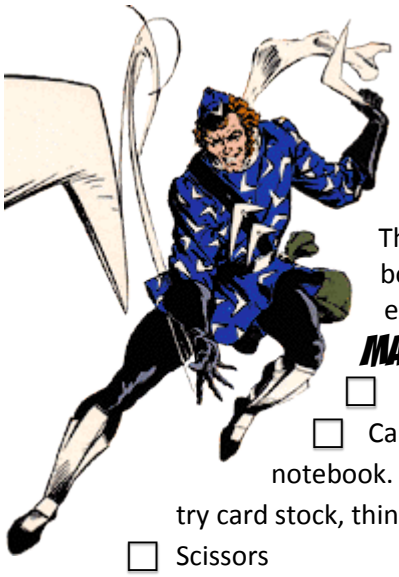
Of course, Batman's utility belt is small potatoes (not literally, though, you never know, he may carry those in it as well) when compared to the array of machines he uses in his war against crime, some of which are stored in his superhero hideout beneath Wayne Manor--the Batcave! Over the years Batman has deployed the expected vehicles—helicopters, planes, motorcycles—and some awfully unusual ones, like a rocket ship (no, really, Batman has spaceship, the Bat-Rocket: see Superman/Batman #64). Hands-down, though, Batman's most famous vehicle is, well… **(Do students know?)**

"To the Batmobile! Let's go. Atomic batteries to power. Turbines to speed." (Batman: The TV Series)

The Batmobile shows up at the very start of things in Detective Comics #27. It was just a red sedan then, and wasn't even referred to as "the Batmobile" until "The Secret Cavern" in Detective Comics #48. "The Riddle of the Missing Card" in Batman #5 presented the first version of the car with a sleek, dark-blue paintjob and looming bat face on the front. It's gone through a variety of changes ever since, morphing from the fast and lean to the bulky and deadly—in Frank Miller's The Dark Knight Returns, it's basically a tank. Undoubtedly, though, the most famous version of the Batmobile is from the 1960s TV series, where it's a customized Lincoln Futura concept car.

MAKE A BOOM-ERANG!

Boomerangs are one of the oldest known human inventions.Many superheroes and some villains use boomerangs in their everyday work. There's even a villain called Captain Boomerang who uses a variety of high-tech boomerangs to commit crimes. And the Batarang (a bat-shaped combination of a



boomerang and a shuriken (a 'throwing star')) is one of the most important and recognizable items attached to Batman's utility belt. Batman would not be caught dead without his Batarang; this versatile weapon can make the difference in the fight against evil.

Creating your own workable superhero boomerang is not a difficult task, but it does take some creativity, preparation, and a few items to do the job right. There is considerable finesse involved in both making and throwing boomerangs. [It really is magical and the best bit of all this is that the entire explanation rests on Newton's laws of motion.]

MATERIALS

- ☐ Boomerang template(s)—two are included
- ☐ Cardboard—thin sheets, similar to that of a cereal box or the back of a notebook. For more fun, test out other options—which makes the best boomerang?—try card stock, thin cardboard, poster board, even thick watercolor paper
- ☐ Scissors
- ☐ Tape, paperclips, or stick glue
- ☐ Rulers
- ☐ 360 degree protractor. This is not essential, but VERY helpful as you will see.
- ☐ Option: Art materials to decorate boomerangs

Print the template on standard printer paper. Once printed, cut out the pattern and trace the pattern onto the cardboard. **Get in on the action yourself. Kids model what they see.**
Using a pair of sharp scissors, carefully cut the pattern out of the cardboard. **Flatten** the boomerang after cutting it out!
If using the 'Go-Boom' template, align the "fold down here" lines with a straight edge (rulers work really well for this) and bend the wings **slightly** down to make an airfoil. [Rounded on one side and flat on the other, just like an airplane wing. This design gives a wing *lift*.]
Try different launching angles. Hold the paper boomerang vertically, then try horizontally. Try different launching speeds.
Tip: Use tape or a very light pressing of stick glue to hold the template to the sheet of cardboard. (Or for younger students print it on label paper and stick it to the cardboard sheet to make it easier to cut out.)

BADABOOM! DESIGN YOUR OWN!

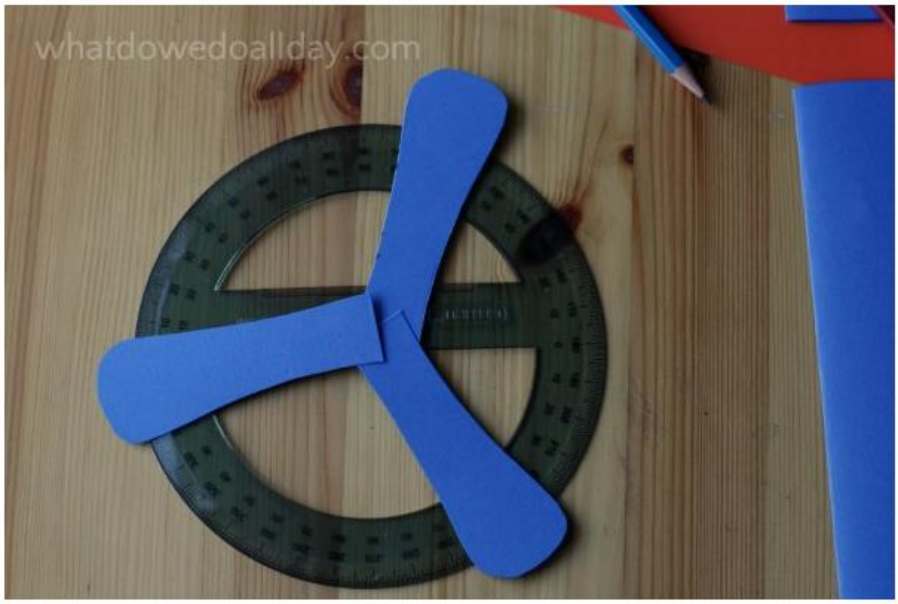
From whatwedoallday.com

Decide on the shape of your boomerang's arm. The design is not nearly important as having each arm **exactly the same shape**. Most examples have arms with a slightly larger tip, which may be what you want to try. Of course this is an area where kids can experiment to their hearts content!

Right now you are thinking, why don't they have a template I can print out? On this

version, you're making your own! Once you have one arm, you can use it to trace more arms. Cut out the arms.

