

# **LEGO Robots**

Appropriate grades: 3 - 6

Included in this kit:

- THREE (3) LEGO Robot sets in their own carrying case
- THREE (3) Lenovo Tablets
- THREE (83) charging cords and bricks
- Power Strip
- Pouch with batteries and screwdriver
- *The LEGO BOOST Activity Book*
- *The LEGO BOOST Idea Book*

App: LEGO® BOOST

- ★ Please make sure that pieces/robots are kept with the carrying case they came in. The carrying cases as well as the move hub are numbered to help. When it's time to return the kit, please dismantle the robots and put them back in their carrying case. If students work backwards through the app, then pieces will be put back in their proper bags (this will help the next school as they build their robots from the beginning).
- ★ All tablets should be fully charged when they are returned.
- ★ Robots should be on the floor when in motion.
- ★ If a move hub is not working, the batteries may need to be replaced. Please only have an adult replace batteries. There are batteries and a small screwdriver in the pouch in the bin. Please make note of any batteries that are used so they can be replaced.
- ★ Please check all materials for damage and report any damage immediately.
- ★ You must have a signed User Agreement before using this kit.

# **Makey Makey Circuit Boards**

Appropriate grades: 3+

Included in this kit:

- SEVEN (7) Makey Makey circuit boards with alligator clips (7 per board) and USB cord (1 per board)
- Extra bag of alligator clips (7)
- Aluminum foil
- Pack of graphite pencils
- TEN (10) 1" Steel ball bearings
- Box of LED lights
- Conductive cloth
- Push pins
- Brass fasteners
- FOUR (4) Button Cell Batteries
- Bag of random items for conductivity tests

Website: [https://makeymakey.com/pages/how-to Piano Website](https://makeymakey.com/pages/how-to-Piano-Website)

The Makey Makey boards are fairly fragile. You definitely want the students to handle them, but make sure they're handling them appropriately. I have had to reset one already, so please keep an eye on students while they're using them.

- ★ Please check and make sure each Makey Makey box contains a circuit board, 7 alligator clips, and USB cord before returning the kit.
- ★ Make sure the materials box has the 10 steel ball bearings, aluminum foil, graphite pencils, LED light set, brass fasteners, push pins, and button cell batteries. If something needs to be replaced, please let me know immediately.

## **Colorado Map**

Appropriate grades: K-12

Included in this kit:

There are two boxes for this kit. One contains the big Colorado Map (with folding directions) and the other is very large and heavy and contains all of the materials you will need to complete every activity in the lesson binder. Please keep both totes together and return materials as soon as you're done with them.

Please note that students **MUST** take their shoes off and wear socks when on the map (no bare feet, please). There are some socks in the kit for emergency purposes. If you do use them, please launder the socks before returning them to the kit.

Click the link for the standards by grade level that pertain to using the Colorado map in your classroom.

<https://tinyurl.com/COMapStandards>

## **Mini STEAM Kit**

Appropriate grades: K-8

Included in this kit:

- Pipe Cleaners
- Ping Pong Balls
- Marbles
- Masking Tape
- Craft Sticks
- Yarn
- String
- Cotton Balls
- Plastic spoons and forks
- Rubber bands
- Paper clips
- Balloons
- Straws
- Construction paper
- Cardstock
- Pom pom balls
- Plastic cups
- Clay
- Playdoh
- Ribbon
- Googly eyes
- Plus Plus blocks
- LEGO blocks
- Felt squares
- Wood blocks
- Origami paper
- Toothpicks
- Index cards
- Aluminum foil
- STEM packet with student response sheets (make copies)

→ STEM task cards on ring

Materials you may need to supply:

- Markers, crayons, and/or colored pencils
- Scissors
- Pencils
- Printer paper
- Rulers
- Scotch tape
- Glue

Websites:

<http://www.cre8iowa.org/resources/instant-challenge-library/>

[https://docs.google.com/presentation/d/1V2xpr\\_fFR8MU8o8\\_RM3Ikulezs6Z6BR\\_fKY8Q11Jk\\_wM/template/preview](https://docs.google.com/presentation/d/1V2xpr_fFR8MU8o8_RM3Ikulezs6Z6BR_fKY8Q11Jk_wM/template/preview)

- ★ Please ask students to be responsible with the materials provided. We want to make sure that everyone has equal access to what is in the kit throughout the entire year.
- ★ The websites and STEM cards are to help get you started. There are so many STEAM/STEM activities and ideas out there - the sky's the limit!
- ★ Please put any materials that can be reused back in the box in the appropriately labeled baggie. Even usable parts are better than throwing the whole item away!
- ★ Make sure that all of the activity cards are placed back in the box on top.

