G&T Grade 2 Unit 1: Thinking Challenges

Content Area: **Gifted & Talented**
Course(s):
Time Period: **Full Year**
Length: **14 days**
Status: **Published**

NJSLS

MA.K-12.1	Make sense of problems and persevere in solving them.
MA.K-12.2	Reason abstractly and quantitatively.
LA.K-12.NJSLSA.R1	Read closely to determine what the text says explicitly and to make logical inferences and relevant connections from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.
MA.K-12.3	Construct viable arguments and critique the reasoning of others.
LA.K-12.NJSLSA.R8	Delineate and evaluate the argument and specific claims in a text, including the validity of the reasoning as well as the relevance and sufficiency of the evidence.
MA.K-12.8	Look for and express regularity in repeated reasoning.
LA.K-12.NJSLSA.SL1	Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively.
LA.K-12.NJSLSA.L5	Demonstrate understanding of word relationships and nuances in word meanings.

Rationale and Transfer Goals

Via stories, characters and activities, students will be working either individually or in groups to solve various challenges that require analysis, synthesis and evaluation:

- Determine interrelationships between clues
- Defer judgment until all clues are collected
- Expand or elaborate upon ideas
- Mentally manipulate shapes
- Use graphic organizers
- Determine more than one viewpoint
- Support decisions

Enduring Understandings

Reading and listening closely are important to solving problems and challenges.

Applying prior knowledge to new situations helps to draw conclusions and make informed decisions.

When solving problems alone or with others it is important to demonstrate and share creativity and flexibility.

When solving problems alone or with others it is important to demonstrate ethics and productivity.

When solving problems it is important to explain and support viewpoints and decisions.

Before beginning to design a solution it is important to clearly understand the problem.

There is always more than one possible solution to a problem. It is useful to compare and test designs.

Essential Questions

What strategy can I use to solve this problem or challenge?

How are components of this challenge related?

Why is it important to wait until all information is gathered before making a decision?

How can I support my decisions?

When working with others, what are best practices that would make me a good partner?

Content - What will students know?

The meaning of the following:

- Convergent (deductive/analytical) thinking
- Divergent (inventive/creative) thinking
- Visual (spatial perception) thinking
- Evaluative thinking

When working with others, there are skills necessary to convey ideas and viewpoints

Skills - What will students be able to do?

- Put clues together; use one clue to determine another
- Listen to and consider all information before coming to a conclusion
- Work and participate until a problem is solved
- Apply process of elimination
- Determine errors in logic
- “Brainstorm” and offer solutions; possibly multiple solutions
- Work collaboratively with others to discuss and solve challenges:
- Speaking one at a time
- Link comments to remarks of others
- Ask for clarification and explanation about discussion topics

Activities - How will we teach the content and skills?

- Torrance/Creativity activity with “Look Up With Me” book (life and work of Neil DeGrasse Tyson)
- “New” building design activity on graph paper with “The World is Not a Rectangle” book (life and work of Zaha Hadid)
- Primary Education Thinking Skills Activities
- Logic/elimination grids
- Venn diagrams
- Attributes: sorting/grouping
- Deductive reasoning
- Brainstorming/Inventive thinking
- Evaluative activities: “SCAMPER” process: substitute, combine, add, make bigger or smaller, put to another use, eliminate something, rearrange parts

- Problems requiring judging of multiple issues/solutions; example: Crystal Pond Woods School Improvement Plan activity
- Visual thinking activities: rearranging/mental manipulation of shapes “tangrams”
- “Figurative” nursery rhymes
- “Decoding” activities via various puzzles

Evidence/Assessments - How will we know what students have learned?

- Daily observed conversations between the students
- Daily observed work on assignments
- Evaluation of final product

Key Resources

Primary Education Thinking Skills 2 Book

21st Century Life and Careers

9.1.2.CAP.1	Make a list of different types of jobs and describe the skills associated with each job.

Career Readiness, Life Literacies, & Key Skills

9.4.2.CI.1	Demonstrate openness to new ideas and perspectives (e.g., 1.1.2.CR1a, 2.1.2.EH.1, 6.1.2.CivicsCM.2).
9.4.2.CI.2	Demonstrate originality and inventiveness in work (e.g., 1.3A.2CR1a).
9.4.2.CT.1	Gather information about an issue, such as climate change, and collaboratively brainstorm ways to solve the problem (e.g., K-2-ETS1-1, 6.3.2.GeoGI.2).
9.4.2.CT.2	Identify possible approaches and resources to execute a plan (e.g., 1.2.2.CR1b, 8.2.2.ED.3).
9.4.2.CT.3	Use a variety of types of thinking to solve problems (e.g., inductive, deductive).

Interdisciplinary Connections/Companion Standards

K-2-ETS1-1	Ask questions, make observations, and gather information about a situation people want to change (e.g., climate change) to define a simple problem that can be solved through the development of a new or improved object or tool.