MIAMI-DADE COUNTY PUBLIC SCHOOLS
DISTRICT PACING GUIDE
YEAR-AT-A-GLANCE

M/J COMPREHENSIVE SCIENCE 3 — COURSE CODE: 200210001

1ST Nine Weeks

UNIT 1: MATTER

I. Describing Matter **(08-19 to 08-30)** (SC.8.P.8.3; SC.8.P.8.2; SC.8.N.1.1; SC.8.N.1.4; SC.8.N.1.6)
- A. Measuring Matter
- B. Calculate Density
- C. Weight versus Mass

II. Physical Properties of Matter **(09-03 to 09-16)** (**SC.8.P.8.4**; SC.8.N.1.1; SC.8.N.1.2)
- A. Physical Properties of Matter

III. Changes in Matter **(09-17 to 10-01)** (SC.8.P.8.1; SC.8.P.9.1; **SC.8.P.9.2**; SC.8.P.9.3; SC.8.N.1.1; SC.8.N.1.2)
- A. Particulate Nature of Matter
- B. Physical Changes
- C. Chemical Changes
- D. Law of Conservation of Mass
- E. Temperature's Influence on Chemical Changes

UNIT 2: ATOMS AND THE PERIODIC TABLE

IV. Atoms **(10-02 to 10-14)** (SC.8.P.8.7; SC.8.N.1.4; SC.8.N.3.2; LAFS.68.WHST.1.2; LAFS.68.WHST.3.9)
- A. Atomic Theory- Scientific Theories
- B. Modifications to Atomic Models
- C. Atoms

V. Elements and the Periodic Table **(10-15 to 10-24)** (SC.8.P.8.6; SC.8.N.1.1; SC.8.N.1.4; SC.8.N.1.6; SC.8.N.3.2)
- A. Periodic Table

2nd Nine Weeks

VI. Combining Atoms **(10-28 to 11-07)** (**SC.8.P.8.5**; SC.8.P.8.8**;** SC.8.P.8.9; SC.8.N.1.1; SC.8.N.1.6; LAFS.68.RST.4.10; LAFS.68.WHST.1.2)
- A. Compounds
- B. Pure Substances and Mixtures
- C. Solutions

UNIT 3: CYCLING OF MATTER

VII. Photosynthesis and Cellular Respiration (**11-08 to 11-22)** (SC.8.L.18.1; SC.L.18.2; **SC.L.18.4**; SC.8.N.1.1; **SC.8. P.8.5**)
- A. Cell Structure Overview
- B. Photosynthesis
- C. Cell Respiration
- D. Law of Conservation of Mass and Energy

VIII. Cycles of Matter **(11-25 to 12-13)** (SC.8.L.18.3; **SC.8.L.18.4**; SC.8.N.1.1; **SC.8.P.8.5;** LAFS.68.RST.3.7)
- A. Overview of Cycles in Nature
- B. Carbon Cycle
- C. Conservation of Matter and Energy

UNIT 4: THE UNIVERSE

IX. Objects in the Universe **(12-16 to 01-16)** (SC.8.E.5.2; SC.8.E.5.1; **SC.8.E.5.3**; SC.8.E.5.4; SC.8.E.5.10; LAFS.68.RST.2.44)
- A. Objects in Space
- B. Distances in Space
- C. Law of Universal Gravitation and the Formation of Stars

3rd Nine Weeks

X. Stars and the Sun **(01-17 to 02-06)** (**SC.8.E.5.5**; SC.8.E.5.6; SC.8.E.5.11; LAFS.68.RST.3; MAFS8F.2.5)
- A. Properties of Stars
- B. H-R Diagrams
- C. The Sun's Characteristics
- D. Electromagnetic Spectrum

UNIT 5: OUR SOLAR SYSTEM

XI. Objects in our Solar System **(02-07 to 02-27)** (SC.8.E.5.8; **SC.8.E.5.7**; **SC.8.E.5.3**; SC.8.E.5.4; SC.8.N.1.3; SC.8.N.3.2)
- A. Models of the Solar Systems
- B. Earth's Properties
- C. Properties of Sun, Planets, and Moons Compared to Earth

XII. The Sun, Earth, and Moon System **(02-28 to 03-20)** (SC.8.E.5.9; SC.8.N.1.6; LAFS.68.RST.3.7; LAFS.68.RST.4.10)
- A. Earth in Space
- B. Sun's Impact on Earth
- C. Moon's Impact on Earth
- D. Sun and Moon's Combined Impact on Earth

