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Glossary of Science Terms - Contains 97 defined terms used in the Engineering & Technology I Course.

Introduction

The **Core Engineering & Technology I Course** teaches about using science to solve problems, performing experiments, safety, recording and analyzing information and results, different areas of science, science jobs, and discoveries and inventions.

The **Core Engineering & Technology I Course's** learning objectives align with Next Generation Science Standards for K-2-ETS1-1, K-2-ETS1-2, and K-2-ETS1-3.

The **Core Engineering & Technology I Course** has 15 lessons organized in 3 Units with 15 lesson assessments. There are 240 audio-supported instruction pages, 47 printable activity sheet pages, 97 defined vocabulary words, and a set of 225 Quiz questions. Course lessons and assessments are enabled for all commonly used computer devices, including computer tablets and smartphones. Completion is estimated at 10 to 12 hours.

Unit 1: Science Skills

Unit 1 - Lesson 1: Science and Discovery Next Generation Science Standards (NGSS)

- Grade K-2: ETS-1-1

Learning Objectives

- to learn about how science can explain what happens in the world
- to learn about discovering new things through science

Defined Vocabulary Words

- differences, experiment, physical properties, recycle, science, scientist, similarities

Activity Type

- For each physical property, draw an example of things that are similar and an example of things that are different.
- Look for similarities and differences between two balls.

Lesson Components

Total Learning Objects – 35

Instruction Pages - 17

Activity Pages - 3

Lesson Quiz Questions– 15 total questions; 5 randomly selected to populate the Lesson Quiz

Unit Test Questions– 75 total questions; 15 total per Lesson of which 3 are randomly selected to populate the Unit Test

Unit 1 - Lesson 2: Using Science to Solve Problems Next Generation Science Standards (NGSS)

- Grade K-2: ETS-1-1

Learning Objectives

- to learn about using science to solve problems

Defined Vocabulary Words

- climate, electronics, experiment, science, shelter

Activity Type

- Draw a picture of the object and explain what problem was trying to be solved by making the object.
- Make a model of the ideal shelter.

Lesson Components

Total Learning Objects – 30

Instruction Pages - 12

Activity Pages - 3

Lesson Quiz Questions– 15 total questions; 5 randomly selected to populate the Lesson Quiz

Unit Test Questions– 75 total questions; 15 total per Lesson of which 3 are randomly selected to populate the Unit Test

Unit 1 - Lesson 3: Observing**Next Generation Science Standards (NGSS)**

- Grade K-2: ETS-1-1

Learning Objectives

- to learn about using senses to observe the world
- to learn about creating sketches and models to describe things

Defined Vocabulary Words

- describe, difference, drawing, model, observe, photograph, physical properties, similarities, sketch

Activity Type

- Match the phrase with the correct word.
- Describe a room, make a sketch, and then a drawing of it.

Lesson Components

Total Learning Objects – 32

Instruction Pages - 14

Activity Pages - 3

Lesson Quiz Questions– 15 total questions; 5 randomly selected to populate the Lesson Quiz

Unit Test Questions– 75 total questions; 15 total per Lesson of which 3 are randomly selected to populate the Unit Test

Unit 1 - Lesson 4: Measuring**Next Generation Science Standards (NGSS)**

- Grade K-2: ETS-1-1

Learning Objectives

- to learn about the methods and tools used to measure data

Defined Vocabulary Words

- balance scale, beaker, length, mass, measure, measuring cup, meter stick, metric units, ruler, scale, standard units, tape measure, temperature, thermometer, volume, weights, width, yard stick

Activity Type

- Sort the words into the what they measure.
- Practice measuring different things.

Lesson Components

Total Learning Objects – 34

Instruction Pages - 16

Activity Pages - 3

Lesson Quiz Questions– 15 total questions; 5 randomly selected to populate the Lesson Quiz

Unit Test Questions– 75 total questions; 15 total per Lesson of which 3 are randomly selected to populate the Unit Test

**Unit 1 - Lesson 5: Recording Information
Next Generation Science Standards (NGSS)**

- Grade K-2: ETS-1-1

Learning Objectives

- to learn about the recording data in an organized way
- to learn how to interpret data collected through experiments and observations

Defined Vocabulary Words

- axis, bar, bar graph, column, data, data point, experiment, graph, key, labels, pattern, picture graph, row, table

Activity Type

- Make a graph.
- Do an experiment, record data, make a graph, and then analyze the data.

Lesson Components

Total Learning Objects – 37

Instruction Pages - 19

Activity Pages - 3

Lesson Quiz Questions– 15 total questions; 5 randomly selected to populate the Lesson Quiz

Unit Test Questions– 75 total questions; 15 total per Lesson of which 3 are randomly selected to populate the Unit Test

Unit 2: Sample Investigations and Designs**Unit 2 - Lesson 1: Doing an Experiment
Next Generation Science Standards (NGSS)**

- Grade K-2: ETS-1-2

Learning Objectives

- to learn about doing an experiment

Defined Vocabulary Words

- analyze, experiment, guess, meter stick, plan, question, repeating, tape measure, test

Activity Type

- Draw a line from the word to the matching phrase.
- Perform the experiment described in the lesson.

