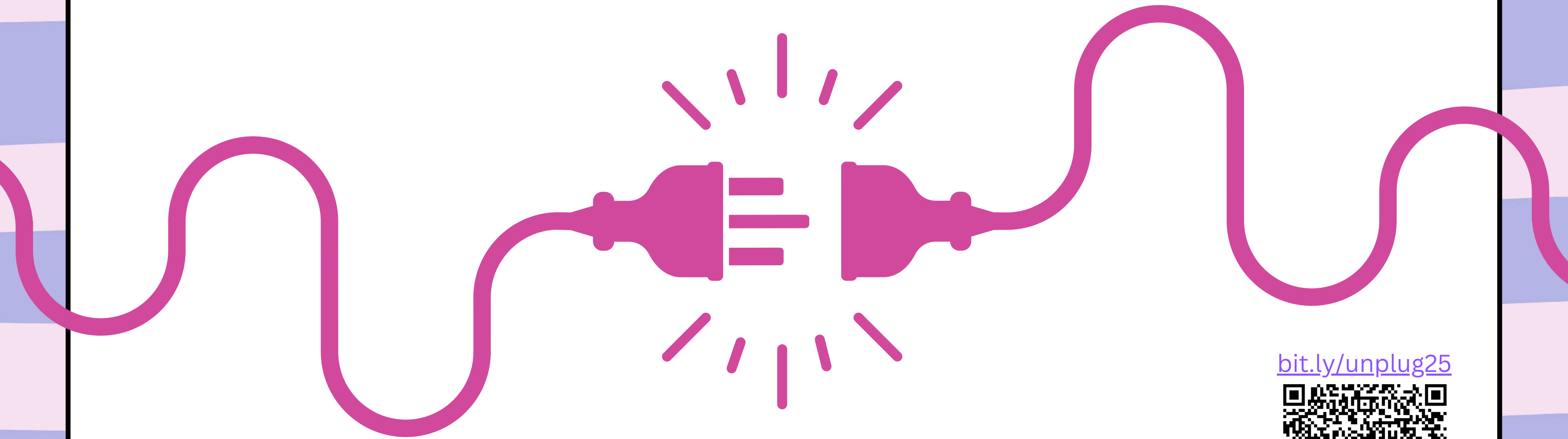


UNPLUGGED CODING



FOR KIDS
K-6

bit.ly/unplug25





KELLI CANNON
@JORDANDISTRICT.ORG



DIGITAL LEARNING SPECIALIST

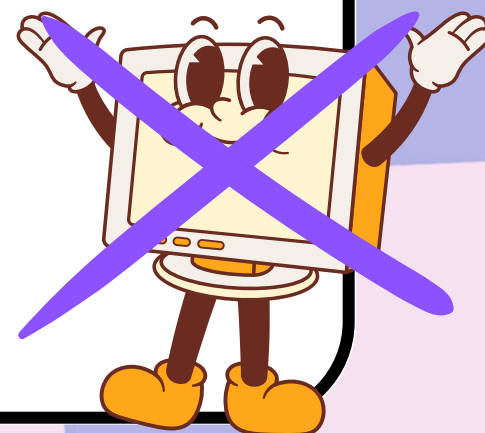
TRACI RINDLISBACH
@JORDANDISTRICT.ORG



ELEM. CS SPECIALIST

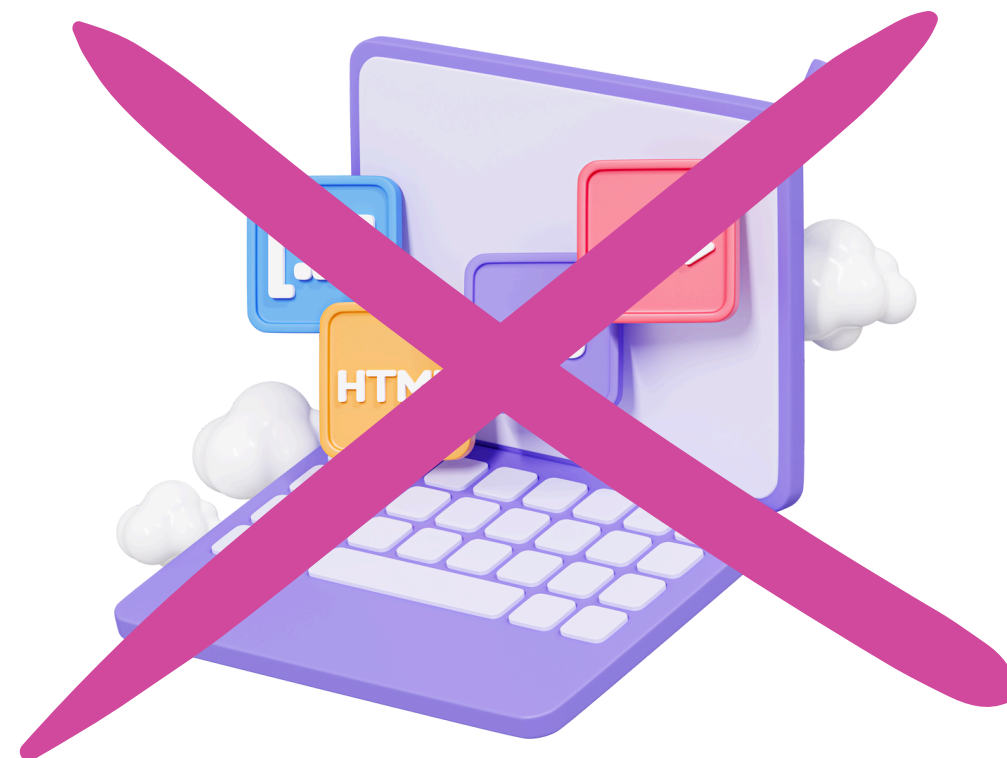
WHAT IS UNPLUGGED CODING?

UNPLUGGED CODING TEACHES THE
FUNDAMENTAL CONCEPTS OF
COMPUTER SCIENCE AND
PROGRAMMING **WITHOUT THE USE OF**
ELECTRONIC DEVICES OR COMPUTERS



WHAT IS UNPLUGGED CODING?

**UNPLUGGED CODING IS
LEARNING CODE WITHOUT
WRITING LINES OF CODE**



UNPLUGGED IS GREAT FOR:

 **COMPUTATIONAL THINKING**

 **PROBLEM-SOLVING SKILLS**

 **COLLABORATION**

 **ACCESSIBILITY**

COMPUTATIONAL THINKING

DECOMPOSITION 

ABSTRACTION 

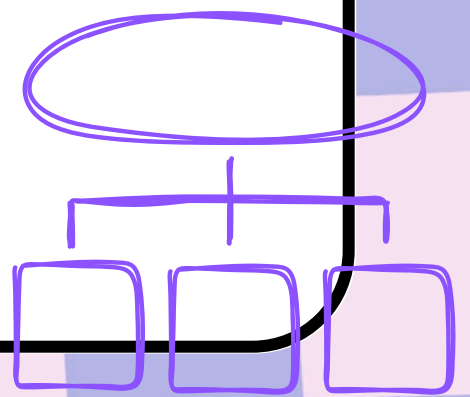
PATTERN RECOGNITION 

DATA SETS 

ALGORITHMIC DESIGN 

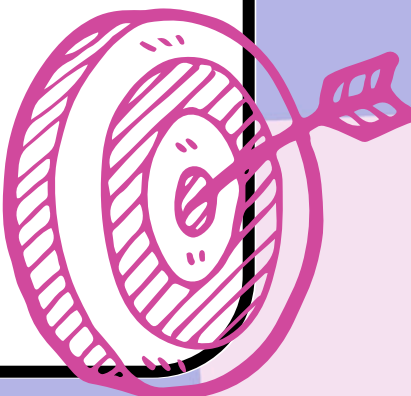
DECOMPOSITION

**TEACH STUDENTS TO BREAK DOWN
COMPLEX PROBLEMS INTO SMALLER,
MORE MANAGEABLE COMPONENTS,
MAKING IT EASIER TO TACKLE AND
SOLVE EACH PART EFFECTIVELY.**



ABSTRACTION

**FOCUS ON THE ESSENTIAL DETAILS
OF A PROBLEM WHILE FILTERING
OUT IRRELEVANT INFORMATION,
HELPING THEM SIMPLIFY AND
UNDERSTAND COMPLEX CONCEPTS**



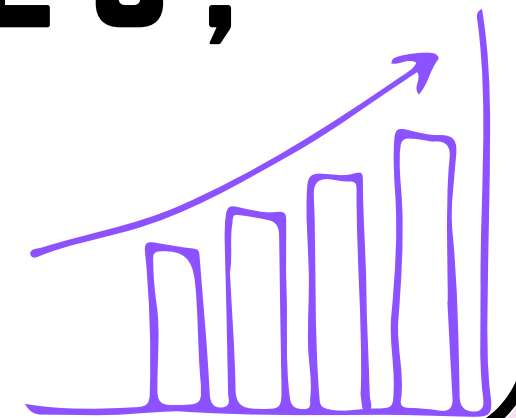
PATTERN RECOGNITION

BY IDENTIFYING SIMILARITIES AND TRENDS IN DATA OR PROCESSES, STUDENTS CAN DEVELOP STRATEGIES FOR PREDICTING OUTCOMES AND SOLVING PROBLEMS MORE EFFICIENTLY.



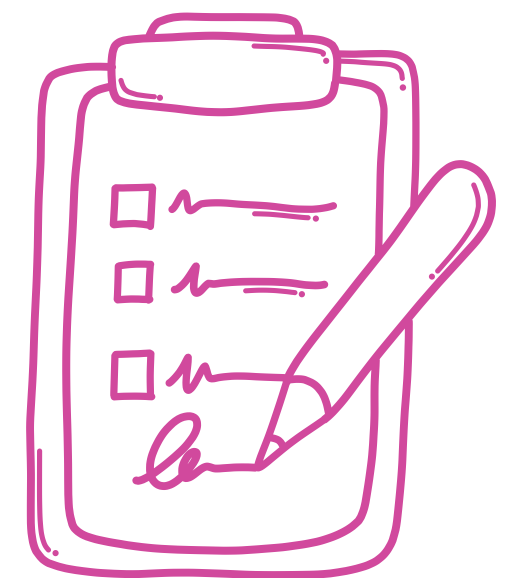
DATA SETS

**STUDENTS LEARN HOW TO
CATEGORIZE AND SORT
INFORMATION-THIS HELPS BUILD
FOUNDATIONAL SKILLS FOR
UNDERSTANDING LISTS, TABLES,
AND DATABASES**



ALGORITHMIC DESIGN

UNPLUGGED ACTIVITIES GUIDE
STUDENTS IN CREATING DETAILED,
STEP-BY-STEP SOLUTIONS TO
PROBLEMS, HONING THEIR ABILITY
TO PLAN AND EXECUTE
TASKS METHODICALLY.