4th Nine Weeks

XIII. Annually Assessed Benchmark Reinforcement: Earth, Space & Physical Sciences (Fair Game and non-embeddable benchmarks based on most current data) **(03-30 to 04-13)**

XIV. Annually Assessed Benchmark Reinforcement: Physical & Life Sciences (Fair Game and non-embeddable benchmarks based on most current data) **(04-14 to 04-27)**

UNIT 6: HUMAN GROWTH AND DEVELOPMENT

XV. Human Regulation and Reproduction **(04-28 to 05-15)** (HE.8.C.1.7; HE.8.C.1.8; HE.8.C.2.7; HE.8.C.2.8; HE.8.C.2.9; HE.B.3.1; HE.B.3.6; HE.B.3.7; HE.8.P.1.1; HE.8.P.1.2; HE.8P.1.3)
- A. Endocrine System
- B. Reproductive System
- C. Human Life Stages
- D. Planning for Marriage and Parenthood
- E. Abstinence
- F. Sexually Transmitted Disease
- G. HIV/AIDS

XVI. Substance Abuse - Personal Health Relationships **(05-18 to 06-03)** (HE.8.P.1.1; HE.8.B.3.4; HE.8.B.3.7; HE.8.B.2.1; HE.8.C.2.2; HE.8.C.2.7; HE.8.C.1.1; HE.8.C.1.5)
- A. Family and Peers
- B. Substance Abuse Prevention
- C. Peer Pressure
- D. Communication
- E. Personal Health
- F. Personal Health in the Work Place (NIOSH)

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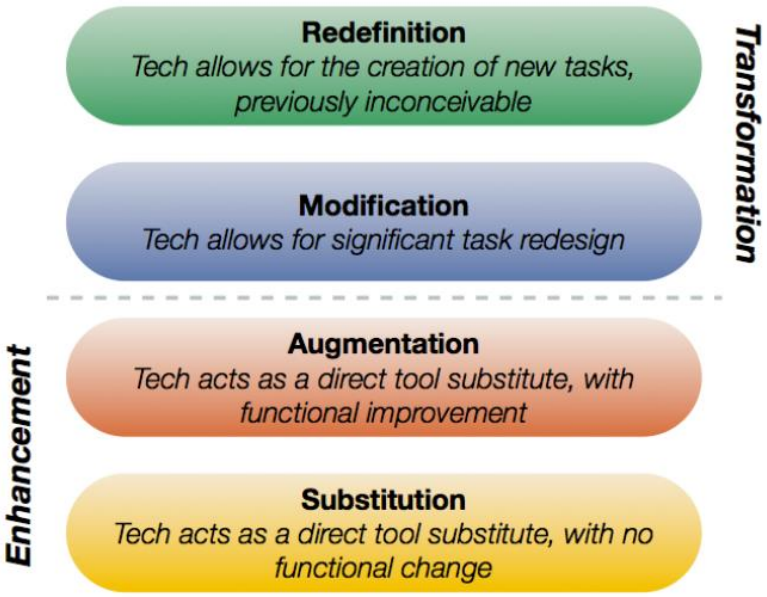
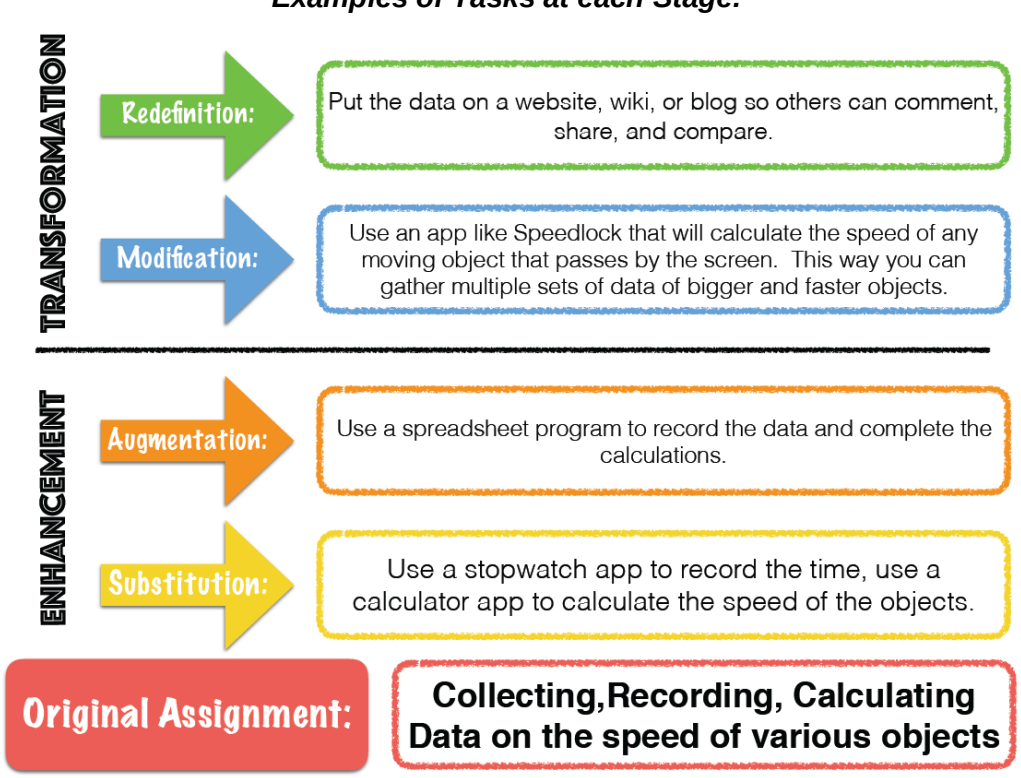
Technology Corner: The SAMR Model

