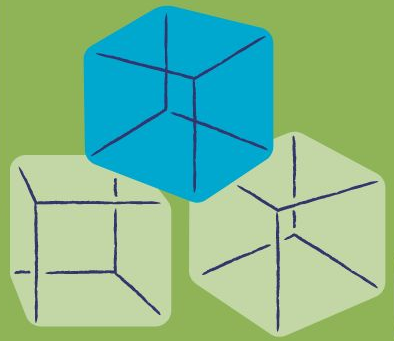
Making Connections



Matter

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
Instructions are directions that can be followed. Instructions may be experienced in many different contexts, such as • home • learning environments • games • experiences in nature Instructions can be given in many ways and presented through • speaking • pictures • gestures • traditional teachings	Following instructions can help people be safe, complete a task, and know what to do.	Recognize when actions do not correspond to instructions. Match an action to the corresponding instruction. Engage in activities that involve following instructions in various contexts. Identify instructions that help keep people safe in various contexts. Engage in activities that involve following instructions presented in various ways.

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Knowledge	Understanding	Skills & Procedures
Instructions have one or more steps.	The order in which instructions are followed can affect the outcome.	Follow a sequence of two steps related to a learning experience. Identify differences in outcomes when the order of two steps is changed. Communicate a sequence of two steps for a given purpose.

Design Thinking Process

Learn About
Your Audience

Empathize

Define

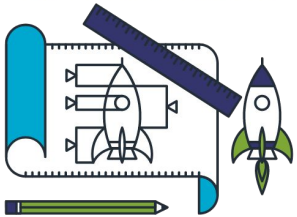
Construct Point
of View Based
on User Needs