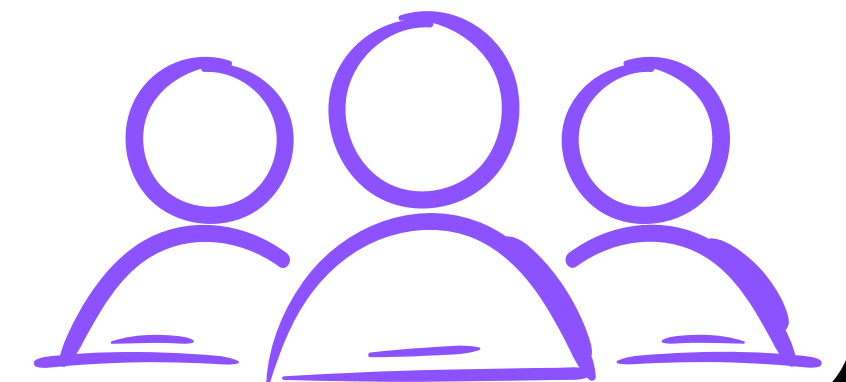
PROBLEM-SOLVING SKILLS

✓ **TEACHES LOGICAL THINKING, PATTERN RECOGNITION, AND DEBUGGING**

✓ **ENCOURAGES CREATIVITY AND COLLABORATION, EQUIPPING STUDENTS TO TACKLE REAL-WORLD CHALLENGES EFFECTIVELY.**

COLLABORATION

**ALLOWS STUDENTS TO WORK IN
GROUPS, APPROACH PROBLEMS FROM
DIFFERENT PERSPECTIVES, AND
LEARN FROM ONE ANOTHER**



ACCESSIBILITY

**MAKES LEARNING INCLUSIVE AND
ENGAGING FOR ALL STUDENTS,
REGARDLESS OF THEIR ACCESS
TO DIGITAL RESOURCES.**















SUPPORTS UTAH CS STANDARDS

Utah Core Standards

Click on a grade level to view the Utah Core standards for that grade. Click on the subject title to view all grades for that subject. Use the [UEN Curriculum Search](#) to search the core and to find lesson plans.

[K-12 Standards](#) • [Career and Technical Education Standards](#) • [Adult Education College and Career Readiness Standards](#)

K-12 Standards

 Driver Education 10 - 12	 Early Learning PreK	 English Language Arts P3 P4 K 1 2 3 4 5 6 7-8 9-10 11-12
 Financial Literacy 11 - 12	 Fine Arts K 1 2 3 4 5 6 7-12	 Health Education K 1 2 3 4 5 6 7-8 9-12
 K-12 Computer Science K - 5 6 - 12	 Library Media K - 5 6 - 12	 Mathematics K 1 2 3 4 5 6 - 12
 Physical Education	 Science	 Social Studies

Need help?
Visit our [FAQ](#)

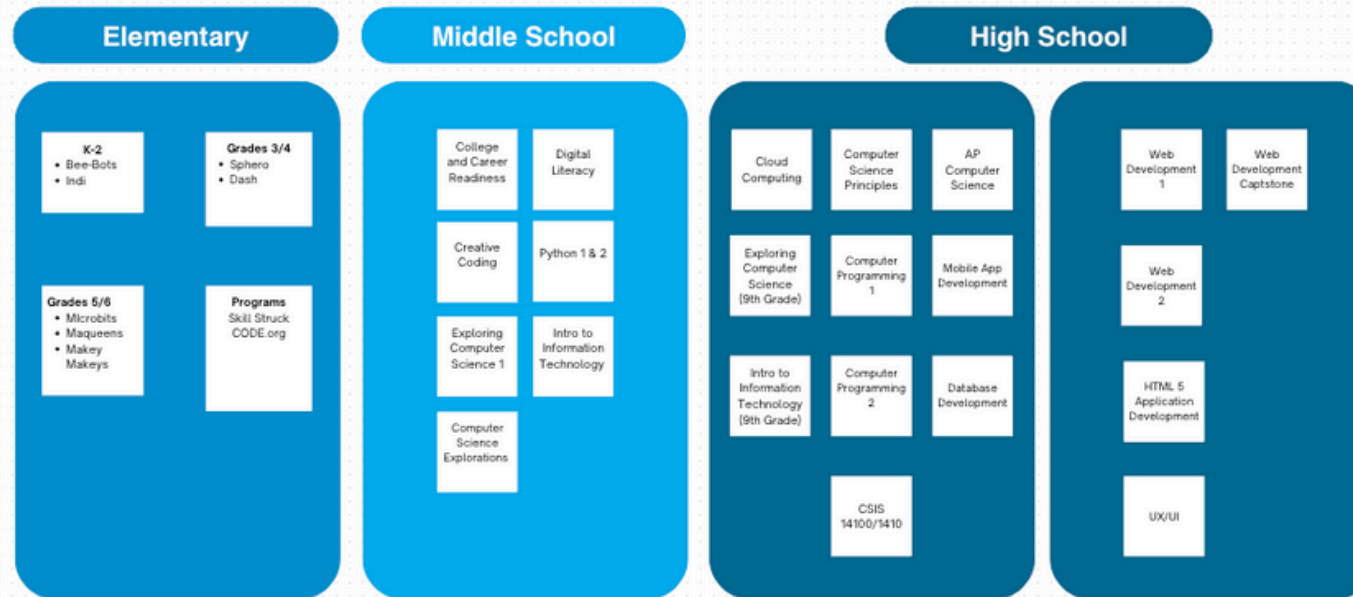
UTAH CS MISSION:

ALL STUDENTS WILL ENTER SECONDARY SCHOOLS WITH EXPOSURE TO COMPUTATIONAL THINKING AND COMPETENCIES IN DIGITAL LITERACY. THIS BEGINS IN OUR ELEMENTARY SCHOOLS WITH COMPETENCIES IN KEYBOARDING, APPROPRIATE AND RESPONSIBLE USE OF TECHNOLOGY, AND BASIC CODING PRINCIPLES.