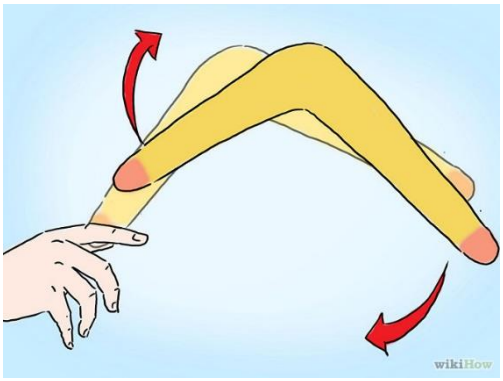
Tape 3-4 arms together. Use the 360 degree protractor to determine the distance between arms! This may be the single most important factor in producing a boomerang that returned to the sender. When we eyeballed taping arms in thirds, the boomerang throws were unsatisfying. Adjusting so that the arms were evenly spaced made a world of difference. So **you will want the arms at 120 degree angles**.



Have students compare and contrast the effectiveness of their different designs and different kinds of materials!

Going the Distance—A.K.A. Force in Motion

If they have the same design, but use a material with more mass and a material with less mass, will one take more force to throw it the same distance as the other? Remember, the larger the mass, the smaller the effect of a given force. After all, the force required to move an object is directly related to its mass. In order for an object of great mass to be accelerated, an equally great force must be applied…hmm, so what does that mean for our boomerangs?



Remember! They're Different!

Mass is a measurement of the amount of matter something contains, but…

Weight is the measurement of the pull of gravity on an object.

Try it out! Have groups make boomerangs **using the same exact design** out of different materials. Ask the "Force" stand on the starting line and give the first boomerang a gentle throw. Have the "Spotter" go to where the boomerang stops or the farthest point the boomerang went, the "Measurer" measure the distance traveled, the "Time Keeper" record how long it flew, and the "Record Keeper" write the data on the chart. Repeat two more times, then

calculate the average distance traveled. Using the same boomerang, repeat the experiment giving the boomerang a hard throw.

Repeat with the rest of the boomerangs.

After all the teams have gathered their information, compare results.

Discuss: How did each boomerang respond to each type of force? Which boomerangs traveled the farthest and shortest distance? What role did mass play in the experiment? Why was it important to repeat the experiment three times? What would happen if the amount of force used for hard and soft throws was different every time?

TROUBLESHOOTING (*a.k.a. thinking like an engineer*):

None of the boomerangs students will make are likely to be perfect. But some may be more boomerang-ish than others! Here are some tips:

- Try different launching angles. Hold the paper boomerang vertically, then try horizontally.
- Try different launching speeds. Try different paper types.
- Make sure the angles are even! (*This is where the 360 degree protractor is very handy!*)
- Even if it doesn't come *all* the way back to you, it has a really cool spin.
- Also, it's really neat to throw two at a time and see which one works better.

GOING THE DISTANCE—A.K.A. FORCE IN MOTION

BOOMERANG MATERIAL:		BOOMERANG DESIGN:	
TEST ONE	TYPE OF FORCE	DISTANCE TRAVELED	TIME
TEST TWO	TYPE OF FORCE	DISTANCE TRAVELED	TIME
TEST THREE	TYPE OF FORCE	DISTANCE TRAVELED	TIME
AVERAGES (OF THE 3 TESTS)	TYPE OF FORCE	DISTANCE TRAVELED	TIME

BOOMERANG MATERIAL:		BOOMERANG DESIGN:	
TEST ONE	TYPE OF FORCE	DISTANCE TRAVELED	TIME
TEST TWO	TYPE OF FORCE	DISTANCE TRAVELED	TIME
TEST THREE	TYPE OF FORCE	DISTANCE TRAVELED	TIME
AVERAGES (OF THE 3 TESTS)	TYPE OF FORCE	DISTANCE TRAVELED	TIME