## **Electrify America EV Set**

Appropriate grades: K-6

Included in this kit:

- TWELVE (12) cardboard squares
- Batteries
- Conductive tape
- SIX (6) LED bulbs
- SIX (6) cars
- SIX (6) green propeller kits

Website: <https://learn.reved.org/>

On this site, you will find a few lessons per grade level band (K-3 and 4-6). Gifted third graders (and maybe second graders) could do the 4-6 lessons, too. There's also a link where you can register to get more lessons.

- ★ Please make sure all cars and kits are accounted for
- ★ If more batteries or conductive tape is needed (please remind students to be responsible with the tape), please let me know so it can be replaced.

## **Mrs. Frisby and the Rats of NIMH small group literature set**

Appropriate grades: 3-5

Included in this set:

- TWELVE (12) copies of *Mrs. Frisby and the Rats of NIMH*
- A few different literature guides to help guide discussion and activities

If you have the time after reading the book, watching *The Secret of NIMH* is a fun way to compare and contrast the two different stories. You can find this movie for free on YouTube.

- ★ The literature guides are meant more to get you started rather than handing it out to students and asking them to do it all. The more hands-on you can get, the more engagement you'll get. If you choose to use any of the resources in the literature guide binder, **please make copies and replace the original back in the binder.**
- ★ Also included are discussion questions and activities based on questions in the literature guides, but they ask the students to think a little deeper and/or more creatively. These were used in a very successful online literature group with third graders during the pandemic, so they are tried and tested.  
Mrs. Frisby Lit Group Questions and Activities:  
**<https://tinyurl.com/MrsFrisLitGroup>**
- ★ Make sure all books are collected and in good condition before returning the kit. Accidents happen, mistakes are made and that is understandable. If a book goes missing or is irreparably damaged, you are responsible for the cost of the book so it can be replaced (\$10.00). This will be reflected on your budget sheet.

## **Mini 3x3 Puzzle Cube Kit**

Appropriate grades: 4-8

Included in this kit:

→ THIRTY-FIVE (35) mini 3x3 Puzzle cubes

**\*\*Please note that these are small “party-favor” type cubes. If they are twisted too hard or forced to move when they stick a bit, they can and will fall apart. They are not meant for speed solving; they are meant to be used to learn how to solve a cube or how to make patterns on one or more faces at a time.**

Resources:

[Rubik's Cube Lessons](#) (Shared Google Drive)

[Rubik's Cube Patterns with Algorithms](#)



## **Paper and Pencil Games**

Appropriate Grades: 3-12

Included in this kit:

- Ultimate Tic-Tac-Toe
- Gomoku
- Aces, Jumble, Zilch
- Bulls and Cows (purple laminated instructions)
- Cram (purple laminated instructions)
- Ghost (purple laminated instructions)
- Suguru
- Star Battle
- Sudoku
- Inky
- Slitherlink
- Doodle Wars

Materials you will need to supply:

- Dry erase markers (black is preferred as colors don't come off the plastic sheet protector as easily or cleanly)
- Something to erase with
- Pencil and paper (Doodle Wars)

### **Directions for Games**

#### **Ultimate Tic Tac Toe**

<https://www.thegamegal.com/2018/09/01/ultimate-tic-tac-toe/>

This site has step-by-step instructions on how to play the game. It may seem confusing at first, so watch students as they play to make sure they're moving to the correct grid. The game goes really fast in the beginning, but when the strategy has to ramp up, watch out!

## Gomoku

Gomoku is another tic-tac-toe-like game. This time, however, the winner has to get five in a row (Not six, though! That's a losing game.) Players will place Xs and Os on the game board just like tic-tac-toe. The first player (for example, X) must play in the middle square. The next player (O) can make their mark in any square that touches the first player's mark. It can be in any of the diagonal squares or the squares that are above/below or side to side. Players continue on, placing their mark in a square that touches another occupied square.

○	○	○
○	X	○
○	○	○

The winner is the first person who gets 5 in a row.

