SCHOOL DISTRICT OF THE CHATHAMS
CURRICULUM

CONTENT AREA(S): Design & Technology **GRADE LEVEL(S):** 7th Grade

COURSE: Creativity and Design **TIME FRAME:** Quarterly (39-40 days)

I. Course Overview

Students will engage in daily creative warm ups which will sharpen their thinking and ability to develop unique ideas. Students will utilize creative thinking strategies while engaging in projects inspired by their individual interests and goals. This type of creative exploration will be student-centered and teacher guided as students communicate their knowledge through art, technology and a variety of other mediums. Use of collaborative meetings will allow students to see the value in each other as resources and critical thinkers as they work through their design process. Students will assist in troubleshooting and enhancing one another's knowledge base to produce and evolve ideas that can be successful.

II. Units of Study

1) Understanding Design and Creativity as Tools *(~28 days)*
2) Creative Exploration *(~12 days)*

III. Essential Questions

Unit 1: Understanding Design and Creativity as Tools

- Where does inspiration come from to help us develop creative and innovative work?
- What are the different strategies for studying a topic so that we can increase our depth of knowledge?
- How can we effectively use different methods to develop ideas inspired by research and knowledge?

Unit 2: Creative Exploration

- How can we identify and recognize each other's strengths to help enhance the knowledge base of an individual as well as a collaborative group?
- How can we use our strengths to inspire new ideas in ourselves and others?
- How can we think critically and communicate productive feedback to assist in the development of others designs?
- How can we analyze the success of a design?

IV. Learning Objectives

NJSLS - Design Technology

- 8.2.8.C.1 Explain how different teams/groups can contribute to the overall design of a product.
- 8.2.8.C.2 Explain the need for optimization in a design process.
- 8.2.8.C.3 Evaluate the function, value, and aesthetics of a technological product or system, from the perspective of the user and the producer.

- 8.2.8.C.4 Identify the steps in the design process that would be used to solve a designated problem.
- 8.2.8.C.6 Collaborate to examine a malfunctioning system and identify the step-by-step process used to troubleshoot, evaluate and test options to repair the product, presenting the better solution.
- 8.2.8.C.7 Collaborate with peers and experts in the field to research and develop a product using the design process, data analysis and trends, and maintain a design log with annotated sketches to record the developmental cycle.

Technology Integration | NJSLS 8.1:

- 8.1.8.A.1 Demonstrate knowledge of a real world problem using digital tools.
- 8.1.8.F.1 Explore a local issue, by using digital tools to collect and analyze data to identify a solution and make an informed decision.

21st Century Integration | NJSLS 9:

- 9.2.8.B.3 Evaluate communication, collaboration, and leadership skills that can be developed through school, home, work, and extracurricular activities for use in a career.

Career Ready Practices:

- CRP2. Apply appropriate academic and technical skills.
- CRP4. Communicate clearly and effectively and with reason.
- CRP6. Demonstrate creativity and innovation.
- CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.
- CRP11. Use technology to enhance productivity.
- CRP12. Work productively in teams while using cultural global competence.

Interdisciplinary Connections:

- Based on student interest as projects are student-driven (student select topics and skills).

V. Instructional Materials

Core Materials:

- Launch: Using Design Thinking to Boost Creativity and Bring Out the Maker in Every Student by John Spencer and A.J. Juliani
- The Innovator's Mindset: Empower Learning, Unleash Talent, and Lead a Culture of Creativity by George Couros
- The Book of Doing: Everyday Activities to Unlock Your Creativity and Joy by Allison Arden
- Creative Workshop: 80 Challenges to Sharpen Your Design Skills by David Sherwin
- Teacher computer with Internet access and projector/Smart Board
- Document Camera
- Chromebooks/Computing Devices
- Access to basic hand tools and fabrication equipment.
    - Hot Glue Guns
    - X-Acto Knives
    - Hot Glue Gun & XActo Knife Rules/Procedures
- Access to basic hand tools and fabrication equipment (adhesives, cutting tools, etc.)
- Materials for design challenges
    - Cardboard

  - Felt
  - Rubber Bands
  - Plastic Cups
  - Construction Paper
  - Foam Core
  - Popsicle Sticks
  - Masking Tape
  - Glue
  - Straws
  - Markers
  - Colored Pencils
  - Paper Clips
  - Binder Clips
  - Foam
  - Building Blocks
- Access to video equipment (cameras, microphones, etc)

Supplemental/District Created Materials:

- Creative Thinking Strategies & Creative Warm Ups
- Right & Left Brain Thinking
- Creative Thinking Presentation
- Part-Time Job Challenge
- Book Cover Design Challenge
- Redesign a Yearbook Cover Challenge
- Candy Wrapper Challenge
- Creative Exploration Project
- Benchmark Rubric
- Regular Rubric

VI. Key Performance and Benchmark Tasks

Assessment Methods:

- Students engage in mini/exploratory activities at the beginning of the marking period which allow for them to demonstrate their understanding of basic creative concepts (approximately three).
- Students will then engage in a final, independent project which requires that they integrate previous creative concepts to a project of their choosing.
  - This is assessed using a rubric and in-person meetings with the teacher.
  - Student Evidence Rubric

Summative:

Unit 1: Understanding Design and Creativity as Tools

- Identify where inspiration has come from when observing inspired designs.
- Reflect on thought processes to identify areas of interest and inspiration while approaching academic studies.
- Apply creative thinking strategies to imagine, design and create innovative ideas.
- Understanding of the design elements to guide and develop ideas.