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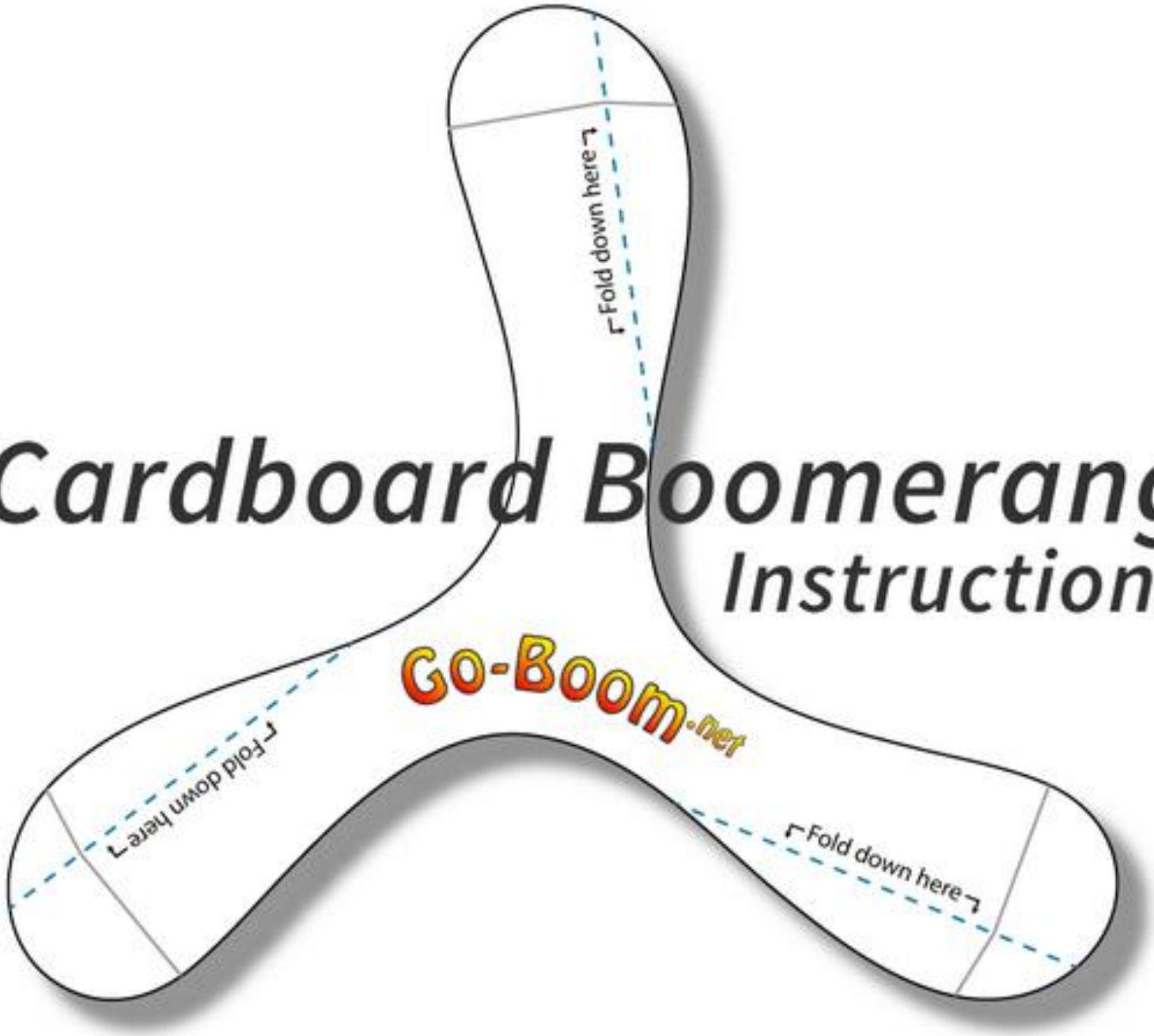
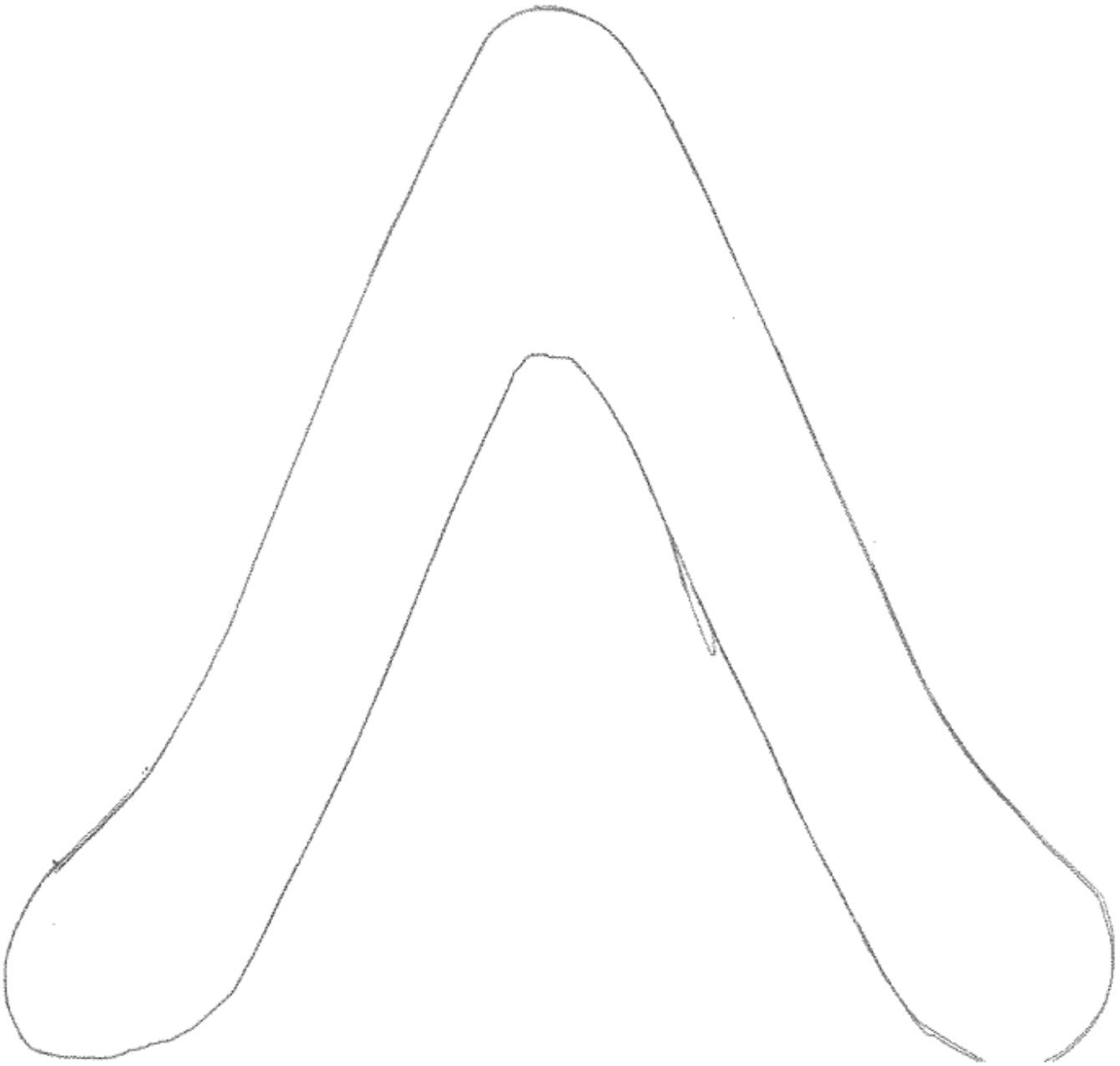
TEST TWO	TYPE OF FORCE	DISTANCE TRAVELED	TIME
TEST THREE	TYPE OF FORCE	DISTANCE TRAVELED	TIME
AVERAGES (OF THE 3 TESTS)	TYPE OF FORCE	DISTANCE TRAVELED	TIME

