

SAMSENWITTAYALAI SCHOOL ENGLISH PROGRAM

COURSE OUTLINE

Subject: Science (SC21101) Learning Period: 3 Periods/Week Grade Level: Mattayomsuksa 1 (Grade 7) Learning Area: Science Teacher: Mr. Kim Oneil M. Alveyra Course Classification: Foundation Credit Unit: 1.5 Semester 1 Academic Year 2021 Samsenwittayalai School English Program

I. COURSE DESCRIPTION

Study and analyses the important and terminology of science, properties of pure substances, classify the pure substances and their composition. The student can understand the cell structure and function and the use of microscope to study the cell, the different between plant and animal cell, the diffusion and osmosis of the substances across the membrane. The student can explain about photosynthesis processes, the transportation of water and nutrient in plant, and plant sexual and asexual reproduction.

By using the scientific processes, searching data, discussion, analyzing, comparing, presentation, testing, prediction, investigation and experimenting.

For improving the scientific knowledge, thoughts and understanding so that the students can make use of the knowledge to make decision. They can also use the knowledge in every day's life, leading to scientific mind, ethics, virtues and appropriate attitudes. Eventually, they can read, analyze and write critically to meet the school standard and attain the desirable characteristics.

II. INDICATORS

- 1. Learner's reading, analytical thinking and writing skills meet the criteria prescribed by the educational institutions.
- 2. Learner's desirable characteristics meet the criteria by the educational institutions.
- 3. SC1.2.1 Compare the shape, character and structure of plant and animal cells and explain the function of cell wall, cell membrane, cytoplasm, nucleus, vacuole, mitochondria and chloroplast.

4.	SC1.2.2	Use the light microscope study cell and their structures.
5.	SC1.2.3	Explain the relationship between shape and function of cells.
6.	SC1.2.4	Explain the organization of organism from cell, tissue, organ, organ system and organism.
7.	SC1.2.5	Explain process of osmosis, diffusion and give the example in daily life.
8.	SC1.2.6	Specify important factors in photosynthesis and products from photosynthesis.
9.	SC1.2.7	Explain the important of photosynthesis to organism and environment.
10.	SC1.2.8	To be aware of the value of plants to living organisms and environment by growing and take care plants in the school and communities.
11.	SC1.2.9	Explain the character of xylem and phloem.
12.	SC1.2.10	Draw the diagram to demonstrate the direction of transportation in xylem and phloem in plant.
13.	SC1.2.11	Explain the sexual and asexual reproduction in flowering plant.
14.	SC1.2.12	Explain the structure of flower important for pollination and explain the fertilization, fruit and seed formation, seed dispersion and seed germination.
15.	SC1.2.13	To be aware of the value of pollinators which help to pollinate pollen grain of flowering plants.
16.	SC1.2.14	Explain the important plant nutrition which help in plant growth and living.
17.	SC1.2.15	Select the proper fertilizer for a curtain circumstance.
18.	SC1.2.16	Use the suitable plant propagation method for human demand by using the knowledge of plant propagation.
19.	SC1.2.17	Explain the important of plant tissue culture and their uses.
20.	SC1.2.18	To be aware of the useful of plant propagation and apply in daily life.

21.	SC2.1.1	Explain physical properties of metal, non-metal and semimetal by using evidences from investigation and testing, and use the information from various sources.
22.	SC2.1.2	Analyze result from the use of metal, non-metal, semimetal and radioactive substances to living organisms, environment, economic and social from gathering data.
23.	SC2.1.3	To be aware of the utilization of metal, non-metal, semimetal and radioactive substances by propose the beneficially and safety uses.
24.	SC2.1.4	Compare boiling point, melting point of pure substances and mixture by measuring temperature, plotting graph and interpreting from graph or information.
25.	SC2.1.5	Explain and compare the density of pure substances and mixture.
26.	SC2.1.6	Use the instruments to measuring mass and volume of pure substances and mixture.
27.	SC2.1.7	Explain the relationship between atom, element and compound by using the models and information.
28.	SC2.1.8	Explain the atomic structure which compost of proton, neutron and electron by using the models.
29.	SC2.1.9	Explain the arrangement of particles, force between particles and the movement of particles in 3 states of matters by using models.
30.	SC2.1.10	Explain the relationship between thermal energy and matter changing state by using evidence and model.

III. TENTATIVE COURSE OUTLINE

Week	Topics / Contents	Indicators	Period(s)
1.	Introduction; Study Science		3
2.	Three states of matter Thermal Energy	SC2.1.9 SC2.1.0	3

3	Classification of Matter	SC2.1.7	4
5.	Elements and Compounds		
4	Atomic Structure	SC2.1.7	4
••	Periodic Table	SC2.1.8	
	Metal, Non-metal, Semimetal, and Radioactive Substances	SC2.1.1	4
5.		SC2.1.2	
		SC2.1.3	
	Pure Substances vs Mixture	SC2.1.4	3
6.		SC2.1.5	
		SC2.1.6	
7.	Unit Quiz 1		1
8.	Review		1
9.	Mid-term Examination		
	Cell Structure and Function	SC1.2.1	4
.10		SC1.2.3	
		SC1.2.4	
11	Microscope	SC1.2.2	3
.11	How to use the Microscope		
12	Osmosis and Diffusion	SC1.2.5	4
12	Photosynthesis and factors affecting the process	SC1.2.6	4
13		SC1.2.7	
1.4	Transportation in plants	SC1.2.9	3
14		SC1.2.10	
15	Quiz		1
	Plant reproduction; sexual reproduction	SC1.2.11	4
16	Flowering plant structure	SC1.2.12	
		SC1.2.13	
	Asexual reproduction in plant, Plant propagation	SC1.2.16	4
17	Plant tissue culture	SC1.2.17	
		SC1.2.18	
18	Plant Nutrition	SC1.2.14	3
19	Unit Quiz		1
20	Final Examination		
		1	

IV. TEACHING MATHOD AND MANAGEMENT

- ✓ Experiment
- ✓ Lecture/Discussion
- ✓ Individual work
- ✓ Game
- ✓ Demonstration

V. TEACHING MATERIALS / SUPPLEMENTS

✓ Handouts

✓ Worksheets

✓ Teacher's text book

✓ Group work

✓ Samples/Models ✓ Exercises

✓ Commercial Text Book : Focus Science Book, Science Solution, Biology Matters

□ Website: Google Classroom, Google Form

VI. ASSESSMENT ANA EVALUATION

Indicator /	Formative I		Midtow	Formative II				Final		
Score from SGS	1	2		whaterm	10	11	12	13		rmai
Total score	10	10		20	10	10	10	10		20
1.Learners'										
reading, analytical					10					
thinking										
2. Learners'										
desirable						10				
characteristics										
3. SC2.1.1-10	10	10		20						
4. SC1.2.1-18							10	10		20
Total		20		20	40			20		

VII. ASSIGNMENT

		Score		Ту		
No.	Assignment	(points)	Dead line	Individua l	Group	Remark
1.	Quiz/homework/ worksheet/ report/project	5	Week 4, 5	~		
1.	Experiment/Group work	5	Week 6, 7		✓	
2.	Unit Quiz	10	Week 8	✓		
12.	Quiz/homework/ worksheet/ report/project	5	Week 11, 12		~	
12.	Quiz/homework/ worksheet/ report/project	5	Week 14, 15	~		
13.	Unit Quiz	10	Week 17	~		
Total		40				