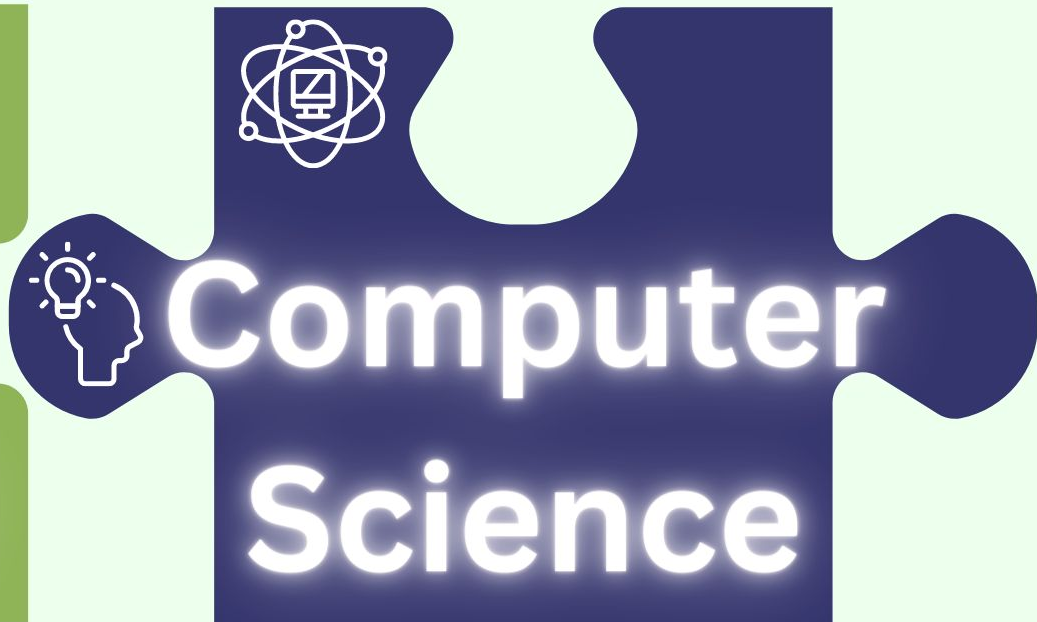


Making Connections



Energy



Computer Science

Kindergarten



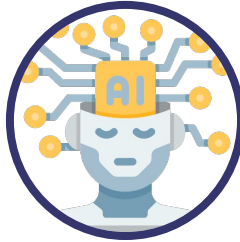
Organizing Idea	Computer Science: Problem solving and scientific inquiry are developed through the knowledgeable application of creativity, design, and computational thinking.
Guiding Question	How can instructions be used?
Learning Outcome	Children interpret instructions in various environments.

Knowledge	Understanding	Skills & Procedures
<p>Instructions are directions that can be followed.</p> <p>Instructions may be experienced in many different contexts, such as</p> <ul style="list-style-type: none"> • home • learning environments • games • experiences in nature <p>Instructions can be given in many ways and presented through</p> <ul style="list-style-type: none"> • speaking • pictures • gestures • traditional teachings 	<p>Following instructions can help people be safe, complete a task, and know what to do.</p>	<p>Recognize when actions do not correspond to instructions.</p> <p>Match an action to the corresponding instruction.</p> <p>Engage in activities that involve following instructions in various contexts.</p> <p>Identify instructions that help keep people safe in various contexts.</p> <p>Engage in activities that involve following instructions presented in various ways.</p>

Organizing Idea	Computer Science: Problem solving and scientific inquiry are developed through the knowledgeable application of creativity, design, and computational thinking.		
Guiding Question	How can instructions be used?		
Learning Outcome	Children interpret instructions in various environments.		
Knowledge	Understanding	Skills & Procedures	
<p>Instructions have one or more steps.</p>	<p>The order in which instructions are followed can affect the outcome.</p>	<p>Follow a sequence of two steps related to a learning experience.</p> <p>Identify differences in outcomes when the order of two steps is changed.</p> <p>Communicate a sequence of two steps for a given purpose.</p>	