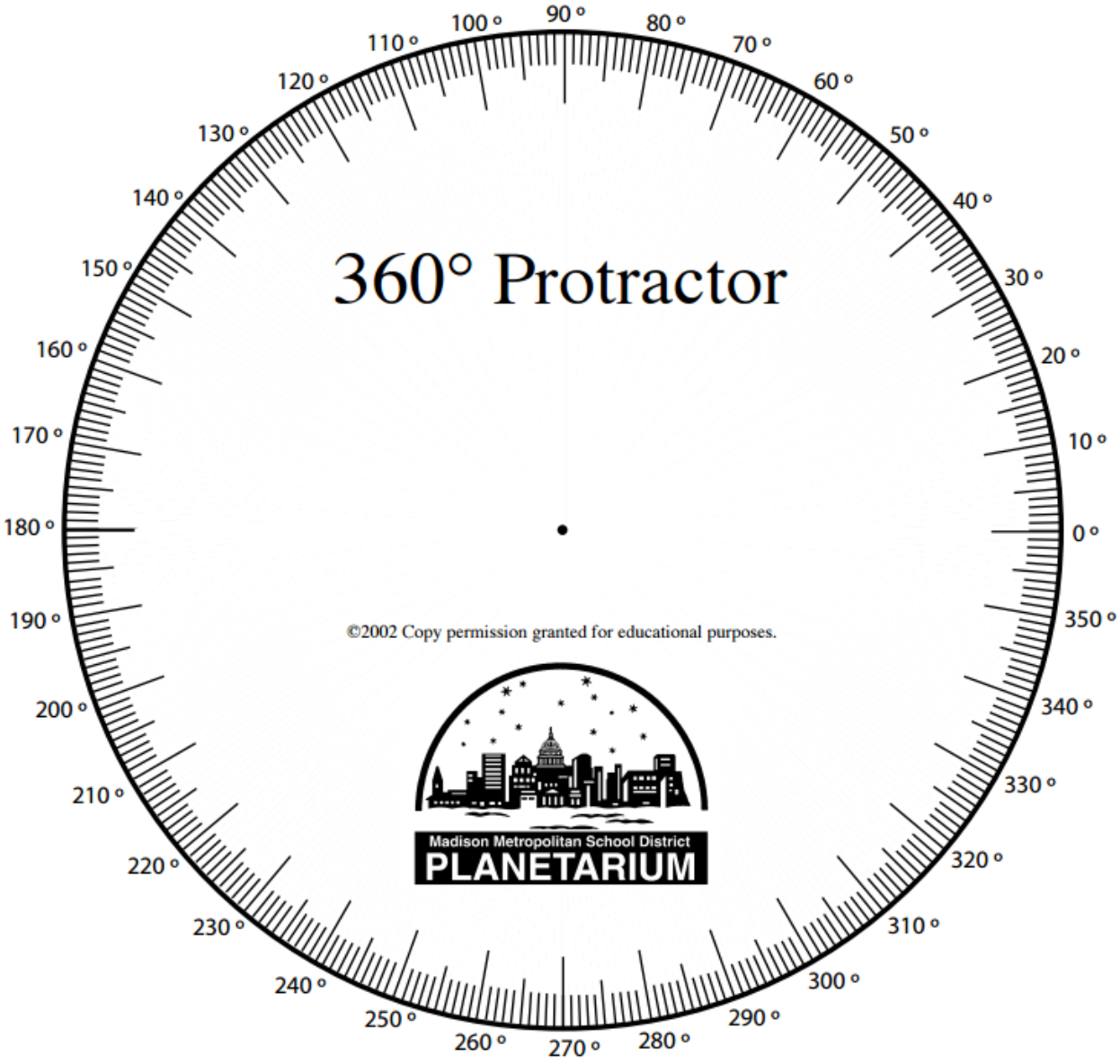
PREDICTION (WHICH WILL GO FARTHEST?):

RESULT (WHICH WENT FARTHEST?):

Cardboard Boomerang Instructions






360° Protractor
90 °
80 °
70 °
60 °
50 °
40 °
30 °
20 °
10 °
0 °
350 °
340 °
330 °
320 °
310 °
300 °
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Madison Metropolitan School District
PLANETARIUM

Day Thirteen K-8 Standard Alignment

K

- 7.11.1a Explore different ways that objects move.
- 7.11.1b Use a variety of objects to demonstrate different types of movement. (e.g., straight line/zigzag, backwards/forward, side to side, in circles, fast/slow).

These standards will be met and reinforced as students participate in building template versions and then imagining, designing, building, testing, and recording data about their own boomerang designs.

1

- 7.11.1 Use familiar objects to explore how the movement can be changed.
- 7.11.2 Investigate and explain how different surfaces affect the movement of an object.

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2

- 7.11.1 Use familiar objects to explore how the movement can be changed.
- 7.11.2 Investigate and explain how different surfaces and materials affect the movement of an object.

These standards will be met and reinforced as students participate in building template versions and then imagining, designing, building, testing, and recording data about their own boomerang designs.

3

- 7.11.1 Identify how the direction of a moving object is changed by an applied force.
- 7.11.2 Recognize the relationship between the mass of an object and the force needed to move it.

These standards will be met and reinforced as students participate in building template versions and then imagining, designing, building, testing, and recording data about their own boomerang designs during the Badaboom & Going the Distance boomerang activities and discussion.

4

- 7.11.1 Describe the position of an object relative to fixed reference points.
- 7.11.2 Identify factors that influence the motion of an object.

These standards will be met and reinforced as students participate in building template versions and then imagining, designing, building, testing, and recording data about their own boomerang designs during the Badaboom & Going the Distance boomerang activities and discussion.

5

- 7.11.1a Predict how the amount of mass affects the distance traveled given the same amount of applied force.

- 7.11.1b Explain the relationship that exist among mass, force, and distance traveled.

These standards will be met and reinforced as students participate in building template versions and then imagining, designing, building, testing, and recording data about their own boomerang designs during the Badaboom & Going the Distance boomerang activities and discussion.

6

- 7.T/E.5 Develop an adaptive design and test its effectiveness.
- 7.Inq.3 Use evidence from a dataset to determine cause and effect relationships that explain a phenomenon.

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7

- 7.11.4 Recognize how a force impacts an object's motion.
- 7.11.3 Apply proper equations to solve basic problems pertaining to distance, time, speed, and velocity.

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8

- 7.12.7 Explain how the motion of objects is affected by gravity.
- 7.12.5 Explain the difference between mass and weight.

These standards will be met and reinforced as students participate in building template versions and then imagining, designing, building, testing, and recording data about their own boomerang designs during the Badaboom & Going the Distance boomerang activities and discussion.

DAY FOURTEEN:

GO GO GADGET!