CS PATHWAY K-12

K-12 Computer Science Pathway

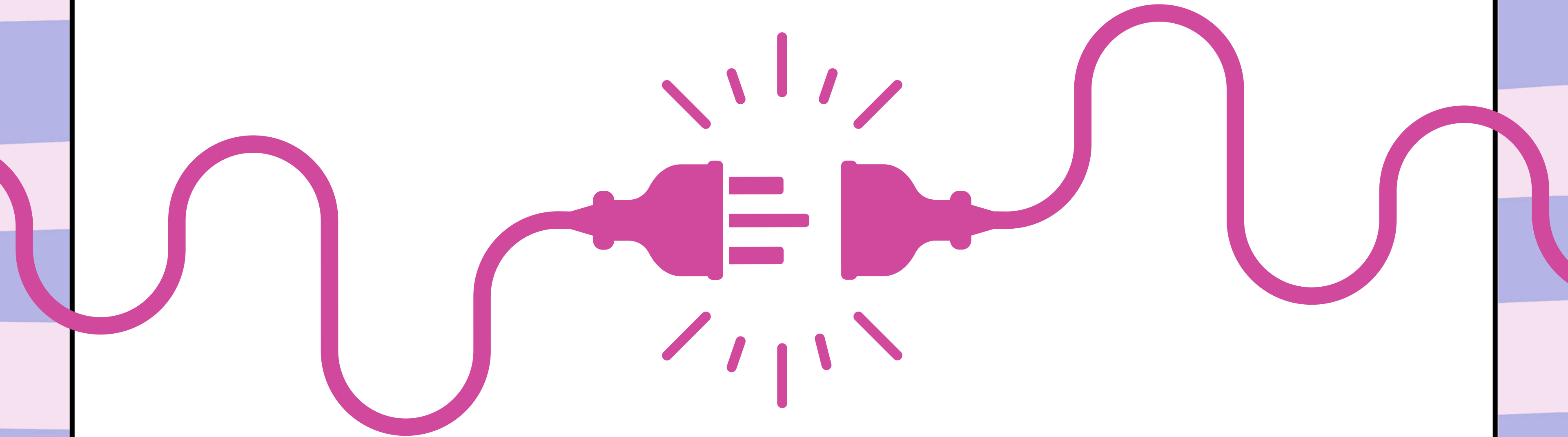


✓ **VOCABULARY**

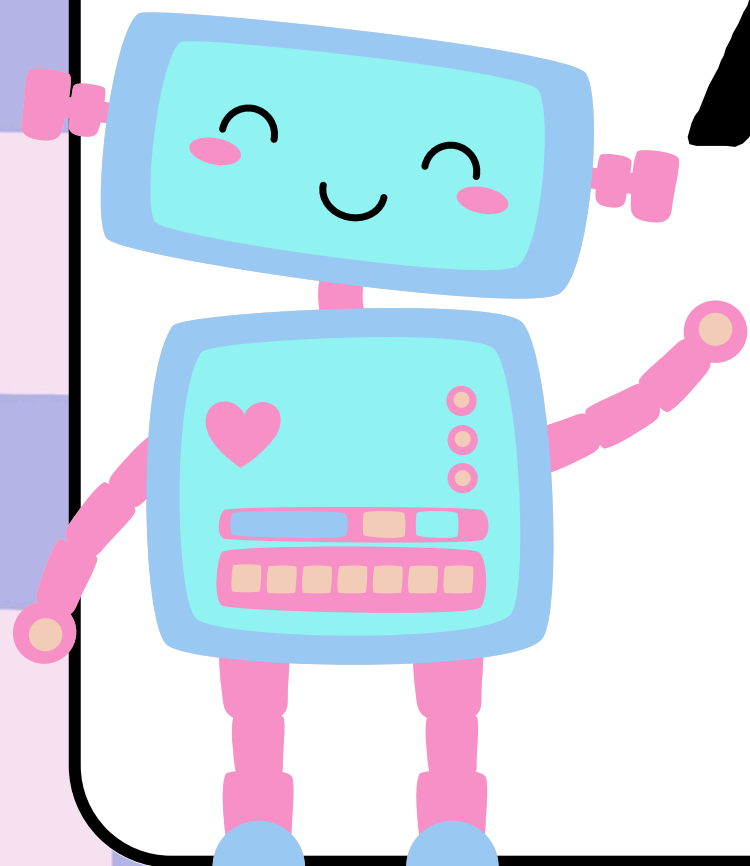
✓ **BLOCK CODING**

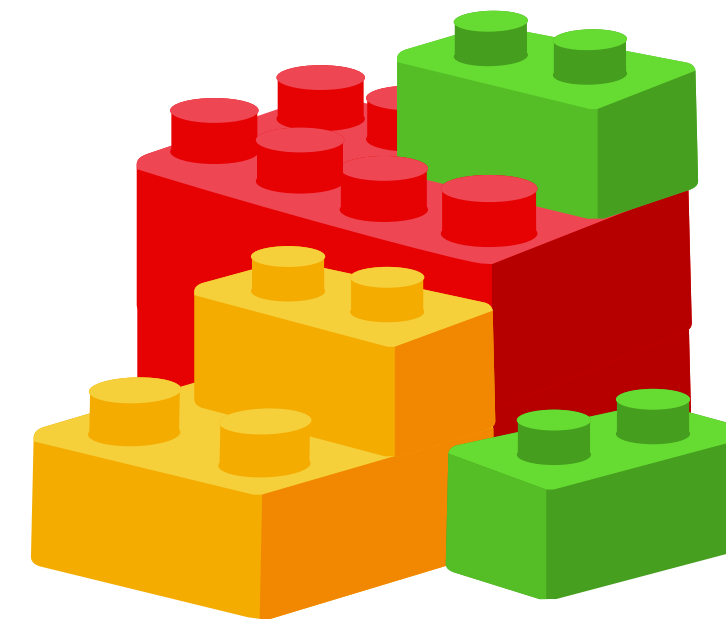
✓ **COMPUTATIONAL THINKING**

UNPLUGGED ACTIVITIES



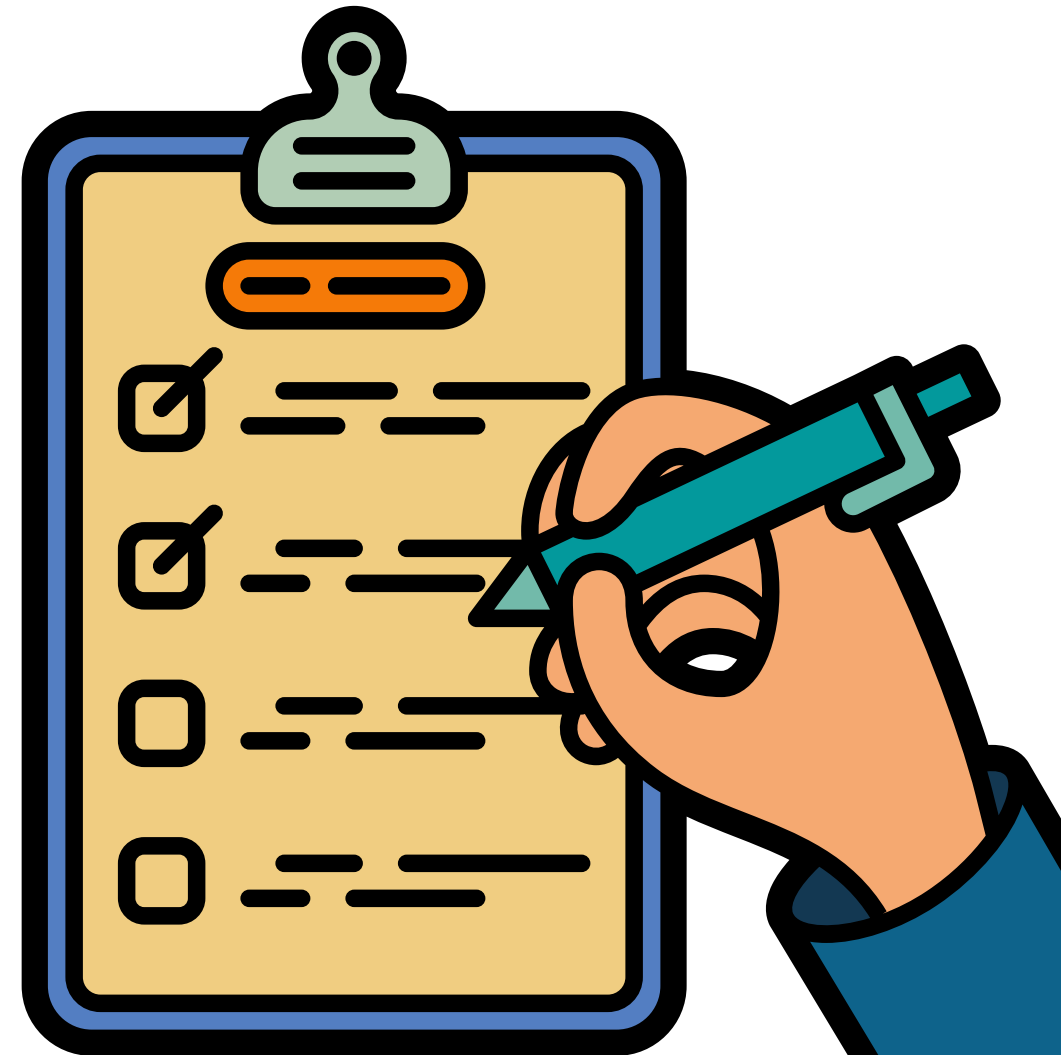
WHAT IS AN ALGORITHM?





ALGORITHM

A list of steps to finish a task



COMPLETE THIS ALGORITHM

1. GRAB SHOES
2. GRAB SOCKS
3. PUT ON _____
4. PUT ON _____
5. PUT ON _____
6. PUT ON _____



What is your shoe algorithm?

Sock, Sock, Shoe, Shoe

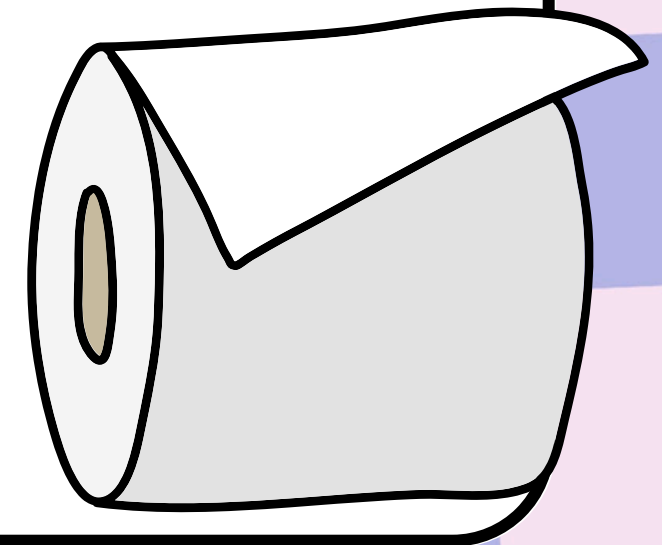
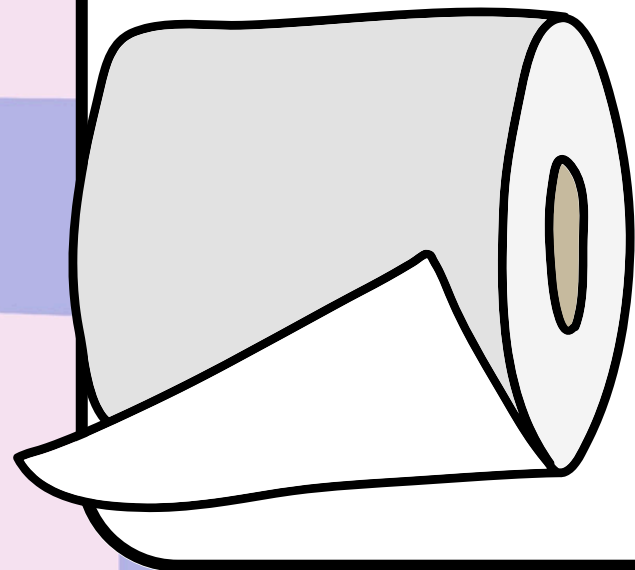
Sock, Shoe, Sock, Shoe


Other

● Loading...



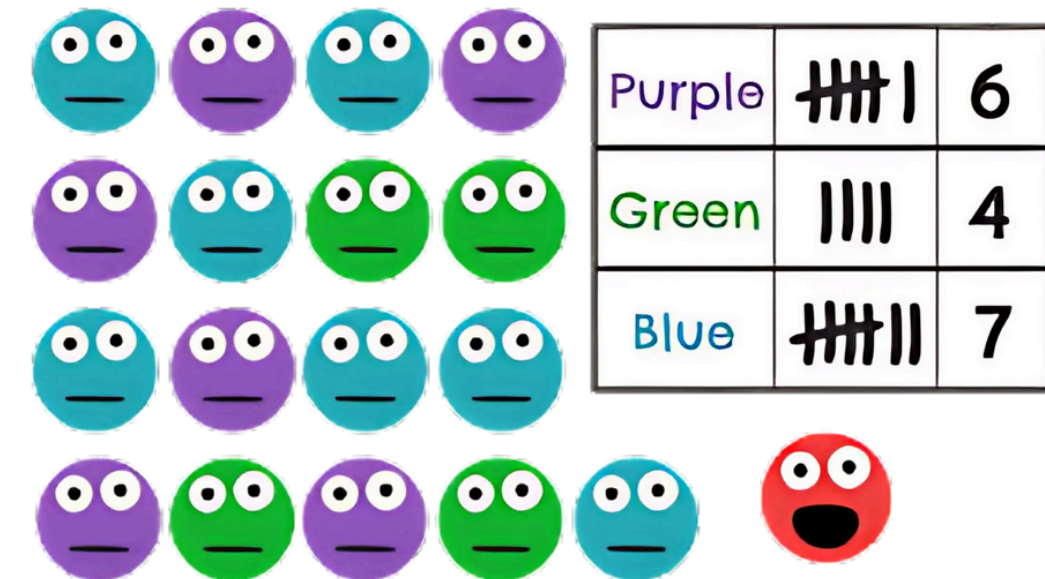
COMPLETE THIS ALGORITHM



Watch on  YouTube

DATA SET

A collection of data organized in a table or list, and is related to a specific topic



Lunch Choices	Frequency
Mac 'n Cheese	5
Sandwich	8
Soup	6
Hamburger	2
Chicken Nuggets	1

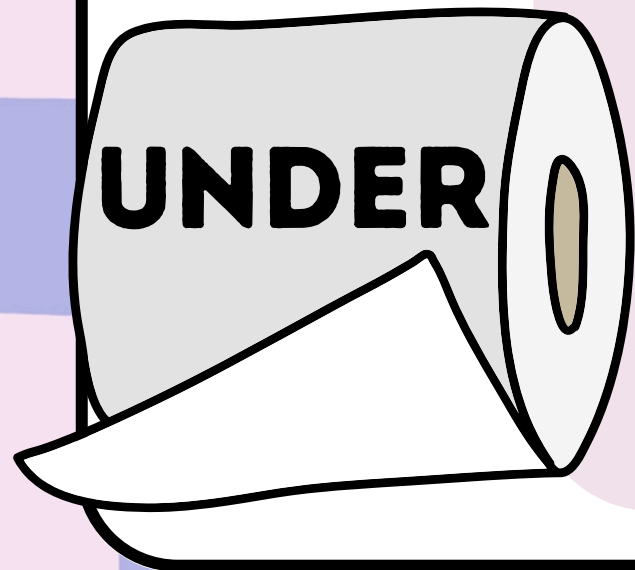
What is the right way to put TP on the holder?

<http://bit.ly/unplug25>

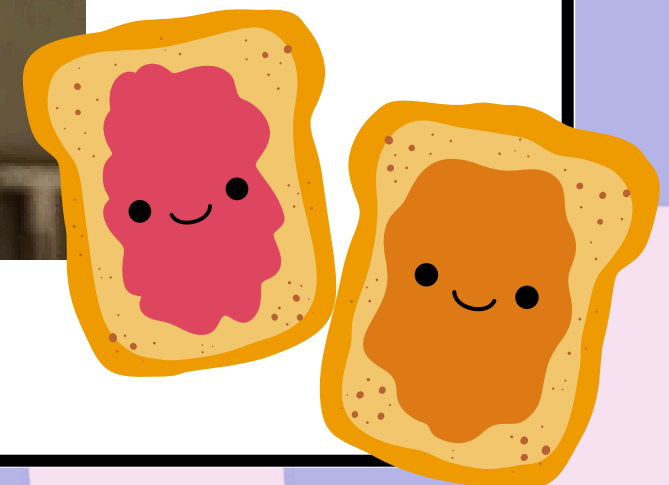
TP under

TP over

● Loading...



PB & J ALGORITHM



PB & J ALGORITHM

GATHER ALL NECESSARY INGREDIENTS: BREAD, PEANUT BUTTER, JAM, AND A KNIFE.

TAKE OUT A CLEAN PLATE.

LAY TWO SLICES OF BREAD SIDE BY SIDE ON THE PLATE.

USE THE KNIFE TO SCOOP PEANUT BUTTER FROM THE JAR.

SPREAD THE PEANUT BUTTER EVENLY ON ONE SLICE OF BREAD.

CLEAN THE KNIFE OR TAKE A SECOND KNIFE.

SCOOP JAM FROM THE JAR.