- Understand the differences and interconnectedness between personal interests and the designed world.
- Apply the engineering design process through discussions and, examples and mini challenges.
- Apply methods and processes to promote the evolution of ideas.
- Reflect upon their interests, strengths and weaknesses and learn how to develop them.

Unit 2: Creative Exploration

- Understand the differences and interconnectedness between personal interests and the designed world.
- Apply the engineering design process through discussions and, examples and mini challenges.
- Apply methods and processes to promote the evolution of ideas.
- Reflect upon their interests, strengths and weaknesses and learn how to develop them.
- Recognize fellow students as important resources as they work through their own design process.
- Use our own strengths to inspire new ideas in ourselves and others.

Formative:

- Peer Feedback: TAG (Tell, Ask, Give) Sticky Notes
- Peer Feedback Form
- Self-Reflection: 2 Stars & 1 Wish
- Critique Guide
- Reflective Exit Tickets/Slips
- Throughout each project, students will be asked to self-reflect on their goals and achievements, and modify tasks to meet future goals.
    - Benchmark Rubric
- Students will also provide task oriented feedback to their peers which will allow for improvements to be made and goals to be adjusted.

Alternative:

- Student choice is built into each project, which makes each project unique for each and every student.
- Adjustments to assessment criteria and assessments themselves are described below in Section VII.

VII. Accommodations & Modifications for Special Education, Students at Risk for School Failure, English Language Learners, Gifted & Talented, and 504s

Special Education

- Student choice in projects to allow for appropriate skill levels to be applied.
- Clarify and repetition of expectations, review of expectations at the start of class, highlighting expectations on student hardcopies, provide specific tasks as needed to clarify goals.
- Support of student focus: verbal prompts, visual cues (lights out, etc.).
- Positive reinforcement.

- Pacing and guidance in long term projects.
    - Work chunked out based on tasks, individual check ins.
    - Extended projects are broken down into manageable tasks with frequent check-ins from the teacher.
- Redesign a Yearbook Cover Challenge
    - Students are heterogeneously grouped.
    - Clarification and additional scaffolding of directions.
    - Ensure students understand directions by providing additional processing time, repeat or rephrase directions.
    - Provide frequent redirection/prompts to refocus attention.
    - Number of design elements required to explain is reduced.
    - Provide more frequent check ins to check for progress and understanding.
- Book Cover Design Challenge
    - Students are heterogeneously grouped.
    - Clarification and additional scaffolding of directions.
    - Ensure students understand directions by providing additional processing time, repeat or rephrase directions.
    - Provide frequent redirection/prompts to refocus attention.
    - Number of design elements required to explain is reduced.
    - Provide more frequent check ins to check for progress and understanding.
- Creative Exploration Project
    - Students are heterogeneously grouped.
    - Clarification and additional scaffolding of directions.
    - Ensure students understand directions by providing additional processing time, repeat or rephrase directions.
    - Provide frequent redirection/prompts to refocus attention.
    - Provide more frequent check ins to check for progress and understanding.
    - Provide students with projects that have instructions provided.

English Language Learners

- Use of Google Translate to assist students with instructions and lessons so they can follow along.
- Adjust goals to allow for language acquisition.
- Visual prompts and demonstrations.
- Teacher modeling of skills.
- Simplified written and verbal instructions. Include written instructions to supplement verbal.
- Preferential seating.

Gifted & Talented

- Access to additional materials to develop ideas and project details.
    - Redesign a Yearbook Cover Challenge
        - Students will be required to explain more design elements throughout the project.
        - Students will be expected to provide more detailed plans for independent

work.
    - Book Cover Design Challenge
        - Students will be required to explain more design elements throughout the project.
        - Students will be expected to provide more detailed plans for independent work.
    - Creative Exploration Project
        - Students will be required to explain more design elements throughout the project.
        - Students will be expected to provide more detailed plans for independent work.

Students at Risk of School Failure

- Student choice in projects to allow for appropriate skill levels to be applied.
- Clarify and repetition of expectations, review of expectations at the start of class, highlighting expectations on student hardcopies, provide specific tasks as needed to clarify goals.
- Support of student focus: verbal prompts, visual cues (lights out, etc.).
- Positive reinforcement.
- Pacing and guidance in long term projects: Work chunked out based on tasks, individual check ins.
- Extended projects are broken down into manageable tasks with frequent check-ins from the teacher.

504s

- Completely dependent on the student's 504 plan.
    - If the student cannot utilize computers or look at screens, research, planning, and computer-based learning experiences can be done on paper.
    - If the students' level of mobility is limited, making it difficult for the students to navigate the classroom, the student will be assigned a buddy to help with acquiring the necessary materials and supplies.
    - If the students' fine or gross motor skills are impacted, s/he will receive assistance from the teacher for the specific artistic skills that require them.

GENERAL NOTES:

- The order in which the units are taught can be adjusted at the teacher's discretion.
- Days are fluid and some activities may extend longer.
- Lessons and units will be adjusted as per students' prior knowledge.