If you (or your hero) had your own utility belt (if you don't have one already, you can make an awesome one out of duct tape and/or craft foam), **what would you put in it?** (Maybe not as many as the 13,000 crime-fighting gadgets Inspector Gadget had on his body. Okay, maybe he's not your typical comic book 'superhero' per say…but he was pretty amazing and so were his gadgets.) You can never go wrong when you're a superhero and you have a super cool gadget or tool, whether it's a powerful auto-shield, indestructible armor, self-destructing bags, homing beacons so you can never get lost or so you can track things, metal wings, an underwater jet pack, a robot arm, some awesome goggles with night vision x ray vision or any other kind of cool vision, a harp that sings your enemies to sleep, a shoe communicator, crazy claws that can cut through anything, a rocket belt, non-lethal shock gloves, a supersonic animal caller/beacon, a voice changer, a mask that focuses your powers or gives you binocular vision, a powerful wand, grappling suspenders (grappling cord built into a pair of suspenders), a raygun, an insta-sticky-zip-line, a recorder hidden in book, an ancient sword with special powers, hover shoes, "Cake" with an "explosive filling", or horns (or super sensitive animal ears) that grow out of your head and give special powers! A gizmo or thingumabob can come in very handy, usually if you find yourself in the trickiest of situations, but sometimes just for fun. After all, super heroes also need a great sense of humor and who doesn't love an amazing thingumabob?

DID YOU KNOW?

Nathan Ball, an MIT graduate student, has created a battery-powered rope ascender, which is just a fancy name for Batman's utility belt. Ball and his team were challenged to create a 25-pound package capable of lifting 250 pounds 50 feet into the air in five seconds or less and after nearly two and a half years of research they finally did it. Batman jokes aside (I have well surpassed my quota), this is a great tool that could be used by the military, firefighters, window washers and more. Ball even won $30,000 for making it. –Travis Hudson

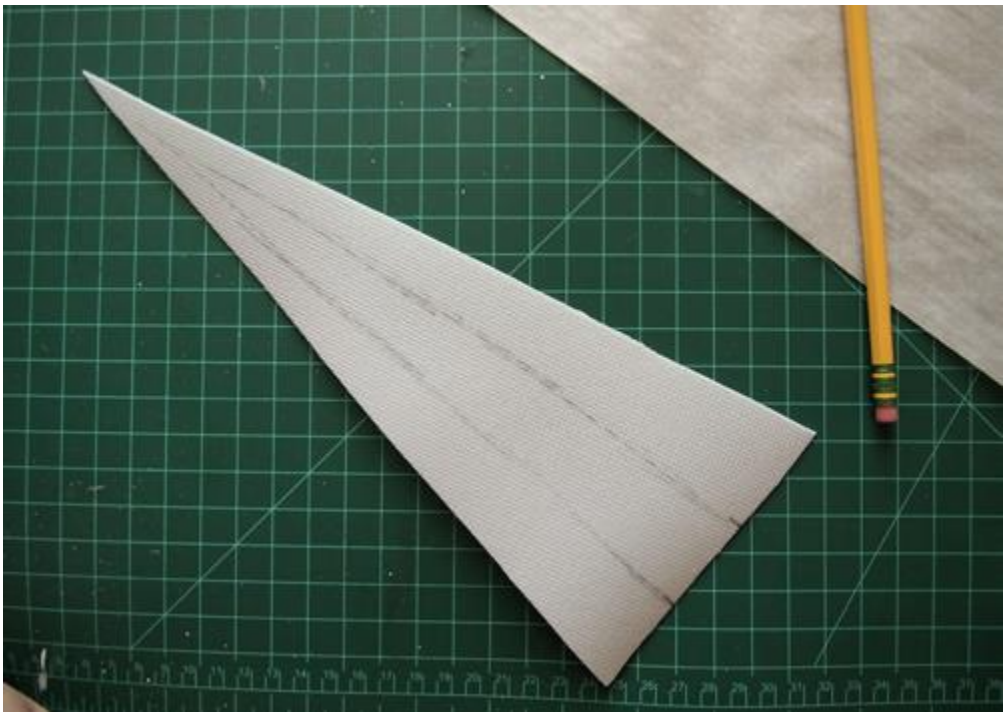
To get us started and build our hero's gadget collection (we already have a totally awesome boomerang, but we need more!) we're going to build some claws from a tutorial designed by Tiff Nguyen for our next gadget before we set you free to build and design your own awesome gadgets for our Gallery of Superheroes!

Materials

- [ ] Scissors
- [ ] Hot glue gun
- [ ] Pencil
- [ ] Simple pair of gloves: This is optional. Fabric and color choice really depends on you and the version of your superhero you're going for.
- [ ] Poster Board
- [ ] White Printer Paper
- [ ] Spray paint and/ acrylic paint of your choice.