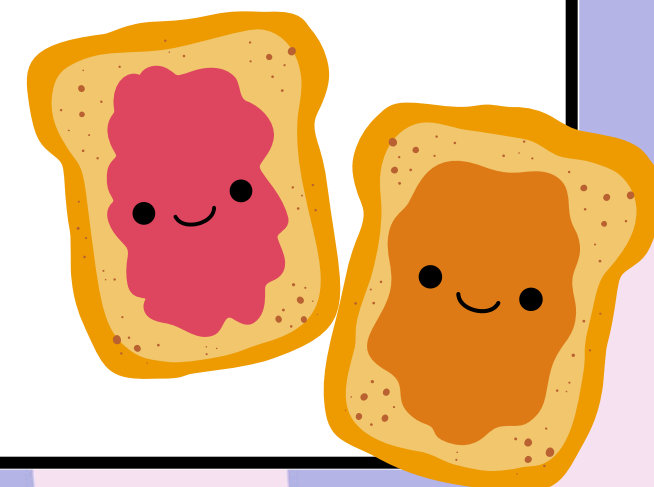
SPREAD THE JAM EVENLY ON THE SECOND SLICE OF BREAD.

CAREFULLY PLACE THE SLICE WITH PEANUT BUTTER ON TOP OF THE SLICE WITH JAM.

GENTLY PRESS THE SANDWICH TOGETHER.

CUT THE SANDWICH IN HALF IF DESIRED.

ENJOY YOUR PEANUT BUTTER AND JAM SANDWICH.



CREATE AN ALGORITHM

The screenshot displays the 'goblin.tools' website. The navigation bar includes links for 'Magic ToDo', 'Formalizer', 'Judge', 'Professor', 'Consultant', 'Estimator', 'Compiler', and 'Chef'. There are also links for 'Patreon', mobile app icons, a heart icon, a moon icon, and an 'About' link. The main heading is 'Magic ToDo' with the subtitle 'Breaking things down so you don't'. A text input field contains 'clean the bathroom'. To the right, a 'Spiciness level' control is visible, asking 'How much breaking down do you need?' with a slider and five red chili pepper icons. Below the input field are 'Sync' and a trash icon. On the right side, there are icons for a funnel, undo, redo, and a cursor. At the bottom left, there is a footer link: 'Are you a teacher? Check out [TEACHER TOOLS](#)'.



CREATE AN ALGORITHM



Magic ToDo - GoblinTools

Magic ToDo acts as a standard todo list, with some special sauce. Try the button and let it automatically come up with the steps you need to accomplish...

 goblin.tools

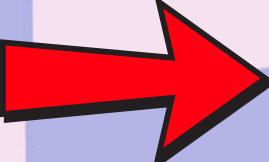
[CLICK HERE](#) 



SPARK JOYFUL LEARNING



DECOMPOSITION



Keychain Ring

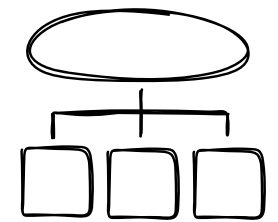
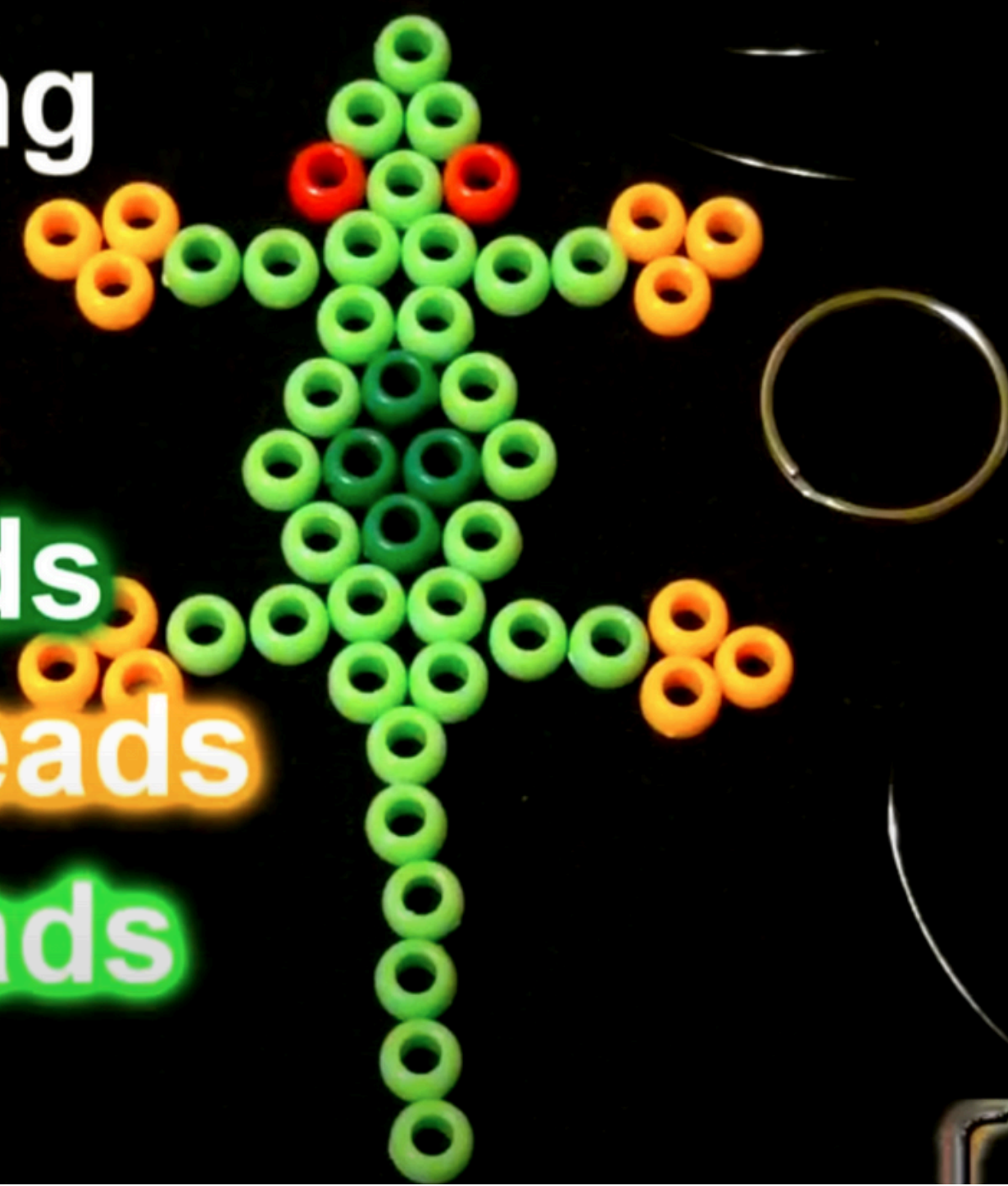
4ft. String

