ALGORITHM CHARADES

ESTIMATED TIME: 20-30 MINUTES
MATERIALS NEEDED: CARDS WITH ACTIONS, TIMER

DIRECTIONS:

1. Print and cut out the Algorithm Charade cards with simple actions (e.g., "walk forward," "turn left," "jump").
2. Divide participants into pairs or small groups.
3. Set a timer for each round (e.g., 1-2 minutes).
4. One participant draws a card and acts out the action using no words.
5. Their partner/group members try to guess the action.
6. After a few rounds, discuss how precise programming instructions (algorithms) are essential.

WHAT'S AN ALGORITHM?

An algorithm is like a step-by-step guide for computers. It helps them solve problems or complete tasks. Computers can't figure out things independently like humans, so they need these clear instructions.

Programmers create algorithms to tell computers what to do. Just like editing a story, programmers refine their algorithms, making them more efficient.

Algorithms are crucial because they're like the basic building blocks that make computers helpful in solving problems and getting things done.

ALGORITHM CHARADES
EDUCACTOR EXTENSIONS

OBJECTIVES:

1. To enhance logical thinking, problem solving, and teamwork skills.
2. To reinforce understanding of algorithm and their importance in programming
3. To introduce or review computer science concepts like loops, conditionals, and sequences.

STEAM CONNECTIONS:

Science: Discuss the logic and reasoning involved in algorithm creation.
Technology: Explore how algorithms are used in everyday technology.
Engineering: Relate algorithm design to problem-solving in engineering.
Mathematics: Discuss the patterns and sequences involved in algorithms.
Arts: Encourage creative expression in representing algorithms visually.

VOCABULARY:

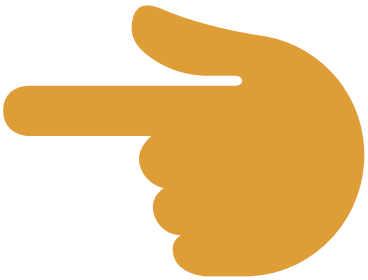
1. **Algorithm**: A step-by-step set of instructions to solve a problem or complete a task.
2. **Loop**: A programming construct that repeats instructions until a condition is met.
3. **Conditional**: An instruction in a program that leads to different actions based on a condition.
4. **Sequence**: The order in which instructions are executed in an algorithm.

REFLECTION QUESTIONS:

1. Why are algorithms important in programming and problem-solving?
2. How did your team work together to act out and guess the algorithms in the game?
3. Can you think of real-world situations where algorithms are used besides programming?
4. How can the skills you practiced in this activity be useful in your daily life or future STEM-related activities?

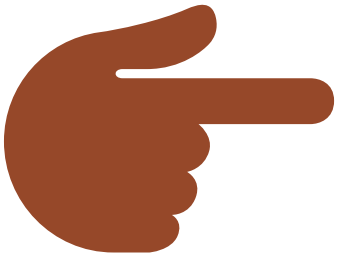
Walk Foward

Wave

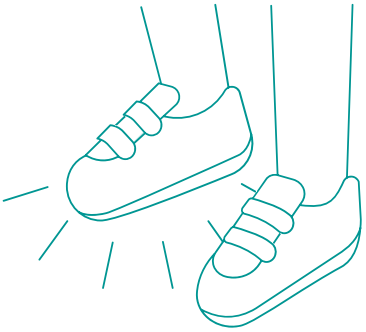


Turn Left

Spin Around



Turn Right

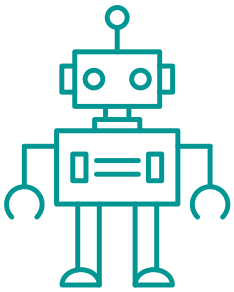


Stomp Feet

Clap Hands

March in Place

Pretend to Swim



Act Like a Robot

High-Five

Hug Yourself

Touch Toes

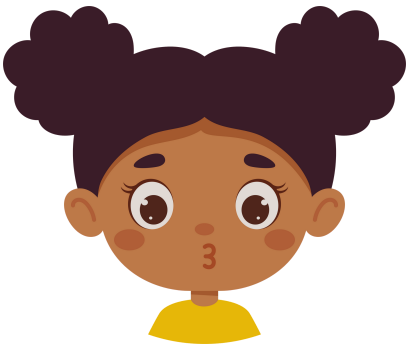
Pretend to Fly

Open a Door

Sweep the Floor

Mime Eating

Drive a Car



Blow a Kiss

Type on a Keyboard

Paint on an Easel

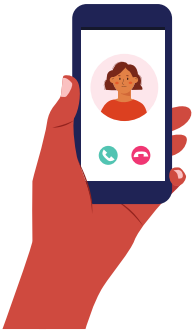
Bake in an Oven

Rolling a Ball

Putting on Shoes

Hammer a Nail

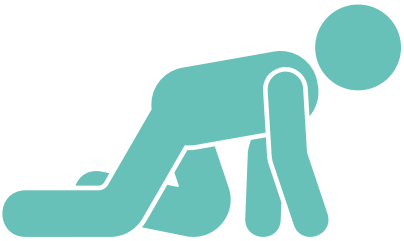
Dribble a Basketball



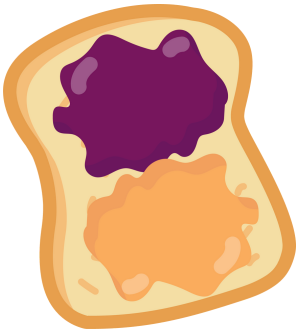
Answer a Telephone

Play an Invisible Guitar

Jump

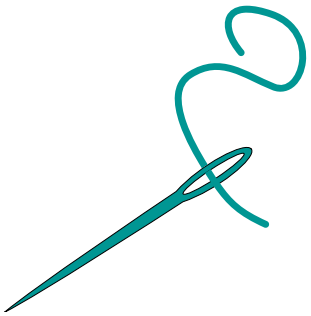


Crawl

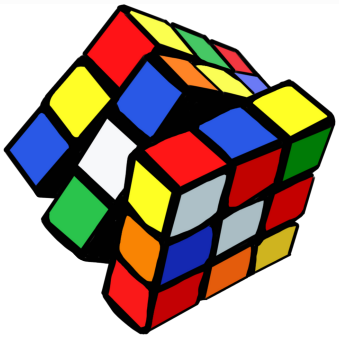


Make a Sandwich

Brush and Floss Your Teeth



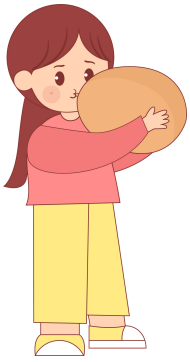
Thread a Needle



Solve a Ruik's Cube

Open a Treasure Chest

Build a Sandcastle



Blow up a Balloon and Tie it

Play Rock-Paper Scissors

Follow a Recipe to Bake Cookies

Plant a Seed and Watch it Grow

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