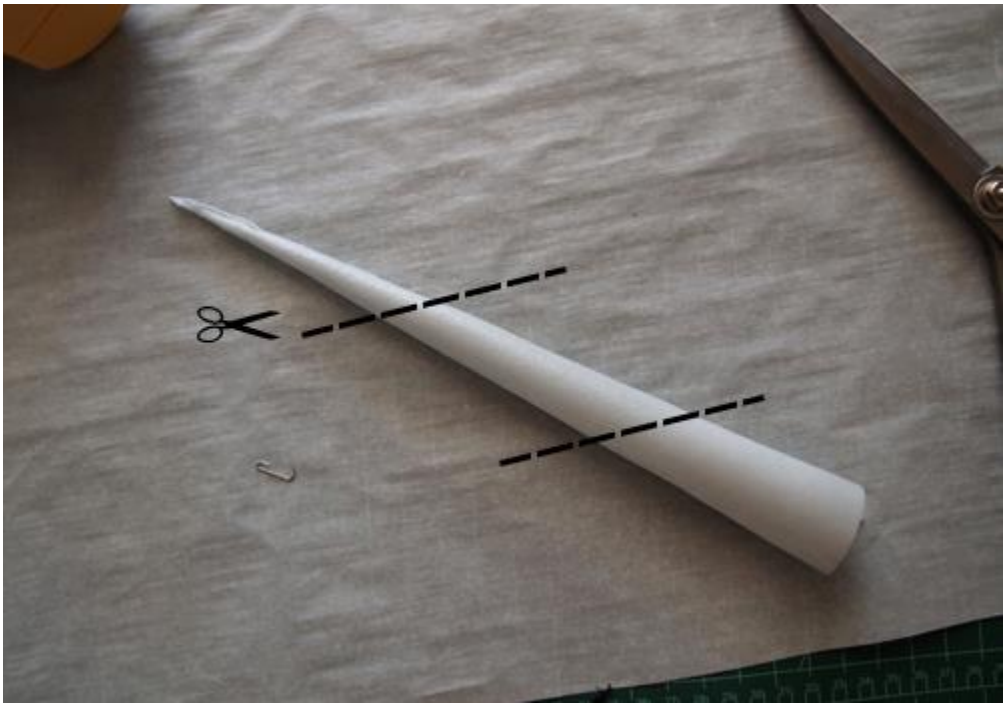
Instructions

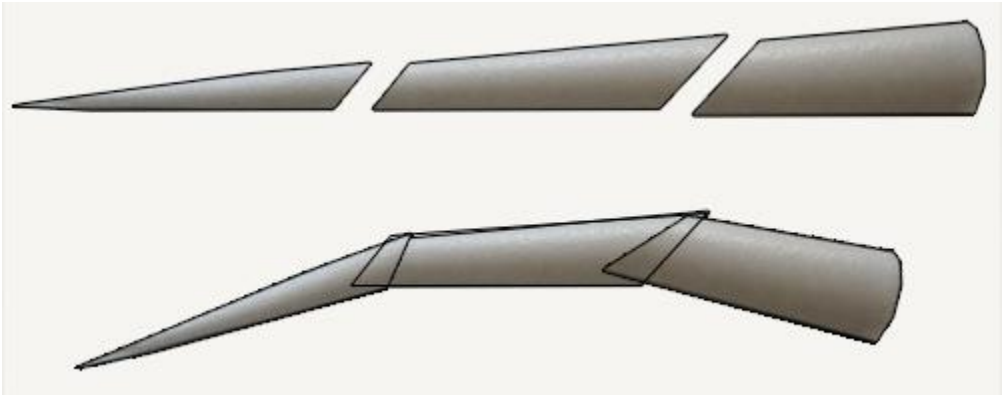
Like any other armor or gadget, please use scratch paper before using the actual material for the claw nails. You need to test it out first!



For a regular set of claws you should be able to use a regular 8×10 printing paper to draw your shape on. Hmm, what kind of paper might give you more options for longer claws? Ex. Legal sized paper, larger sheets of drawing paper, etc.

1. Draw a skinny triangle onto said paper, cut it out and trace that shape onto your poster board.
2. Then cut out your skinny triangle and roll it to a skinny cone.
3. Use a pencil to draw two diagonal lines that acted as your guide as to where to cut.





They have to be cut **diagonally** so when you stick them back together, the angle of the edges will make them well, more *angled*. For poster board, you are using hot glue to stick them back together.

If the tubes get dented when they get inserted back, use a pencil to put it in the hole (where your fingers would go) and use it to flatten out the sides.

This is how it should generally look.

After putting the three pieces of tubes together, if it doesn't fit your fingers perfectly right off the bat (as expected) you may have to cut away some sections to get the right fit. **If students are planning to wear gloves underneath them, they'll need to wear gloves while they test the fit.**

Make 9 more "claw nails."

Painting

Since they're your hero's gadgets the painting and style is entirely up to you. It's a good idea to use a coat of spray paint as the base, and use acrylic paint to dry brush it and add in details. Ex. Metallic acrylic paints might look really cool!

Tip: Use a Styrofoam board and kabob sticks to support the claws while/if painting them.

If attaching to a glove:

After you have all ten "claw nails", you are ready to attach them to my gloves, not required or necessary, but might be great for specific heroes. Carefully, put hot glue into the end of the tubes and then, for a much safer method, instead of putting your fingers into the hot glue-infested tube, use a pencil instead to act as your fingers.

Day Fourteen K-8 Standard Alignment

K

7.T/E.2 Apply engineering design and creative thinking to solve practical problems.

7.T/E.3 Use tools to measure materials and construct simple products.

These standards will be met and reinforced as students participate in learning about superheroes and their gadgets, preparing to make their own gadgets, and working to build their own prototype set of 'claws.'

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7.T/E.2 Recognize that new tools, technology, and inventions are always being developed.

7.T/E.5 Apply a creative design strategy to solve a particular problem.

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6

7.T/E.2 Apply the engineering design process to construct a prototype that meets certain specifications.

7.T/E.1 Use appropriate tools to test for strength, hardness, and flexibility of materials.

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Days Fifteen & Sixteen:

Code Name--Gizmo

We've gotten some practice, we've built a few things, but now it's time to make your own hero's big thing! A gadget, a widget, a thingamabob…it's time to engineer some awesome new…whatever-you-wants!

We've included some images, links, and ideas to help inspire inquiring minds. Show students the included ideas, have them brainstorm their favorite gizmos from their favorite superheroes and dive into the design process.

The Design Process

For inventors and engineers, whether they work for superheroes or not, initial ideas rarely solve a problem. Instead, they try different ideas, learn from mistakes, and try again. The series of steps they use to arrive at a solution is called the design process. As kids work through a challenge to create a new gadget or thingamabob for their superhero or supervillain, use the following to talk about what they're doing and to tie it to specific steps of the design process. **Remember! When scientists and inventors conduct experiments, they record details about what they do, what they observe, and what they learn**.

Brainstorm

- List problems or ideas for cool gadgets that students identify or sample challenges they might encounter for which they might need a gadget.
- Discuss different ways to tackle these problems or how to create these gadgets. Record each idea. Seeing ideas together helps kids make imaginative connections that can often lead to even better solutions.

Develop a Preliminary Design

- Make sure kids define what it means to succeed by having them set a goal and
- Outline performance criteria.
- Have kids phrase their solutions as: "I will make an x that does y."
- Draw a picture of your idea. Label parts with materials you might need.
- Encourage kids to talk with others about their gadget to help them brainstorm.
- Have kids anticipate problems they'll need to solve as they build their projects.

Build

- Ask kids to list the materials they'll need. Thomas Edison noted, "To invent, you need a good imagination and a pile of junk." To get our "junk" we're going to upcycle, or reuse items that students have easily available for a new purpose in our inventions, like the old watergun in the images above. *Ex. Take apart a mechanical device that no longer works. Broken clocks and*

discarded toys are great choices. How many simple machines, such as wheels, gears, or pulleys can you find inside? Can you create something new out of these old parts?