Computational Thinking

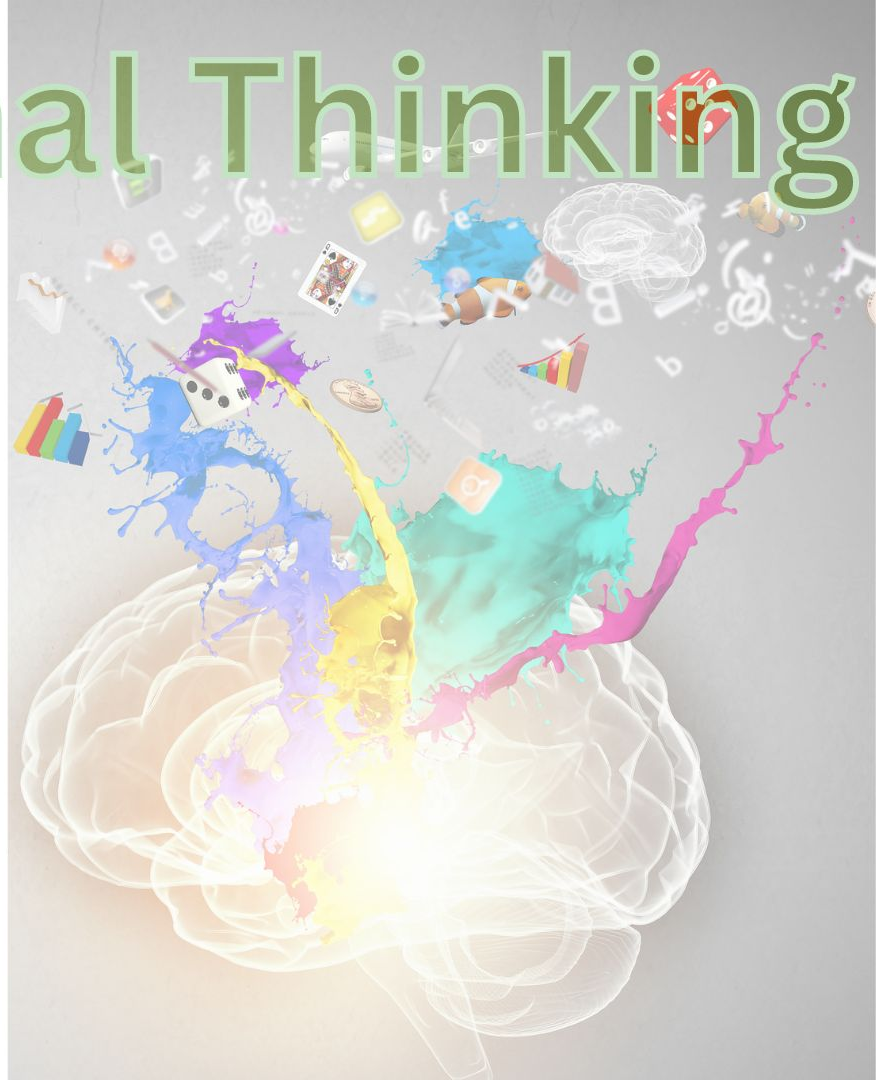
Decomposition



Pattern Recognition

Pattern Abstraction

Algorithm Design





Design Thinking Process



*Learn About
Your Audience*



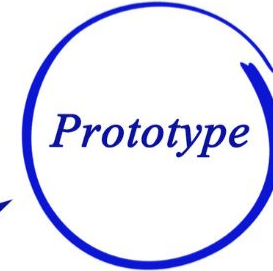
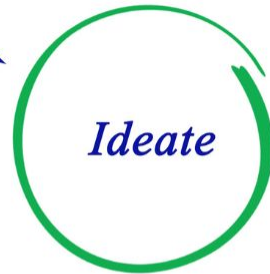
*Brainstorm and
Come up with
Creative Solutions*



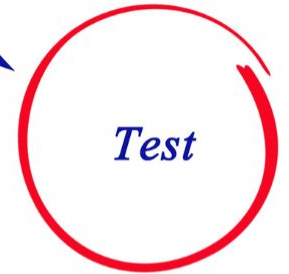
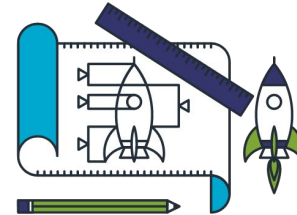
Test Your Ideas



*Construct Point
of View Based
on User Needs*



*Build
Representation
of Your Ideas*



Creativity

Finding different ways to reach the same outcome.