## Aces, Jumble, Zilch

This is a fun game that has the players guessing what the mystery number is. The rules are simple:

- ★ Choose a three digit number that has no repeating digits (e.g. you can't use 355)
- ★ The guesser(s) will say a three digit number
- ★ The number master will give clues in the following order: A (ace - correct number in the correct spot), J (jumble - correct number in the wrong spot), and/or Z (zilch - wrong number all together)
  - For example: the number being guessed is 627. The guesser says 521. The clue would be: AZZ (The 2 is in the correct spot, but the other two numbers are wrong)
  - Another example: the number being guessed is 498. The guesser says 895. The clue would be: AJZ (The 9 is the correct number in the correct

spot, the 8 is the correct number in the wrong spot, and the 5 is wrong altogether)

- Clues are always given in AJZ order - not the number order
- ★ The idea is to get students to start to see the patterns in the clues and figure out what numbers are correct or jumbled.
- ★ If a student guesses a number that gets the clue ZZZ, I usually tell them to celebrate! After all, they just identified three numbers they know for sure aren't in the correct answer. (This always makes them feel pretty good.)
- ★ The guessers keep going until they come up with the correct answer.
- ★ This is a great game to play whole class (opens up that conversation about strategy and what the clues are telling them), small group, or even partners (the players have to really understand the rules of the game to play in partners if you're working with younger [3rd/4th grade] students; they tend to want to give clues in the number order)

### Bulls and Cows

This game is similar to Aces, Jumble, Zilch except that it is a four digit number

- ★ Player A chooses a 4 digit number for player B to guess
- ★ Player B guesses a 4 digit number
- ★ Player A tells player B how many bulls (correct number in correct spot) they guessed correctly and how many cows (correct number in wrong spot)
  - Note: the number of bulls and cows may not equal 4. That's the other challenge of this game!
- ★ Player B keeps guessing the number until the correct number is guessed.

### Cram

This game is played on a square grid board and is for 2 players.

- ★ Player A colors in two connecting squares on the board (side to side or up and down - no diagonals). The players could also use dominoes to mark their spots (one player uses the dotted side and the other uses the plain side).
- ★ Player B colors in two other connecting squares.
- ★ Play continues until someone cannot color in two connecting squares.

## Ghost

This is a word game and each time a player loses, he/she must cross off a letter in GHOST at the top of the page (similar to playing HORSE in basketball). The point of the game is to get the opponent to create a word by taking turns adding a letter to the end of the current combination. Words cannot be shorter than FOUR letters long (bat would not be a losing answer because it is only three letters).

- ★ Player A writes down a letter (e.g. T)
- ★ Player B adds a letter after the first letter (e.g. W - so now there is the combination TW)
- ★ Player A adds an additional letter (TWI)
- ★ Player B continues on by adding another letter (TWIS)
- ★ Player A has to think of a letter that will not make a complete word at this point. If player A adds a T to the end of the word, he/she loses as a complete word was created (TWIST).
- ★ Play continues (winner starts next game) until someone loses all of their GHOST letters.

## Suguru, Star Battle, Sudoku, and Slitherlink

All of these games have the instructions printed on the bottom of each game board. If you need additional help, go to [krazydad.com](http://krazydad.com). (I wouldn't share this link with students as it contains the solutions!)

## Doodle Wars

All instructions are included in the bag along with a sand timer (please make sure this is placed back in the bag when done playing) and the Doodle War cards.

Do you have additional games you'd like to see added to these? Send me an idea and I'll work on getting them added!

## **Art Enrichment Kit**

Appropriate grades: 1-8

Included in this kit:

- Non-drying Clay
- Book - Draw 50 Animals: The Step-by-Step Way to Draw Elephants...
- Book - Portrait Drawing for Kids: A Step-by-Step Guide...
- Book - Art for Kids: Drawing: The Only Drawing Book You'll Ever Need...
- THREE (3) Oil Pastel Sets
- ONE (1) Acrylic Paint Marker Pens
- TWO (2) 9"x12" Calligraphy Practice Paper Pads
- Book - Calligraphy for Beginners
- Book - Lettering and Modern Calligraphy: A Beginner's Guide
- THREE (3) Caliart Double Tip Brush Pens/Art Markers Sets
- TWO (2) Art Drawing Pads

This set is perfect for that student that shows an artistic flair and wants to practice their skills more or learn new skills.

- ★ As supplies get low, please make note of that on the inventory sheet.
- ★ Students can take their drawings out of the art and calligraphy pads; please make sure they do not keep the entire pad
- ★ Please check the paint pens and calligraphy/brush pens for damage before returning the kit; make note of any smashed tips

## **Among the Hidden small group literature set**

Appropriate grades: 5-8

Included in this set:

- TWELVE (12) copies of *Among the Hidden* (book one in the series)
- TWO (2) literature guides to help guide discussion and activities

- ★ The literature guides are meant more to get you started rather than handing it out to students and asking them to do it all. The more hands-on you can get, the more engagement you'll get. If you choose to use any of the resources in the literature guide binder, **please make copies and replace the original back in the binder.**
- ★ Make sure all books are collected and in good condition before returning the kit. Accidents happen, mistakes are made and that is understandable. If a book goes missing or is irreparably damaged, you are responsible for the cost of the book so it can be replaced (\$10.00). This will be reflected on your budget sheet.