- Build your prototype. Have students write down each step so that they will remember exactly how they built their model.
- Have kids figure out substitutes for things that are unavailable or too expensive.

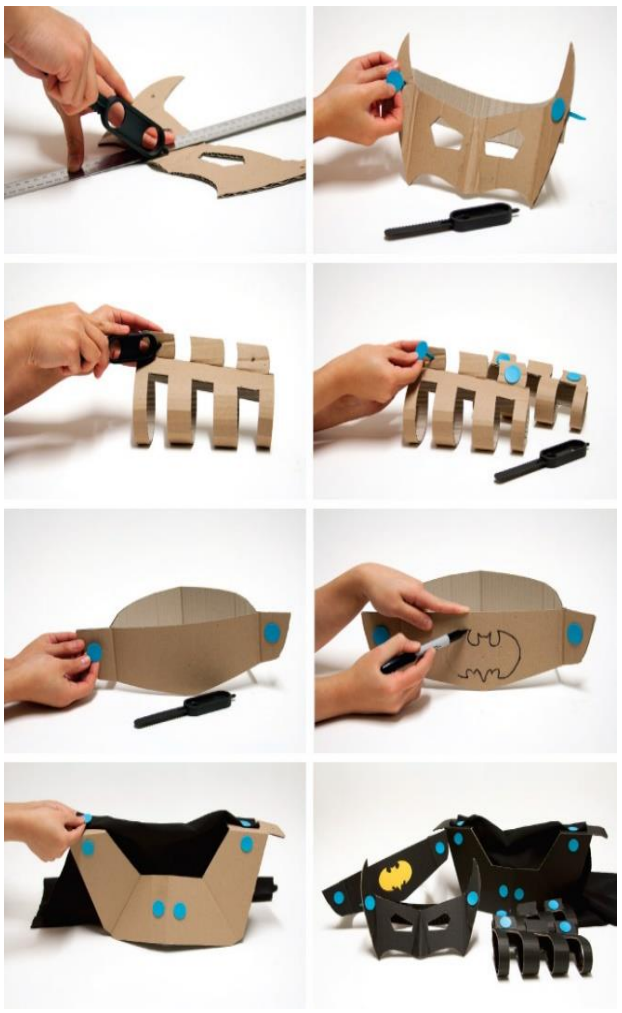
TEST, EVALUATE, AND REDESIGN

- Get kids to identify the kinds of tests that will help them perfect their invention.
- Have students perform some experiments to find out how well their prototype works. Write down the results of each test.
- How can you improve your prototype? Tweak it!
- Have kids tell you how they will know when their invention has succeeded.
- Suggest that family, friends, and the ultimate users evaluate a kid's invention.

SELL IT!/SHARE SOLUTIONS

- Give your invention a name.
- Diagram its parts and capabilities.

OPTION: For fun and inspiration have students look at the real-world inventions in the following articles at Bloomberg.com and Wired.com: [Nine Gadgets That Will Give You Real Superhero Abilities (They'll do everything except actually get the bad guys for you.)] And check out [Five Gadgets that Will Make You into a Superhero.] With these gizmos, you can augment your body (or fill your garage) with enough advanced technology to turn yourself into a real-life Avenger. Yay for science!



Use plastic spoons (with handles cut off) hot glued in layers to make 'scaled' armor or other items. You can even paint them!

With a little paint old toys can gain awesome new powers!

Use cardboard to craft masks and helmets to protect your head (and your secret identity).

Superhero needing special swim speeds? Hang on tight! Tights and pantyhose work great for webbed fingers

Make wings which contain some super tools using posterboard, craftfoam, felt and a few art supplies! If students want to make wings, there are many amazing tutorials for realistic wings available, such as these (to the right) made out of 12"x18" sheets of craft foam. [Basics of construction: Take one sheet of 18" X 24" paper. Draw wings on it. Cut out feather groups—use pictures of real wings for reference. Trace onto craft foam. Cut out. Glue together. Wire can be used for support. Ta-da! See the tutorial here.

[Make a beautiful and realistic wand](#) using only paper, hot glue, and a few layers of acrylic paint following instructions from dadcando.com

[Make a shield](#) from layers of foamboard, paint, modge podge, etc.

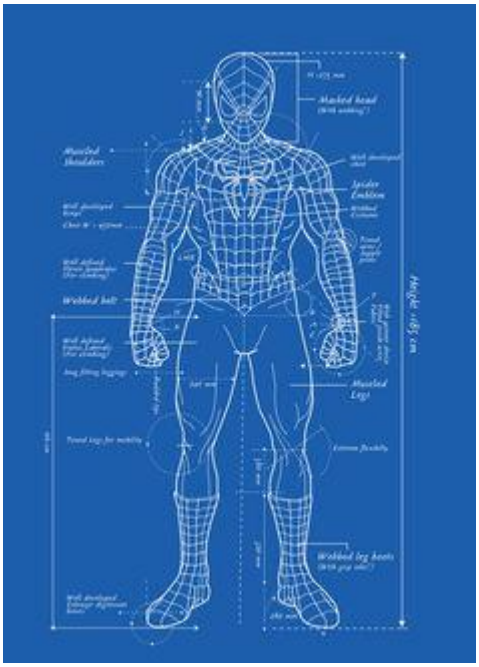
Make awesome cardboard [helmets](#) & armor—with templates, [instructions](#), and even add programmable LED lights.

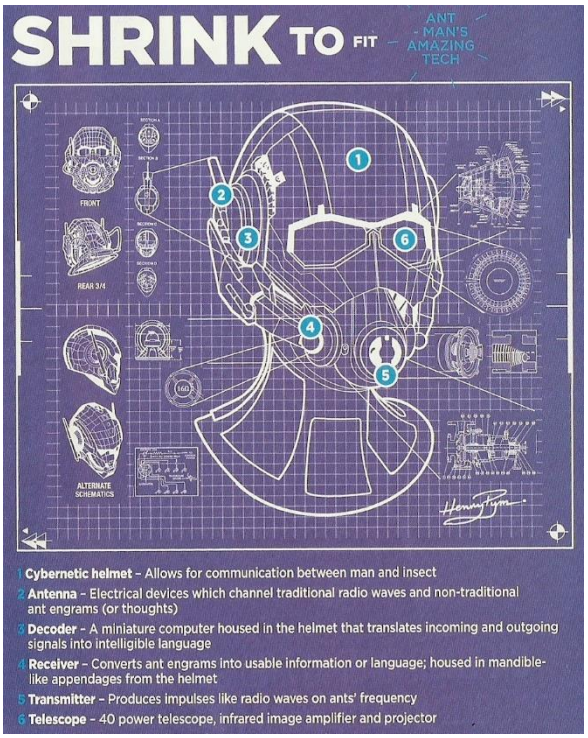
AND THIS IS ONLY A SMALL START TO WHAT YOU CAN DO!