Problem solving to overcome obstacles to achieve a desired outcome.



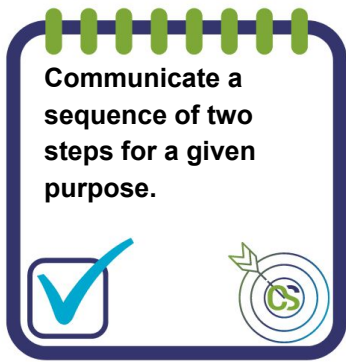
Organizing Idea	Energy: Understandings of the physical world are deepened by investigating matter and energy.
Guiding Question	How can objects, humans, and other animals move?
Learning Outcome	Children explore movement of objects, humans, and other animals.

Skills & Procedures

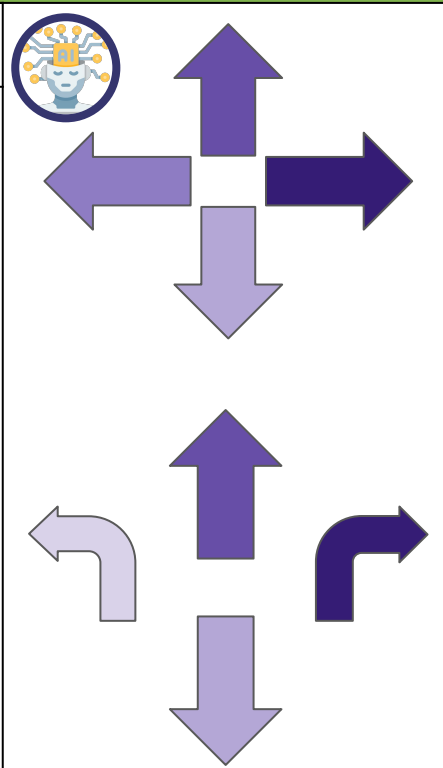
Move objects in a variety of ways.





Identify objects that move.

Identify objects that do not move.



Communicate a sequence of two steps for a given purpose.



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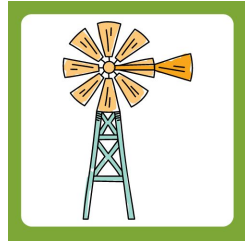
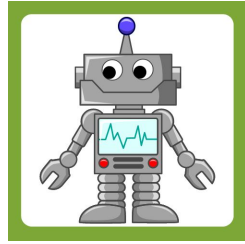
Skills & Procedures

Move objects in a variety of ways.

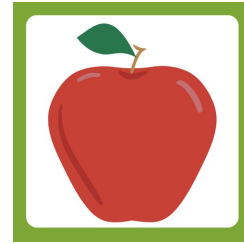
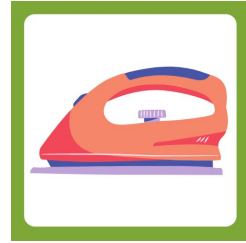
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OBJECTS THAT MOVE



OBJECTS THAT DON'T MOVE



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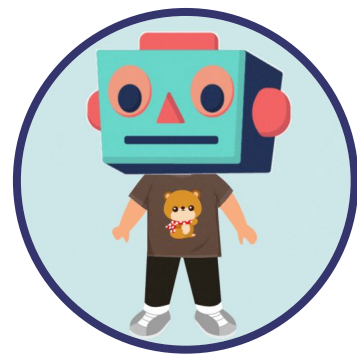
Skills & Procedures

Observe and imitate how animals can move.

Identify various ways that humans and other animals can move.

Examine the reasons why humans and other animals move.

Can you think of a rule... instructions...



Engage in activities that involve following instructions in various contexts.

Engage in activities that involve following instructions presented in various ways.

Follow a sequence of two steps related to a learning experience.

Communicate a sequence of two steps for a given purpose.