Video Link: Introduction to the SAMR Model

Stages of the SAMR Model:



Examples of Tasks at each Stage:



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SOCIAL AND EMOTIONAL LEARNING for the classroom environment in SCIENCE	
SEL COMPETENCY	**GENERAL SCIENCE ONGOING TEACHING PRACTICES**
SELF AWARENESS	**Ability to recognize one's own emotions, thoughts, and values and how they influence behavior.**
	Use Learning Goals to recognize strengths and develop areas in need of improvement
	Routinely discuss and use physical and emotional cues to gauge student emotion about the progress of an activity or lab
	Have students identify personal strengths and weakness to work on
SOCIAL AWARENESS	**Ability to take the perspective of and empathize with others, including those from diverse backgrounds and cultures.**
	Discuss the expectations and demands of different settings (e.g. how we behave for labs, group work, study trips, discourse)
	Have groups of students express feelings/positions on a science topic (e.g. Human impact, "those who agree with GMOs stand")
	Allow students to reflect and defend their position when there is a difference of opinion (e.g. using Formative Assessment Probes)
	Have students share their cultural perspectives on situations during open discourse (e.g. HGD, real-world examples)
RESPONSIBLE DECISION-MAKING	**Ability to make constructive choices about personal behavior and social interactions based on ethical standards, safety concerns, and social norms.**
	Develop, model, and enforce class rules and shared norms, discussing them routinely
	Examine problems or moral situations in science and examine alternatives and impacts (e.g. non-renewable resource, cloning, pollution)
	Teach students a formula for problem-solving and making good decisions in science (e.g. scientific method, test-taking strategies, energy efficiency)
	Define and establish responsibilities for tasks within and outside of your science classroom setting
SELF-MANAGEMENT	**Ability to successfully regulate one's emotions, thoughts, and behaviors in different situations.**
	Establish a separate space in the classroom for individual self-management
	Consistently model effective self-management for students using Think Aloud strategy
	Pre-assess students on a lesson topic and set goals to achieve learning (e.g. Learning Goals)
	Routinely monitor and sustain progress toward goal achievement using self-monitoring system (e.g. data chat, folder or table)
	Have students brainstorm appropriate ways to motivate themselves through peer editing (e.g. CER)
	Work with students to develop an individualized plan and action steps for completing Science Fair and SECME projects
RELATIONSHIP SKILLS	**Ability to establish and maintain healthy and rewarding relationships with diverse individuals and groups**
	Structure interactive opportunities for students to give feedback (e.g. use of rubrics, presentations)
	Help students develop community service projects and celebrate their work
	Use team-based, collaborative teaching practices (e.g. problem-based learning, experimental and engineering design)
	Intentionally use collaborative work groups during hands-on inquiry to reinforce the importance of working together to solve problems and achieve goals
	Support students as needed during small group activities when they are working to resolve a conflict