Brainstorm and
Come up with
Creative Solutions

Ideate

Prototype

Build
Representation
of Your Ideas

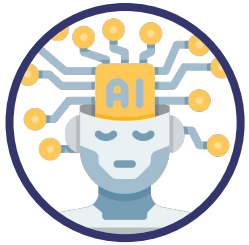


Test Your Ideas

Test

Computational Thinking

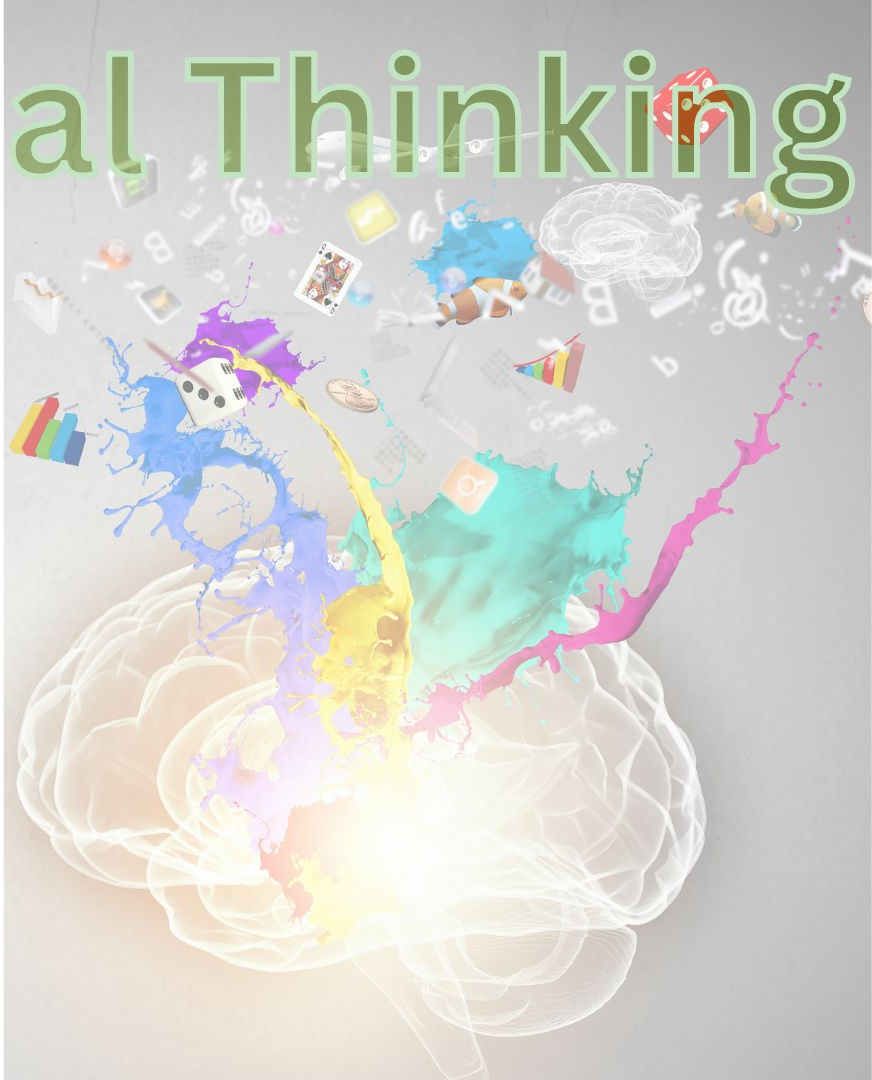
Decomposition



Pattern Recognition

Pattern Abstraction

Algorithm Design



Creativity

Finding different ways to reach the same outcome.

Problem solving to overcome obstacles to achieve a desired outcome.

Organizing Idea	**Matter: Understandings of the physical world are deepened by investigating matter and energy.**
Guiding Question	**How can properties of an object be distinguished from one another?**
Learning Outcome	**Children examine properties of objects.**

Skills & Procedures

Describe properties of various objects.

Sort various objects according to properties.

Compare properties of various objects.

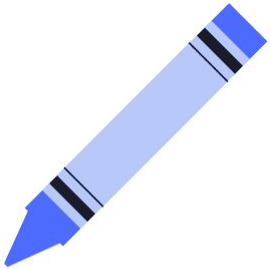
Computational Thinking

Decomposition

Pattern Recognition

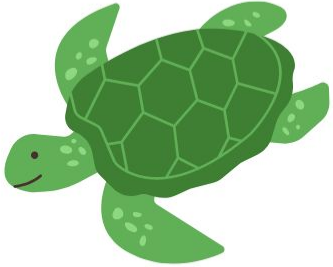
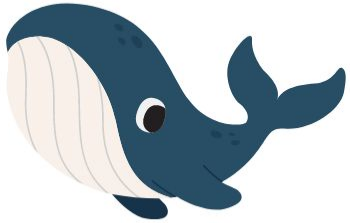
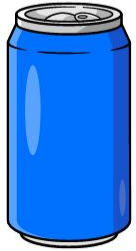
Pattern Abstraction

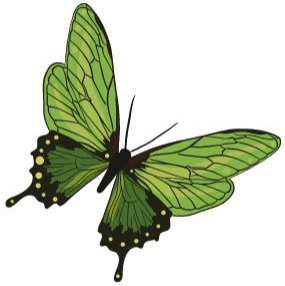
Algorithm Design







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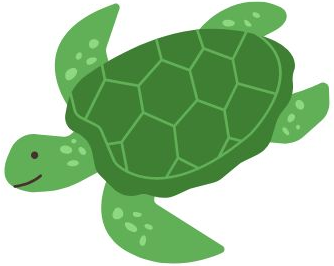
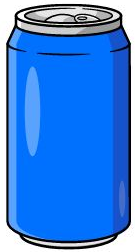
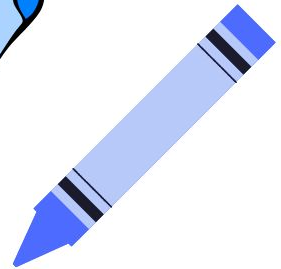
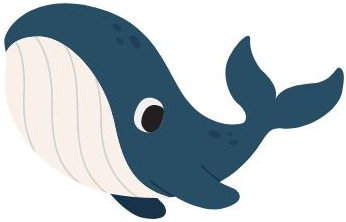


Choose one group and sort it again into 2 new groups







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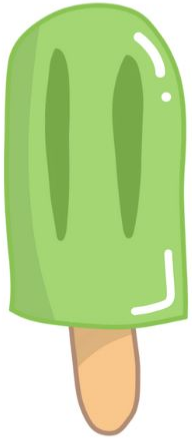
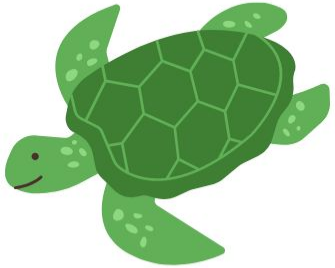
Find 2 more objects to add to each group





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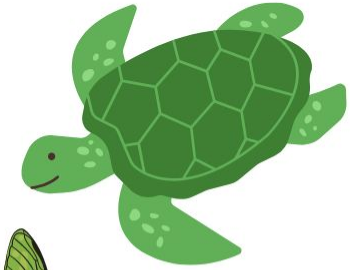
If it is GREEN and it is ALIVE



Can you come up with instructions?

If it is GREEN and it is NOT ALIVE