JUST IMAGINE! GADGETS AND GIZMOS GALORE ARE IN STORE!

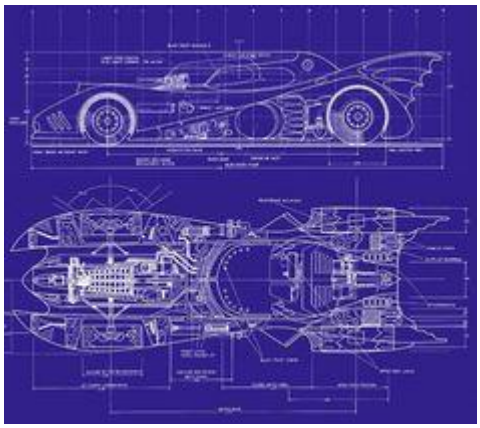
FEELING BLUE?

Have students create diagrams/blueprints on graph paper of their superheroes' new tools, gizmos, gadgets, or thingamabobs for the top secret files. (After all, they want to be able to build it again if something goes wrong!) *Note: Depending on grade level and skills, these drawings can be encouraged or required to be drawn to scale, 3D, from multiple angles (ex. Top view, side view, view from the front/back) and/or with mathematically accurate measurements and notations written on their drawings.*

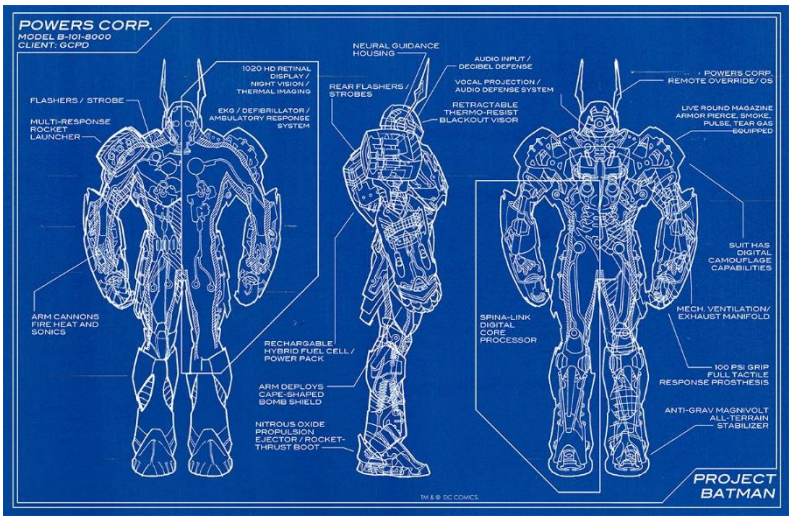




Have them give their gadget a name, describe and label the different features and function, how they work, and in what situations this fantastic tool will come in handy.



They can then go over their blueprints and models with a partner to see if they can generate any new ideas for features or functions.



Days Fifteen & Sixteen K-8 Standard Alignment

K

- 7.T/E.2c Invent designs for simple products.
- 7.T/E.2 Apply engineering design and creative thinking to solve practical problems.
- 7.T/E.3 Use tools to measure materials and construct simple products.

These standards will be met and reinforced as students work to draw, design, test, construct, and refine their own superhero gadgets.

1

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2

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3

- 7.T/E.1 Describe how tools, technology, and inventions help to answer questions and solve problems.
- 7.T/E.2 Recognize that new tools, technology, and inventions are always being developed.
- 7.T/E.5 Apply a creative design strategy to solve a particular problem.

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4

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5

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6

- 7.T/E.2a Know that the engineering design process involves an ongoing series of events that incorporate design constraints, model building, testing, evaluating, modifying, and retesting.
- 7.T/E.2b Apply the engineering design process to construct a prototype that meets certain specifications.
- 7.T/E.1 Use appropriate tools to test for strength, hardness, and flexibility of materials.

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7

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8

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Samples of Possible Week Four Academic Vocabulary Words to Reinforce

K

- Senses
- Shape
- Tools
- Air
- Change

1

- Invent
- Property
- Push
- Pull
- Texture

2

- Similarities
- Differences
- Distance
- Compare
- Contrast

3

- Force
- Pitch
- Rotation
- Revolution

4

- Friction
- Mass
- Function
- Compare
- Contrast

5

- Gravity
- Model
- View
- Edge

6

- Prototype
- Variable
- Criteria
- Design Constraint
- Cause and effect

7

- Speed
- Momentum
- Function
- Property
- Impact

8

- Variation
- Angles
- Pitch
- D=rt (distance = rate x time)

Sample Week Four Supply List

Day Thirteen

- [ ] Boomerang template(s)—two are included
- [ ] Cardboard—thin sheets, similar to that of a cereal box or the back of a notebook. For more fun, test out other options—which makes the best boomerang?—try card stock, thin cardboard, poster board, even thick watercolor paper
- [ ] Scissors
- [ ] Tape, paperclips, or stick glue
- [ ] Rulers
- [ ] 360 degree protractor. This is not essential, but VERY helpful as you will see.
- [ ] Option: Art materials to decorate boomerangs

Day Fourteen

- [ ] Scissors
- [ ] Hot glue gun
- [ ] Pencil
- [ ] Simple pair of gloves: This is completely and totally optional. Fabric and color choice really depends on students and the version of their superhero they're going for.
- [ ] Poster Board
- [ ] White Printer Paper
- [ ] Spray paint and/ acrylic paint of your choice.

Days Fifteen & Sixteen

- [ ] Materials to invent with, ex. cardboard, poster board, old toys, etc.
- [ ] Art materials, ex. Acrylic paints and brushes, etc.
- [ ] Graph paper (option: show sample images of blue prints)
- [ ] Pencils