

Nature Ninja!

You are a superhero - your name is Nature Ninja!
You love to be outdoors and are always most powerful when you're playing outside.



Task 1:

Outdoor Patterns - Use your keen Ninja eyes to search for items outdoors such as pebbles, leaves, and pinecones. Use the items you find to make patterns. Can you make an AB pattern? An ABC pattern? An AAB pattern? Nature Ninjas sometimes have to stay inside (if it is raining, etc.) But never fear - the same activity can be done indoors with household materials such as candy or macaroni.

Task 2:

Fruit/Vegetable Weigh In - Take out a variety of fruits and veggies that you have at your house, such as apples, oranges, bananas, grapes, carrots, cucumbers, tomatoes, or green peppers. Predict the order of the foods from lightest to heaviest. If you have a kitchen scale you can check using it, otherwise you'll need a second opinion from somebody else in your house to see if they agree with your weigh in.

Task 3:

Hopscotch - Grab that sidewalk chalk! Make a hopscotch and fill it in with numbers (counting by 1s, 2s, 5s, or 10s.) Throw a pebble, and practice counting from that point.

Use ctrl+click to practice using a balance scale in this fun game!

<https://pbskids.org/sid/games/pan-balance>

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Task 1:

Super heroes must be strong to help others! Solve the following problems and do the number of exercises indicated! Have fun!

$100 - 80 = \underline{\quad}$ Jumping jacks
 $4 \times 4 = \underline{\quad}$ Push-ups
 $12 + 13 = \underline{\quad}$ Sit-ups
 $25 \div 5 = \underline{\quad}$ Laps around your house

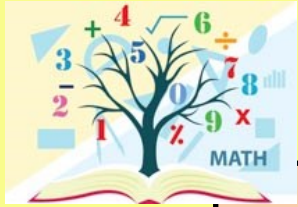
Task 2:

Super heroes help people in need! Your elderly neighbor needs some items at the store and is unable to go themselves! If they give you \$30, which combination of the following items could you buy for them? Try and find 3 different ways.

Bread:	\$2	Eggs:	\$5
Milk:	\$4	Apples:	\$6
Flour:	\$3	Bananas:	\$4
Tea:	\$4	Cereal:	\$6
Oatmeal:	\$4	Sugar:	\$3

Task 3:

Being a superhero means that you must be fast! Let's practice by running around your house as fast as you can and have someone time how many seconds it takes you! Repeat 5 different times and record each one. Once you have recorded each of your 5 laps, put your times in order from your least time to your greatest time. What was your fastest time? What was your slowest time?



Middle School Challenge

Task 1: Math in the World

Using and understanding formulas is a critical skill in almost every field, including science, engineering and business. Below are two fun formulas to try.

TVs are measured diagonally, so a 48-inch screen measures 48 inches from one corner to the opposite corner. You should also consider the resolution of the TV - the higher the resolution the closer you can sit before you'll notice pixilation in an image. The first formula is used to find the right size TV for your space.

$$TV = \frac{D}{2.5}$$

where TV = ideal screen size and D = distance in inches from the couch to your TV

The next formula is used to determine how far away you are from a lightning strike. (You might have to wait a while to test this one out!)

$$D = 340 \cdot t$$

where t = the number of seconds from the time you see lightning flash until you hear thunder, and D = distance measured in metres.

Task 3: Family Build Challenge

Your challenge is to build the tallest freestanding structure possible using the materials listed below.

Each builder will need:
 20 pieces of spaghetti
 1 large marshmallow
 1 metre of yarn or string
 1 metre of masking tape or duct tape
 Scissors and a tape measure (tools to assist in the build)

Your structure must have the marshmallow on top, but you do not have to use all of the spaghetti, tape or string. Measure from table surface to top of the marshmallow.

Who is the Marshmallow Master at your house?

Task 2: Cardboard Creation

Build a cardboard house - could be for use by the family pet, or maybe a younger sibling!

A link to a website for some inspiration.
<https://playtivities.com/cardboard-houses/>

Calculate the surface area and volume of cardboard used in your creation.

Formulas can be found at:
<https://www.varsitytutors.com/hotmath/help/topics/perimeter-area-volume>