2 Red Beads

4 Green Beads

12 Orange Beads

32 Green Beads



DECOMPOSITION



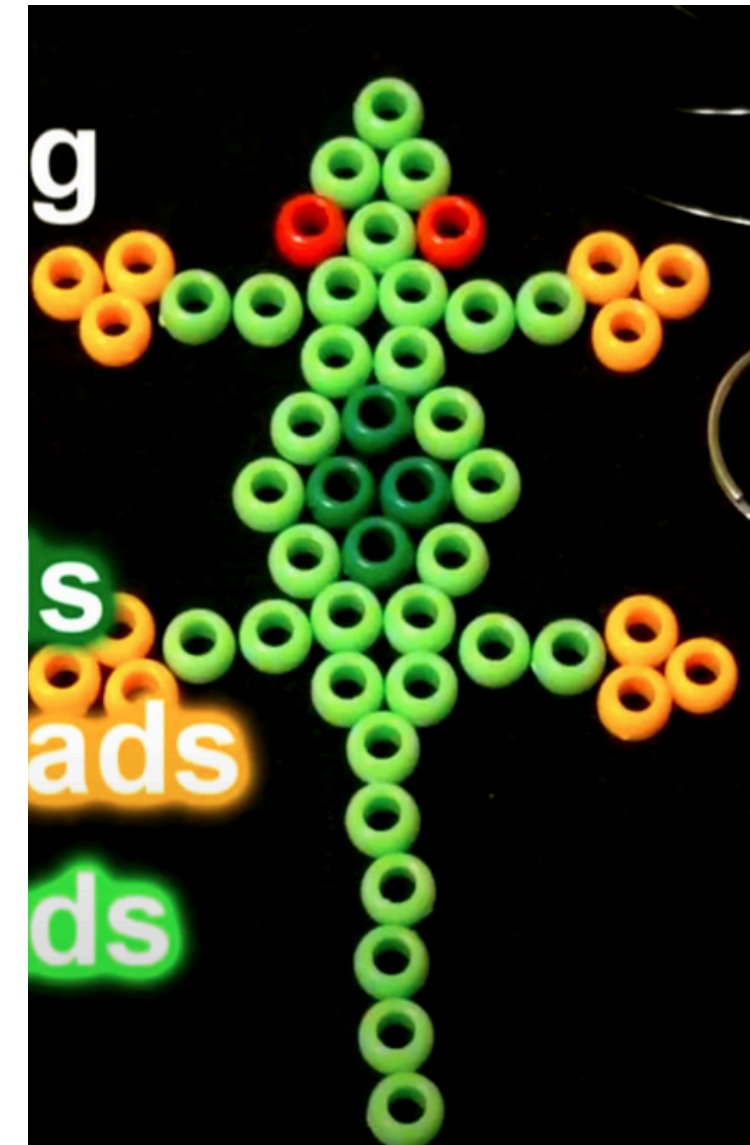
4 FEET OF STRING

2 EYE BEADS

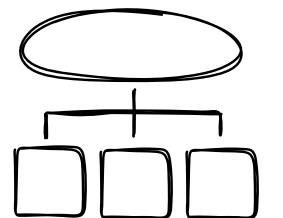
4 STOMACH BEADS

12 FEET BEADS

32 BODY BEADS



ALL GROUPS OF BEADS SHOULD MATCH



ALGORITHM



START AT 45 SECONDS



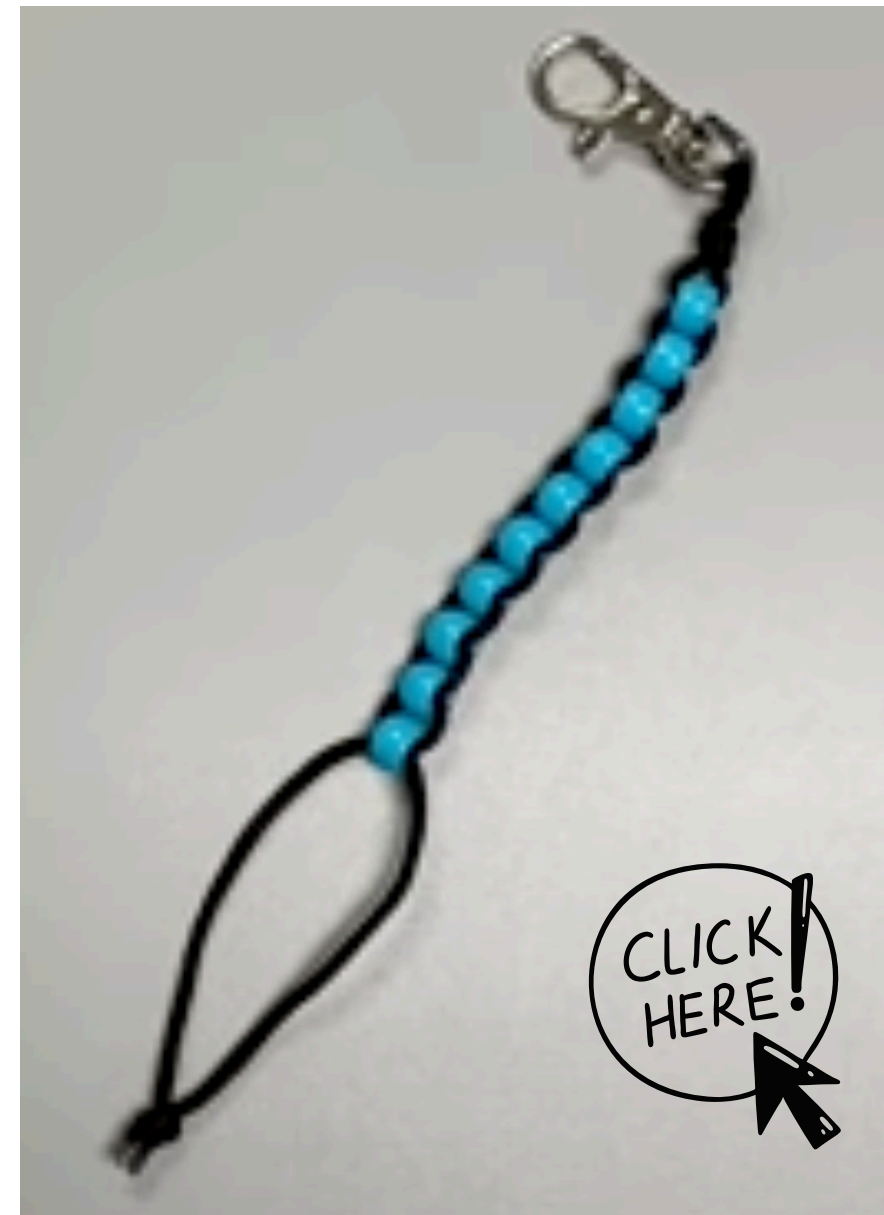
PATTERNS



**WHAT PATTERNS DID
YOU NOTICE WHILE
MAKING YOUR LIZARD
LANYARD?**



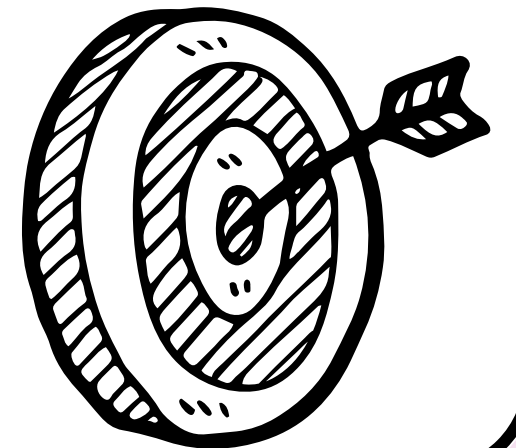
PATTERNS



ABSTRACTION



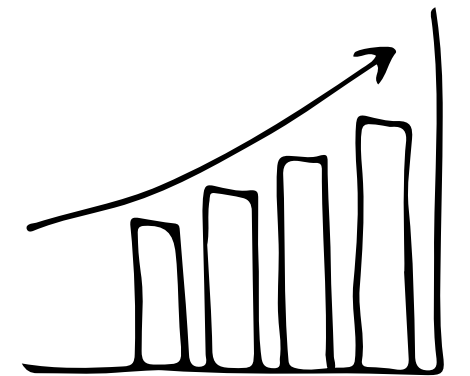
**WHEN DID YOU USE
ABSTRACTION?**



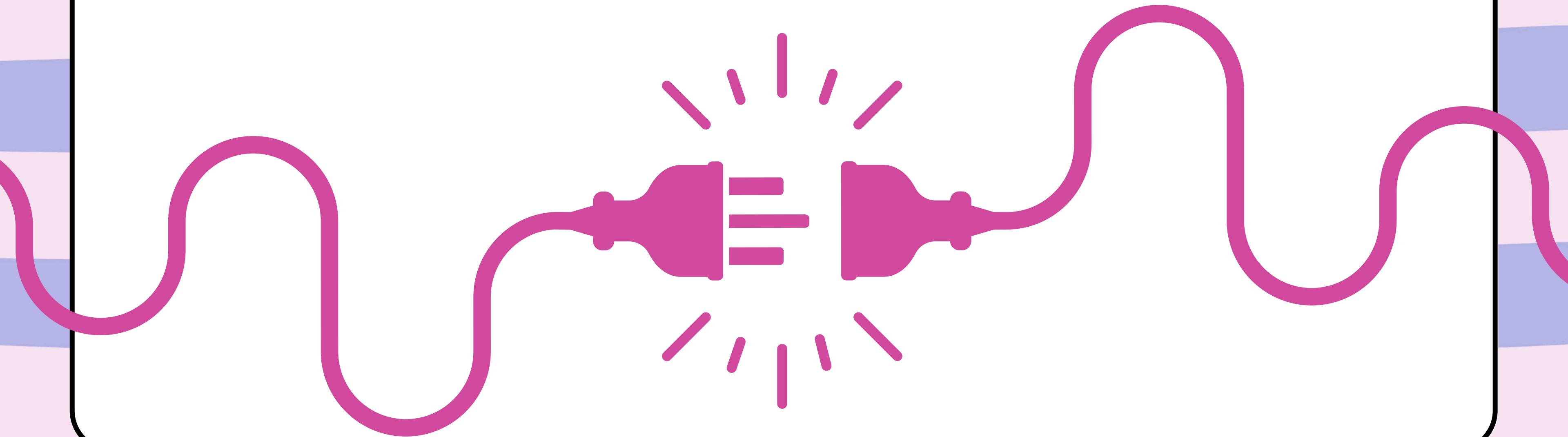
DATA SET



**HOW COULD WE
COLLECT DATA ABOUT
OUR LANYARDS?**



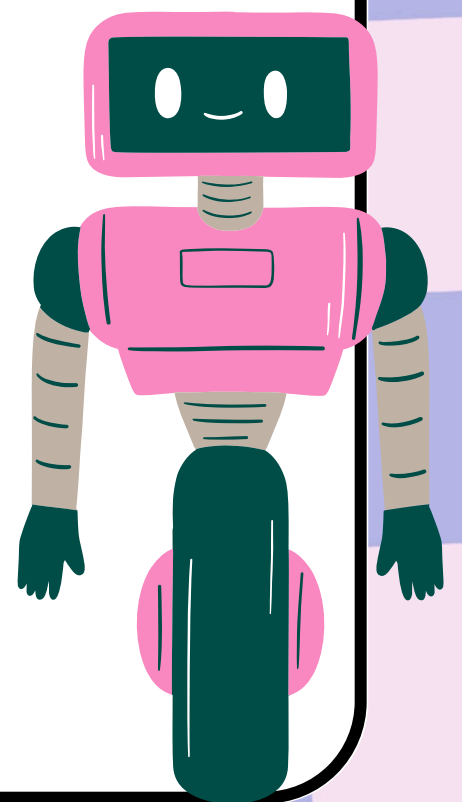
LOW PREP UNPLUGGED IDEAS



CODE A FRIEND

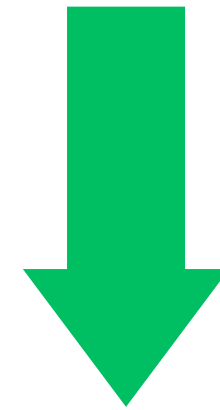
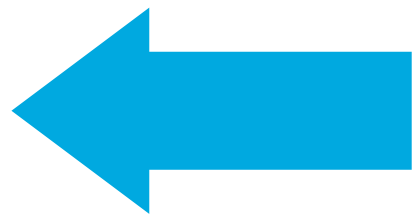
**TODAY YOU ARE GOING TO CODE A FRIEND!
ONE OF YOU WILL BE THE CODER AND OTHER OTHER ONE
WILL BE THE ROBOT. DON'T WORRY ABOUT WHO CODES
FIRST, YOU WILL BOTH GET A TURN!**

**YOUR TEACHER IS GOING TO CODE A FRIEND FIRST,
LISTEN CAREFULLY AND YOU MIGHT GET TO HELP!**



CODE

The language that programmers
create and use to tell
a computer what to do



BUG

An error in a program that prevents the program from running as expected



DEBUGGING

Finding and fixing problems in an algorithm or program



CODE A FRIEND

USING SIMPLE COMMANDS, CODE YOUR FRIEND TO WALK ACROSS THE ROOM AND SIT DOWN IN THEIR CHAIR...RECORD YOUR DIRECTIONS ON A PAPER

BE SPECIFIC

**USE NUMBER WORDS,
DIRECTIONAL WORDS,
& POSITIONAL WORDS**



ALGORITHM

A list of steps to finish a task



CODE A FRIEND

**WHAT WAS YOUR ALGORITHM FOR
CODING YOUR FRIEND?**



CODE A FRIEND

CREATE A DATA SET(S) USING THE DIRECTIONAL WORDS USED WHEN CODING YOUR FRIEND...

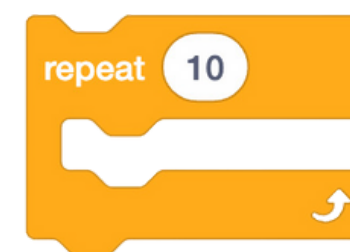
HOW MANY TIMES DID THEY MOVE FORWARD?

HOW MANY TIMES DID YOU SAY TURN?



LOOP

The action of doing something
over and over again



CODE A FRIEND

**GO BACK AND LOOK AT YOUR CODE,
AND CIRCLE THE PLACE(S) YOU COULD
HAVE USED A LOOP**



THINK ABOUT IT...

**DID YOU HAVE TO DEBUG ANY
PART OF YOUR CODE?**



THINK ABOUT IT...

**DID LOOPS MAKE IT EASIER TO
WRITE DOWN YOUR CODE?**



STANDARDS

STANDARD K.CT.1

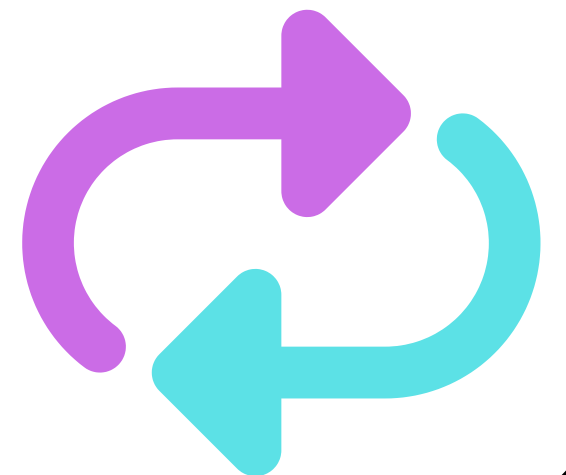
DECOMPOSE PROBLEMS INTO SMALLER MANAGEABLE PARTS TO BETTER UNDERSTAND THEM.