## **Math Enrichment Kit**

Appropriate grades: 1-8

Included in this kit:

- Book - *Primary Grade Challenge Math*
- Book - *Upper Elementary Challenge Math*
- Book - *Challenge Math: For the Elementary and Middle School Student*
- Book - *Real World Algebra: Understanding the Power of Mathematics*
- Roman Numerals Placemat
- Book - *Fun with Roman Numerals Math Workbook*
- TWENTY (20) sets of Tangrams
- Book - *Tangrams: 50 Puzzles*
- Book - *Tangrams: 330 Puzzles*
- Book - *The Book of Tangrams: 700 Puzzles*
- Pentomino Jigsaw Puzzle
- Master copy of Pentominoes pieces (for copy purposes only)
- Book - *Working with Pentominoes*
- Chinese Abacus
- Book - *Chinese Abacus: Practical Step-by-Step Guide*
- Book - *How to Use a Chinese Abacus: A Step-by-Step Guide...*

★ Please make sure all tangrams are put back in their baggies and returned to the main bag in the bin

★ Please make sure the puzzle and all pieces are back in the baggie

★ When using the Roman Numerals workbook, please make copies of any pages you or students want to use - they should not write in the workbook

- ★ If students want their own set of pentominoes to use, you may use the Pentomino Master Copy in the kit. It is highly recommended that the pentominoes be copied onto cardstock for use.

## **Micro:bit Enrichment Kit**

Appropriate ages: 8+

Included in this kit:

- THREE (3) Micro:bit Ultimate Starter Kits
- AAA batteries

Here are links to the webpages you'll need to get going with Micro:bit in the classroom:

- ★ <https://microbit.org/get-started/first-steps/introduction/>
  - This page has videos and tutorials for all parts of the Micro:bit
- ★ <https://microbit.org/projects/make-it-code-it/>
  - This page has well over 150 activities from a beginner level all the way to advanced
  - Projects are organized by:
    - Programming Language
    - Subjects and Topics
    - Device Feature
- ★ There are a lot of little pieces in these kits. Please make sure all parts are returned to the kit.
- ★ If batteries need to be changed, please only allow adults to change them.



## **Games Enrichment Kit**

Appropriate ages: 5+

Included in this kit:

- Qwirkle
- Color Code
- Plus Plus Blocks in plastic container with laminated instructions
- Q-bitz
- Genius Square
- Quiddler
- SkyJo
- Blokus
- Genius Star
- Set
- Rubik's Race
- Sequence
- Bananagrams
- Rush Hour

Please take the time to double check contents of games and ensure all pieces are included.

## **Speed Cube Kit**

Appropriate ages: grades 4-8

Included in this kit:

- 12 Speed Cubes
- Solution Guide

Resources for instruction:

<https://www.speedcubing.com/CubingTutorials.html>

<https://www.cube.academy/3x3-tutorials-overview> (this one starts with how to solve the cube in general but then has videos on finger tricks to get faster)

[J Perm YouTube channel](#) all about solving the Cube!

# **Backpacks Kit**

Appropriate ages: grades 2-8

## **Art Backpacks:**

3 drawing books (calligraphy, animals, and basic drawing)

34-marker set

Acrylic Paint Marker set

Modeling Clay – 1 box

36-piece Oil Pastels

36-piece colored pencils

Calligraphic Practice Paper

## **LEGO Backpack**

1 hard-sided kit with LEGO pieces in labeled bags (see [this link](#) for details on each bag)

1 tablet with cover on (please make sure tablet is powered down)

1 charging cord for tablet

## **Makey-Makey Backpack**

1 Makey-Makey in red box with all cords

1 plastic box containing:

- Steel ball bearings
- Coin cell batteries
- Conductive thread
- LED lights
- Conductive tape
- Conductive Fabric
- Laminated instructions

## **Micro:Bit Backpack**

1 Micro:Bit plastic box with all pieces (see [this picture](#) for reference)

## Challenge Cube Kit

Appropriate ages: grades 2-12

Included in this kit:

- 1 pyramid shaped cube
- 1 dodecahedron shaped cube
- 1 2x2 cube
- 1 traditional 3x3 cube
- 1 3x3 in Ivy formation (see slide deck)
- 1 3x3 in Skewb formation (see slide deck)
- 1 4x4 cube
- 3 “Fisher Cubes” – 3x3 cubes with various faces



- ★ Please ensure all 10 cubes are back in the kit before returning
- ★ Please try to return them in solved form; the [slide deck attached here](#) has several links embedded with solution guides