NEWPORT-MESA UNIFIED SCHOOL DISTRICT
Course Description

BIOLOGICAL SCIENCE

Content covered in this course is described in the Course of Study and Health Continuum Goals and Objectives. Based upon student needs, teachers select appropriate materials from the Instructional Materials List. Classroom presentations of course content are determined by the instructor and described under Teacher Activities. A more detailed outline of this course can be obtained from the instructor.

Overview:
The biology curriculum will enable the student to explore and understand the concepts of the living cell and its structural parts, cellular organization, tissues, organs and systems. The diversity of life in the plant and animal kingdom are also explored.

Students will understand the fundamental relationships that exist between various biological themes and the underlying scientific themes. Students will use information about systems and interactions, patterns of change, stability, and scale and structure to develop an understanding of biological systems.

Course of Study Objectives:
1. The student will be able to use biological laboratory tools and equipment.
   1.1 STUDENT ACTIVITY:
      Student will use microscope and microscope materials to observe and prepare slides of
different living and non-living things. Student will have opportunities for guided dissections of
a number of preserved organisms in a laboratory setting.
   1.2 INSTRUCTIONAL MATERIALS USED:
      • Microscope and dissection work sheets
      • Overheads and individual dissection tools
      • Microscope materials
      • Preserved animal (other than human) organisms for dissection
      • Textbook
   1.3 TEACHER ACTIVITIES:
      • Conduct lecture on use of microscope and dissecting tools
      • Demonstrate proper/safe use of laboratory instruments
      • Lecture on related laboratory procedures

2. The student will identify the structures and functions of plant and animal cells and
cell components.
   2.1 STUDENT ACTIVITY:
      Student will prepare and observe slides of different organisms. Student will use microscopes
and dissecting scopes to better observe cells, tissues, and organs. Student will draw
structures, list functions, learn vocabulary, and complete work sheets on related materials.
2.2 INSTRUCTIONAL MATERIALS USED:
- Microscopes and microscope materials
- Textbook
- Overheads
- Work sheets
- Related films from attached list
- Chalkboard

2.3 TEACHER ACTIVITIES:
- Lecture
- Lead discussions
- Modeling
- Conduct instructional labs

3. The student will be able to identify and list the functions of tissues which make up organs, organs which make up systems, and systems which make up organisms.

3.1 STUDENT ACTIVITY:
Student will list functions, complete work sheets, and learn vocabulary on related material.
Student will draw cells, organs, and systems. Student will observe prepared slides of different tissues (human and non-human).

3.2 INSTRUCTIONAL MATERIALS USED:
- Overheads
- Textbook
- Work sheets
- Related films from attached list
- Microscopes and prepared slides
- Chalkboard
- Exhibits

3.3 TEACHER ACTIVITIES:
- Conduct lectures and demonstrations

4. The student will group organisms according to kingdom and phylum.

4.1 STUDENT ACTIVITY:
Student will listen to lecture, draw and label structures, and complete work sheets.

4.2 INSTRUCTIONAL MATERIALS USED:
- Textbook
- Charts and graphs
- Work sheets
- Overheads

4.3 TEACHER ACTIVITIES:
- Lecture
- Lead discussions

5. The student will be able to identify the roles of producers, consumers, and decomposers in the web of life.

5.1 STUDENT ACTIVITY:
Student will listen to lecture, read textbook, complete written assignments, and observe films/videos from the attached list.

5.2 INSTRUCTIONAL MATERIALS USED:
- Textbook
- Related films/videos from attached list

5.3 TEACHER ACTIVITIES:
- Lecture
- Lead discussions
6. The student will be able to identify the structure and describe the functions of the major human body systems and their component parts.

6.1 STUDENT ACTIVITY:
Student will draw structures, list functions, complete work sheets, observe films/videos from the attached list, build vocabulary, and dissect preserved (non-human) organisms as a comparative study.

6.2 INSTRUCTIONAL MATERIALS USED:
- Textbook
- Models
- Charts
- Films and/or videos from attached list
- Overheads
- Computer software
- Chalkboard

6.3 TEACHER ACTIVITIES:
- Lecture
- Conduct demonstrations and instructional labs
- Modeling

7. The student will identify the structure and describe the function of the reproductive systems of plants and animals.

7.1 STUDENT ACTIVITY:
Student will draw structures, list functions, complete work sheets, observe appropriate films/videos from the attached list, build vocabulary, and dissect preserved (non-human) organisms as a comparative study.

7.2 INSTRUCTIONAL MATERIALS USED:
- Textbook
- Models
- Charts
- Films and/or videos from attached list
- Overheads
- Chalkboard

7.3 TEACHER ACTIVITIES:
- Lecture
- Conduct demonstrations and instructional labs
- Modeling

8. The student will identify plant photosynthesis and cell respiration as a biological energy cycle, as one which creates and consumes atmospheric oxygen when light energy is converted to chemical energy and is then released as biological energy.

8.1 STUDENT ACTIVITY:
Student will prepare and observe slides of different organisms. Student will use microscopes and dissecting scopes to better observe cells, tissues, and organs. Student will draw structures, list functions, learn vocabulary, and complete work sheets on related materials.

8.2 INSTRUCTIONAL MATERIALS USED:
- Microscopes and microscope materials
- Textbook
- Overheads
- Work sheets
- Related films from attached list
- Chalkboard
8.3 TEACHER ACTIVITIES:
   • Lecture
   • Lead discussions
   • Modeling
   • Conduct instructional labs

9. The student will identify the processes of mitosis and meiosis.
9.1 STUDENT ACTIVITY:
   Student will listen to lecture, read textbook, do laboratory work, work on vocabulary-building exercises, observe appropriate films/videos from the attached list, and complete work sheets.

9.2 INSTRUCTIONAL MATERIALS USED:
   • Microscopes and microscope materials
   • Textbook
   • Films/videos from attached list
   • Work sheets

9.3 TEACHER ACTIVITIES:
   • Lecture
   • Lead discussions
   • Conduct instructional labs

INSTRUCTORS SHALL TEACH HONOR AND RESPECT FOR MONOGAMOUS HETEROSEXUAL MARRIAGE. ABSTINENCE SHALL BE EMPHASIZED AND WILL BE PRESENTED AS THE BEST CHOICE UNTIL MARRIAGE. ABSTINENCE SHALL BE TAUGHT AS BEING THE ONLY 100 PERCENT EFFECTIVE PROTECTION AGAINST UNWANTED TEENAGE PREGNANCY AND SEXUALLY TRANSMITTED DISEASES.

10. The student will describe how organisms interact with other organisms and their environment.
10.1 STUDENT ACTIVITY:
   Student will read text, complete work sheets, draw chains and webs, participate in outdoor activities, learn related vocabulary, and utilize taxonomies.

10.2 INSTRUCTIONAL MATERIALS USED:
   • Textbook
   • Work sheets
   • Overheads
   • Related films
   • Chalkboards

10.3 TEACHER ACTIVITIES:
   • Lecture
   • Lead discussions
   • Modeling
   • Demonstrations