STANDARD 1.AP.3

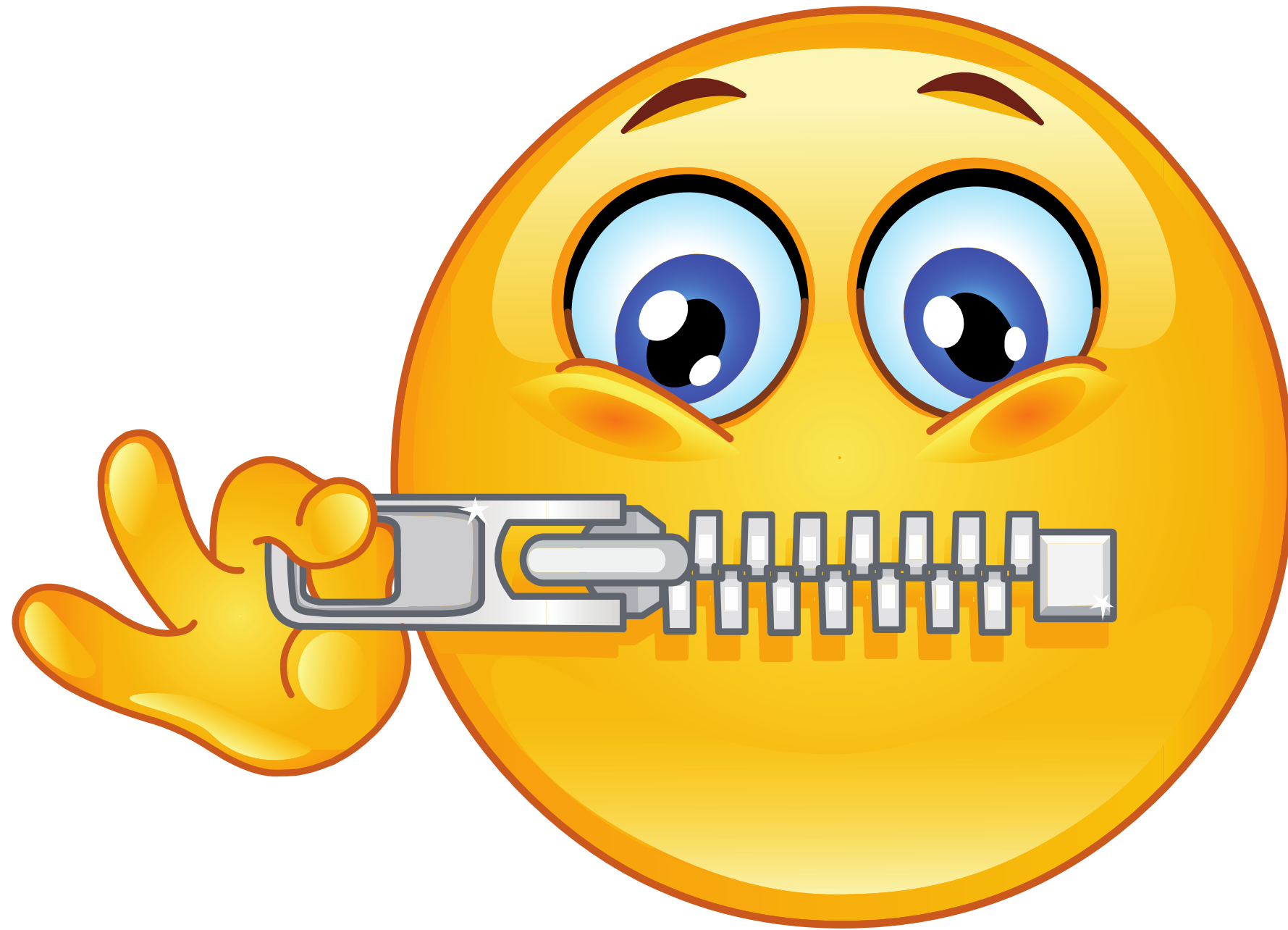
CREATE PROGRAMS WITH SEQUENCES (STEPS) OF COMMANDS AND SIMPLE LOOPS (REPEATED PATTERNS), TO EXPRESS IDEAS OR ADDRESS A PROBLEM.

STANDARD 2.AP.4

DEBUG AND SOLVE SIMPLE PROBLEMS WITHIN AN ALGORITHM OR PROGRAM THAT INCLUDES SEQUENCES AND SIMPLE LOOPS.

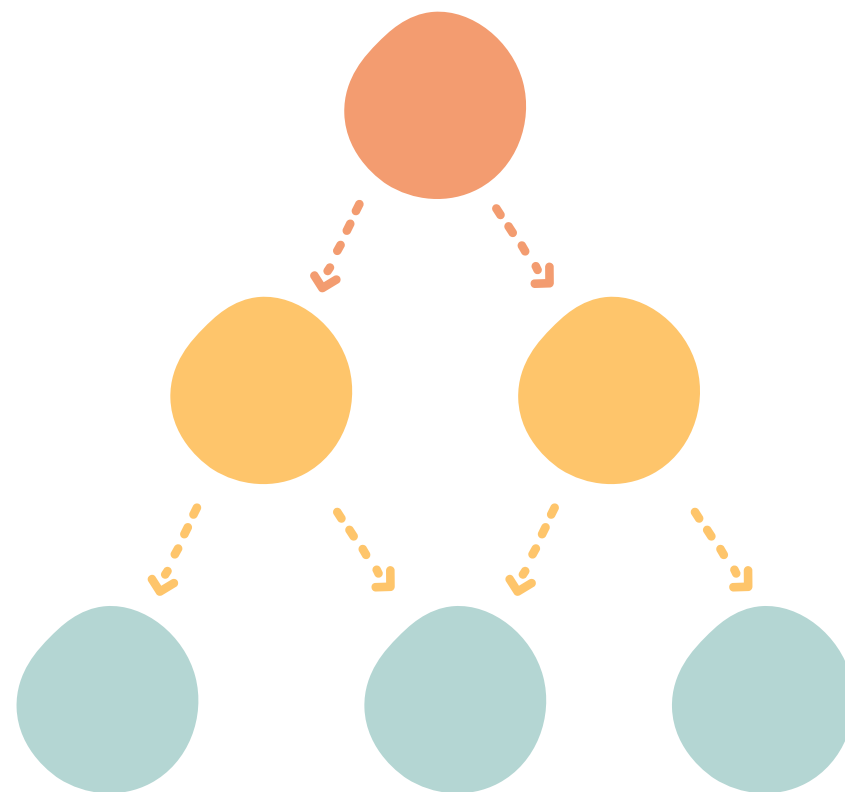


SECRET SHAPE



DECOMPOSE

Break a problem down
into smaller pieces



ABSTRACTION

Focusing on
the details



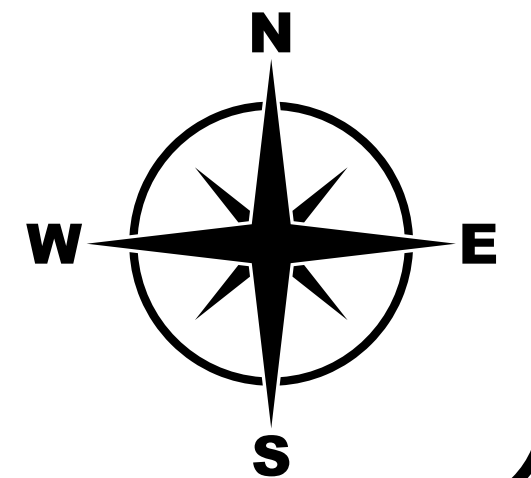
ALGORITHM

A list of steps created
to complete a task



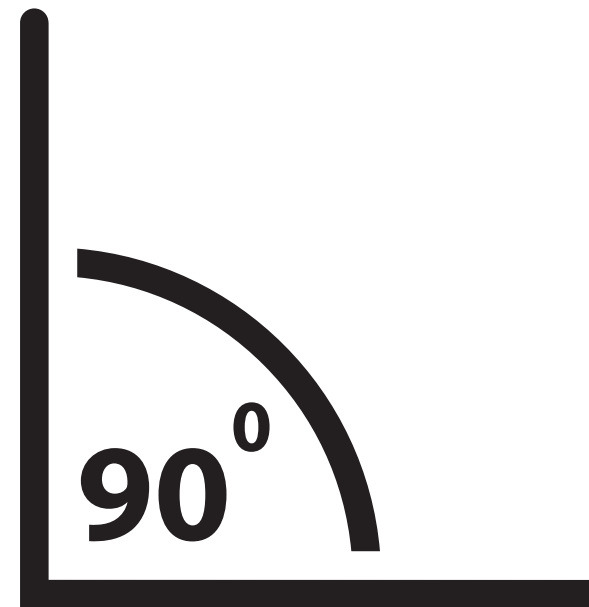
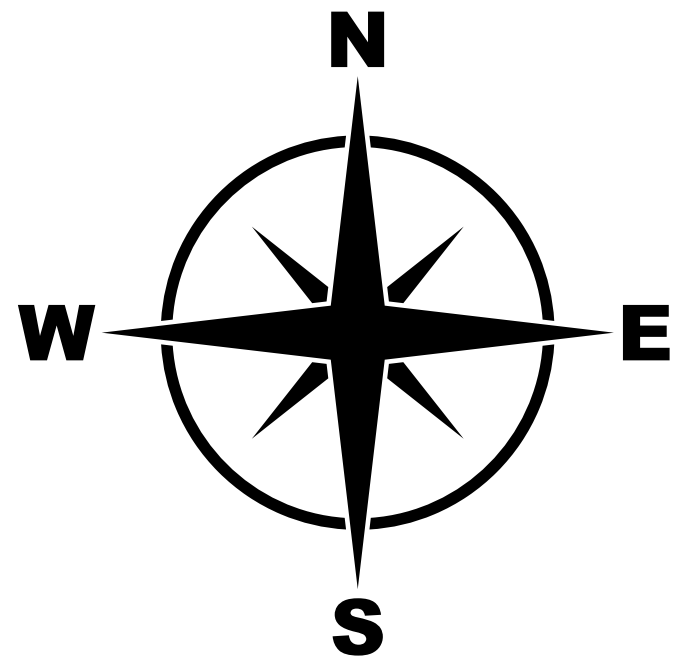
SECRET SHAPE

- 1. PUT YOUR FINGER ON THE TABLE**
- 2. DRAW A 1 INCH LINE GOING SOUTH**
- 3. DRAW A 1 INCH LINE GOING WEST**
- 4. DRAW A 1 INCH LINE GOING NORTH**
- 5. DRAW A 1 INCH LINE GOING EAST**



SECRET SHAPE

YOUR TURN



CUP STACKING



CREATE UNPLUGGED ACTIVITIES USING AI

schoolai

Launchpad Spaces - Tools Assistants Community New



free unplugged coding ideas for elementary students



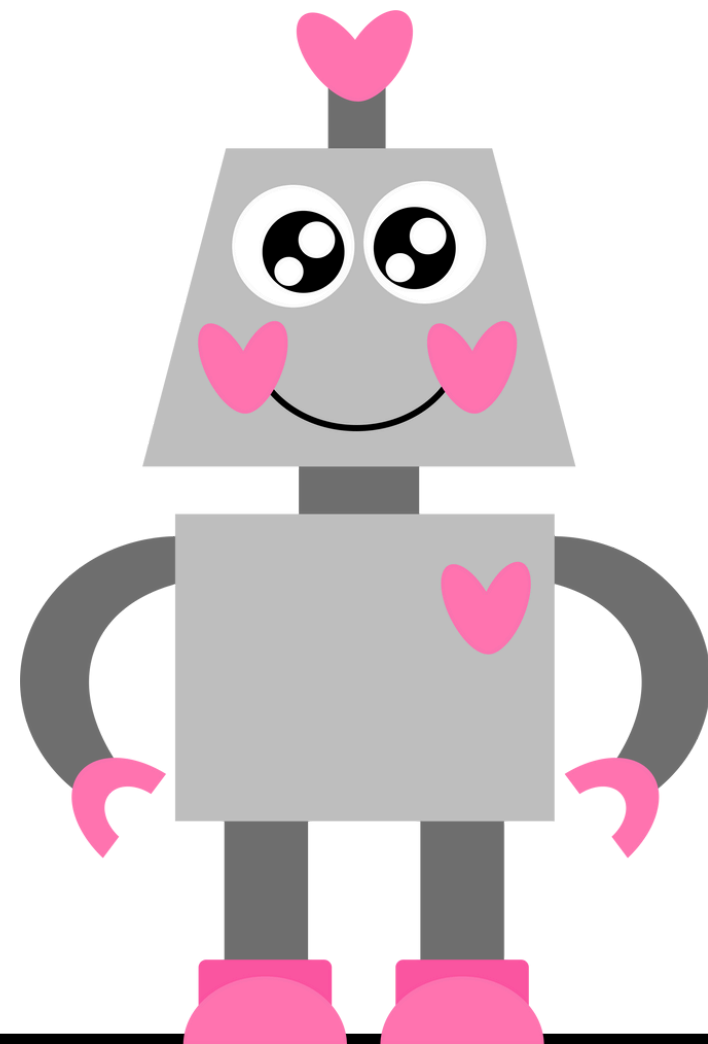
Here are some free unplugged coding activities that are perfect for elementary students:

1. **Human Robot Game:** Have students pair up. One student is the "robot" and the other is the "programmer." The programmer gives step-by-step instructions to guide the robot to perform simple tasks like walking to a specific location or drawing a shape on paper.
2. **Algorithm Relay:** Create a sequence of steps (algorithm) for a simple task, such as making a sandwich or tying shoelaces. Have students execute these steps and identify any errors, encouraging debugging.
3. **Binary Bracelets:** Teach students about binary code by having them create bracelets with two different colored beads, representing 0s and 1s. They can "code" their initials or simple messages using a binary alphabet chart.
4. **Paper Coding Mazes:** Provide students with a grid and have them write out a sequence of directional commands (forward, left, right) to navigate from start to finish. This helps them understand sequencing and logic.
5. **Story Sequencing:** Use story cards to teach sequencing. Have students arrange story events in the correct order, discussing the importance of sequence in both storytelling and coding.
6. **Function Dance:** Create a simple dance routine with repeated steps. Teach students the concept of functions by having them group repeated steps into a "function" that can be called multiple times during the routine.

Send a message



UNPLUGGED ROBOTS



BEEBOTS

K-2

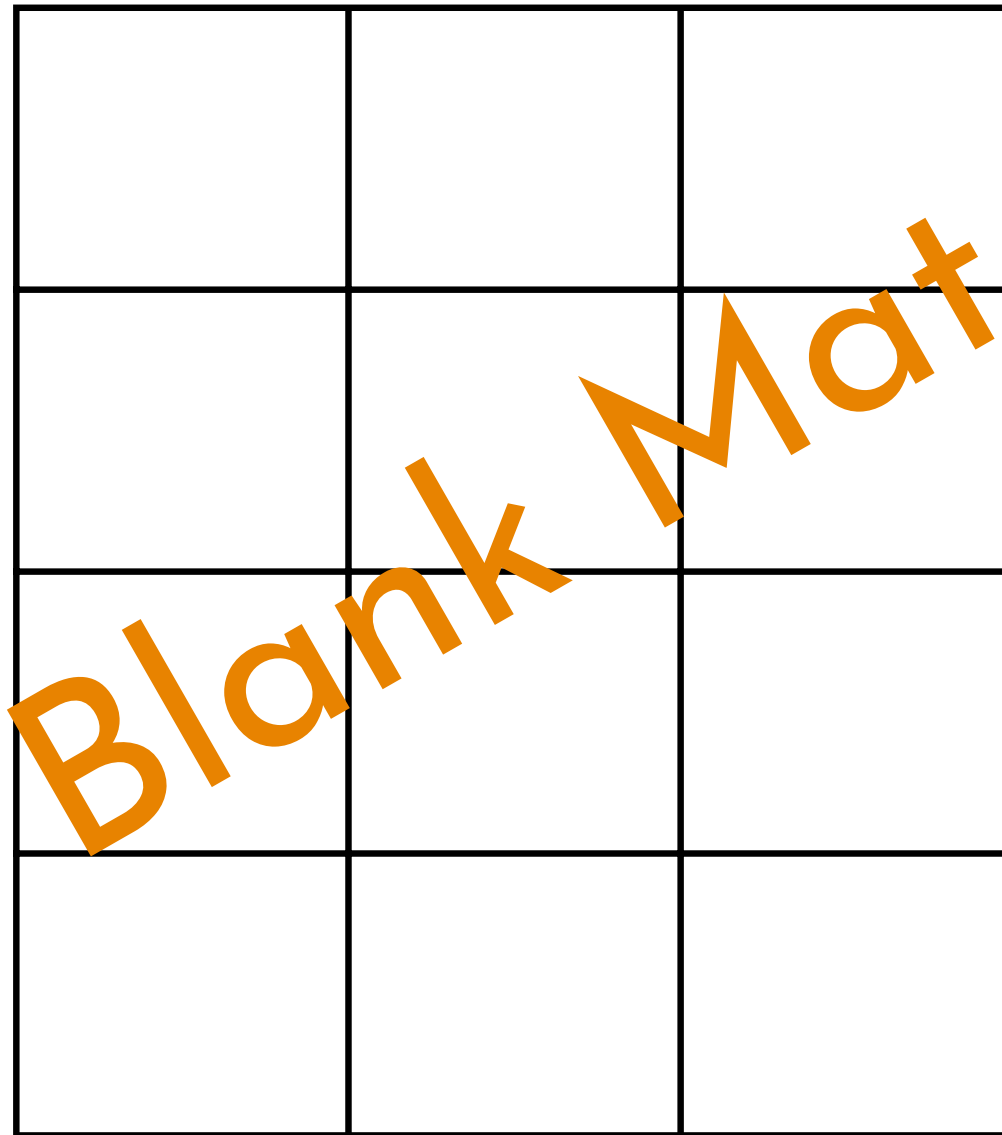


1-\$99
6-\$699

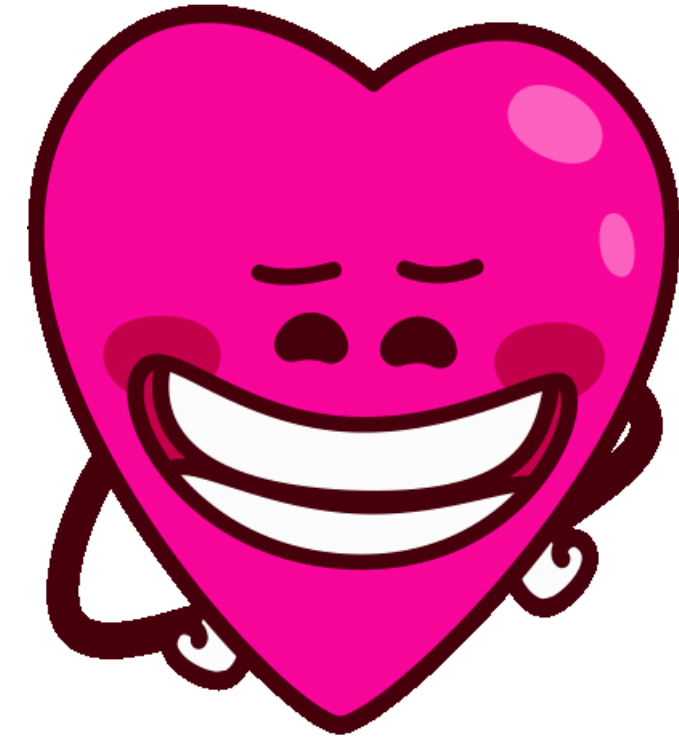
BEEBOTS



+



=



Create your own mats

BEEBOTS



**CREATE A
CLASS ALGORITHM**

BEEBOTS



**CREATE A
CLASS ALGORITHM**

SPHERO INDI

K-6

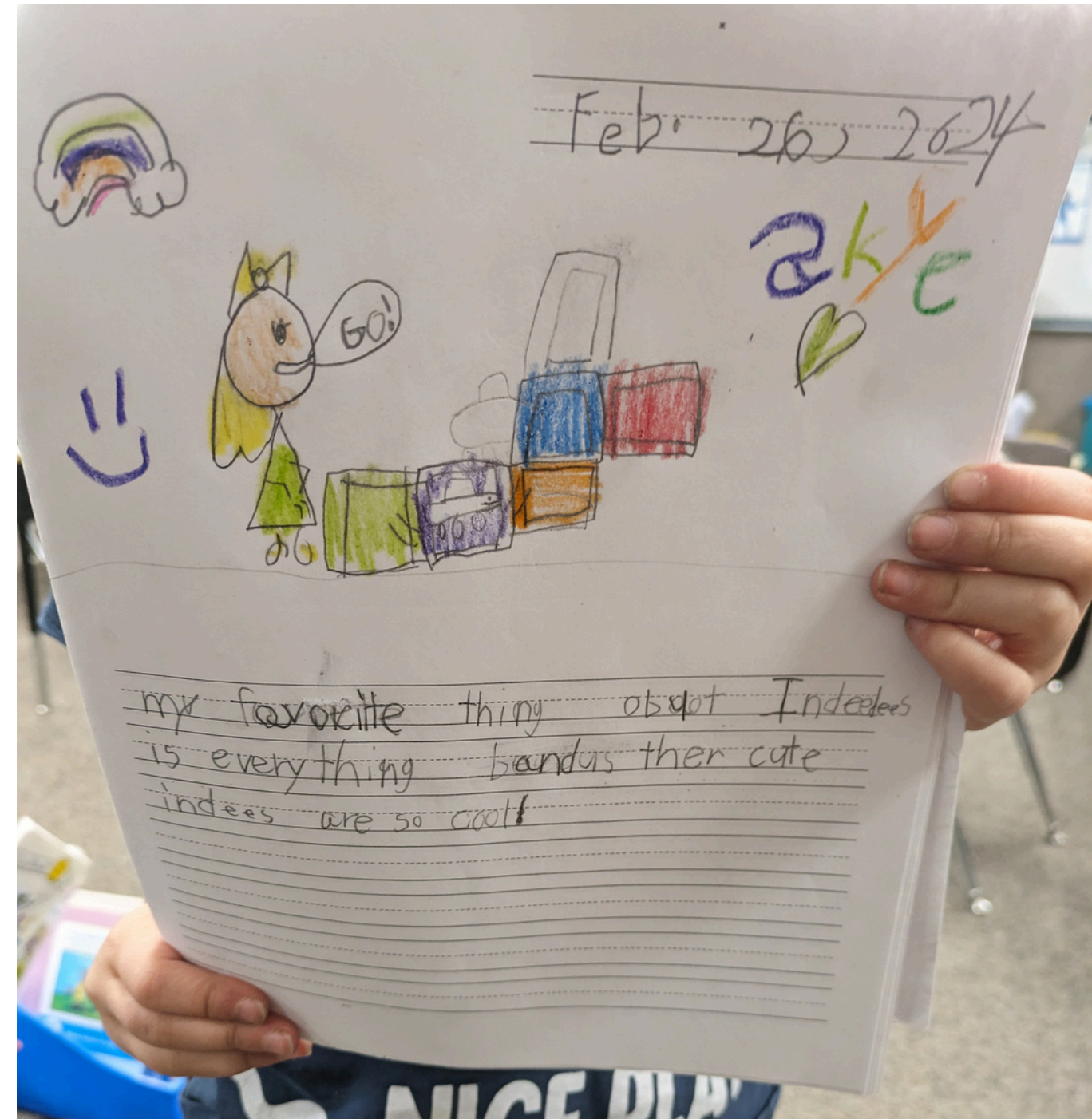
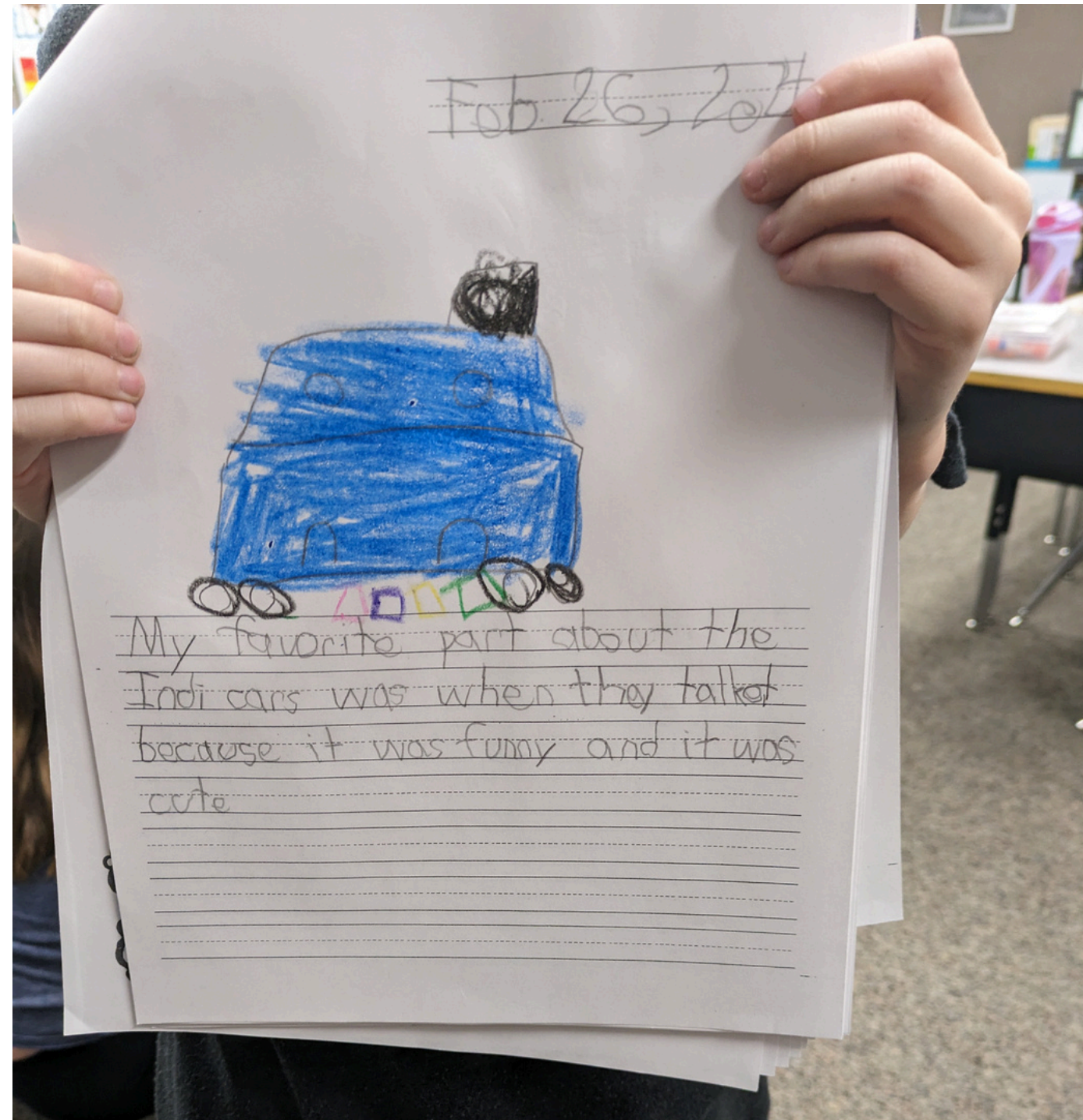


1-\$150
8-\$1,500

SPHERO INDI

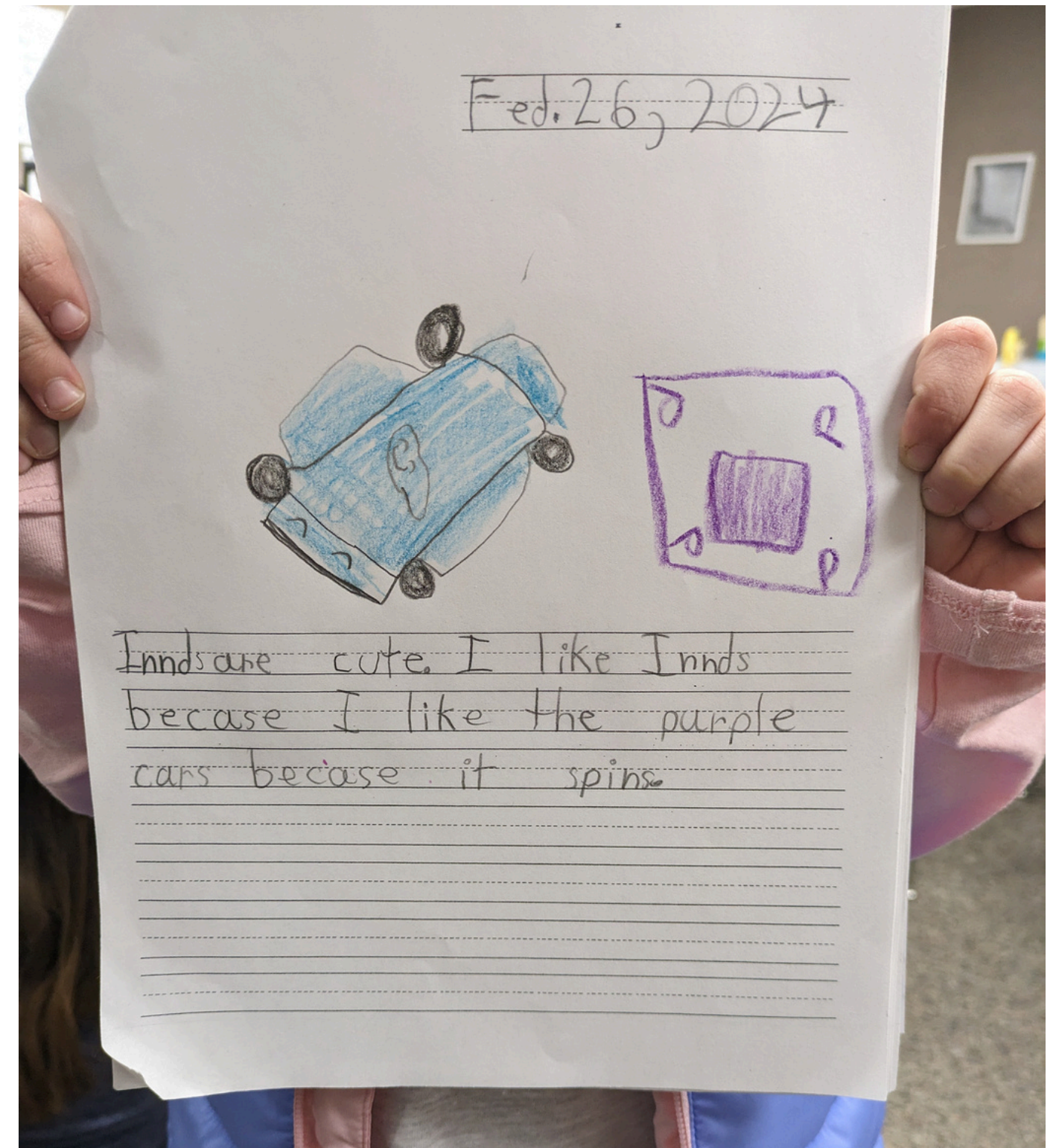


SPHERO INDI



SPHERO INDI

**FIRST GRADERS
CODED AND WROTE
ABOUT INDIS**



QOBO



1-\$99

QOBO

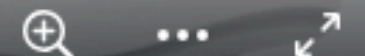


QOBO

Intro

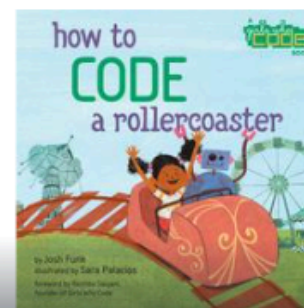
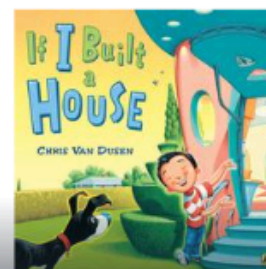
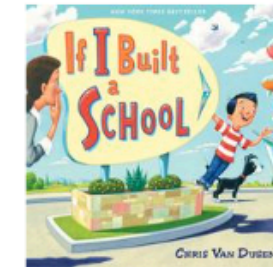
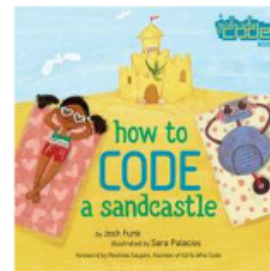
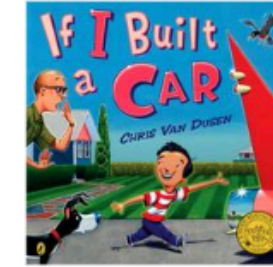
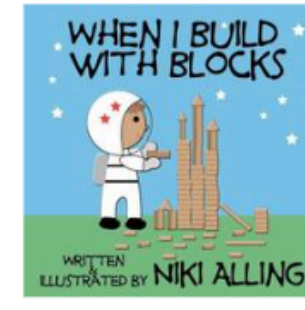
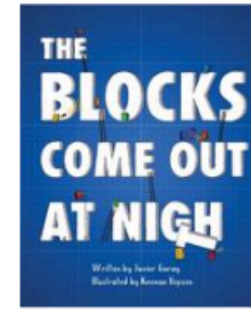
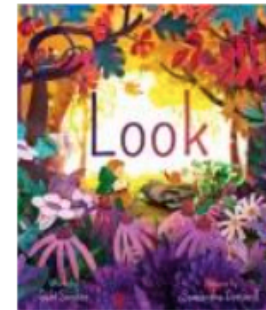


< 1 / 29 >



TRADE BOOKS

STEM Book List



FUNDING

**DONORS
CHOOSE**



FUNDING

DONORS CHOOSE

- ★ POST A PROJECT ANYTIME
- ★ MATCHING DAYS AND PROJECTS
- ★ KEEP A PROJECT UP ALL THE TIME



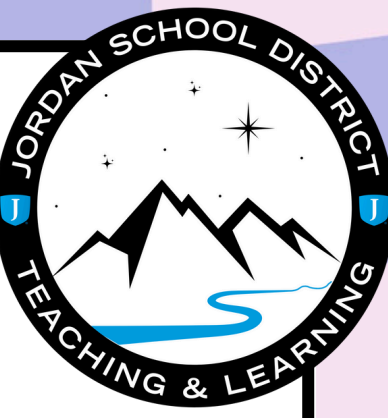
RESOURCES

[KODABLE UNPLUGGED](#)

[CS POSTERS](#)

[CODE A FRIEND-LESSON](#)

[SECRET SHAPE](#)



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