Lesson Components

Total Learning Objects – 34

Instruction Pages - 16

Activity Pages - 3

Lesson Quiz Questions– 15 total questions; 5 randomly selected to populate the Lesson Quiz

Unit Test Questions– 75 total questions; 15 total per Lesson of which 3 are randomly selected to populate the Unit Test

Unit 2 - Lesson 2: Doing a Second Experiment**Next Generation Science Standards (NGSS)**

- Grade K-2: ETS-1-2

Learning Objectives

- to learn about doing another experiment to answer more question

Defined Vocabulary Words

- analyze, experiment, guess, meter stick, plan, question, repeating, tape measure, test

Activity Type

- Put the steps of an experiment into the correct order and explain what happens in each step.
- Perform the experiment described in the lesson.

Lesson Components

Total Learning Objects – 34

Instruction Pages – 16

Activity Pages - 3

Lesson Quiz Questions– 15 total questions; 5 randomly selected to populate the Lesson Quiz

Unit Test Questions– 75 total questions; 15 total per Lesson of which 3 are randomly selected to populate the Unit Test

Unit 2 - Lesson 3: Building Solutions**Next Generation Science Standards (NGSS)**

- Grade K-2: ETS-1-2, ETS1-3

Learning Objectives

- to learn about finding solutions to problems

Defined Vocabulary Words

- problem, science, solution

Activity Type

- Draw a picture of a problem and a solution.
- Perform an experiment to see how a ball can be made to roll far.

Lesson Components

Total Learning Objects – 33

Instruction Pages - 15

Activity Pages - 3

Lesson Quiz Questions– 15 total questions; 5 randomly selected to populate the Lesson Quiz

Unit Test Questions– 75 total questions; 15 total per Lesson of which 3 are randomly selected to populate the Unit Test

**Unit 2 - Lesson 4: Improving What We Built
Next Generation Science Standards (NGSS)**

- Grade K-2: ETS-1-2, ETS1-3

Learning Objectives

- to learn how to improve on the solutions that have been built to solve problems

Defined Vocabulary Words

- problem, science, solution

Activity Type

- Put the steps into the correct order and explain what happens in each step.
- Perform the experiment to improve the experiment performed in the previous lesson.

Lesson Components

Total Learning Objects – 33

Instruction Pages - 15

Activity Pages - 3

Lesson Quiz Questions– 15 total questions; 5 randomly selected to populate the Lesson Quiz

Unit Test Questions– 75 total questions; 15 total per Lesson of which 3 are randomly selected to populate the Unit Test

**Unit 2 - Lesson 5: Looking at Results
Next Generation Science Standards (NGSS)**

- Grade K-2: ETS-1-2, ETS1-3

Learning Objectives

- to learn how to analyze results from an experiment
- to learn how to use tables and graphs to organize data

Defined Vocabulary Words

- bar graph, data, graph, guess, measure, pattern, predict, result, table, test

Activity Type

- Answer the questions in relation to the graphs provided.
- Organize data and analyze results of an experiment

Lesson Components

Total Learning Objects – 34

Instruction Pages - 14

Activity Pages - 5

Lesson Quiz Questions– 15 total questions; 5 randomly selected to populate the Lesson Quiz

Unit Test Questions– 75 total questions; 15 total per Lesson of which 3 are randomly selected to populate the Unit Test

Unit 3: Science and Society**Unit 3 - Lesson 1: Areas in Science
Next Generation Science Standards (NGSS)****Learning Objectives**

- to learn about the different areas of science
- to learn about how science creates solutions to problems
- to learn about things created by science that have made the world better

Defined Vocabulary Words

- electricity, energy, machine, medicine, microscopic, organism, science, sewer system

Activity Type

- Draw a picture of something that was made by a scientist to make our lives easier and describe the problem it solved.
- Create a substance.

Lesson Components

Total Learning Objects – 34

Instruction Pages - 16

Activity Pages - 3

Lesson Quiz Questions– 15 total questions; 5 randomly selected to populate the Lesson Quiz

Unit Test Questions– 75 total questions; 15 total per Lesson of which 3 are randomly selected to populate the Unit Test

**Unit 3 - Lesson 2: Science Jobs
Next Generation Science Standards (NGSS)****Learning Objectives**

- to learn about the different types of science job

Defined Vocabulary Words

- biologist, engineer, meteorologist, oceanographer, pharmacist, predict, program, scientist, technician, technologist, veterinarian

Activity Type

- Draw a picture your favorite scientist and write what they do and why they are your favorite

- Pick a person who works and science and interview them

Lesson Components

Total Learning Objects – 35

Instruction Pages - 17

Activity Pages - 3

Lesson Quiz Questions– 15 total questions; 5 randomly selected to populate the Lesson Quiz

Unit Test Questions– 75 total questions; 15 total per Lesson of which 3 are randomly selected to populate the Unit Test

Unit 3 - Lesson 3: Science Tools Next Generation Science Standards (NGSS)

Learning Objectives

- to learn about the different tools used in science

Defined Vocabulary Words

- balance, binoculars, experiment, hand lens, laboratory, lenses, magnifying glass, measuring cup, meter stick, microscope, rain gauge, ruler, scale, stopwatch, tape measure, telescope, thermometer, yard stick

Activity Type

- Fill in the blanks with the word that matches the phrase.
- Fingerprint mystery game

Lesson Components

Total Learning Objects – 36

Instruction Pages – 18

Activity Pages - 3

Lesson Quiz Questions– 15 total questions; 5 randomly selected to populate the Lesson Quiz

Unit Test Questions– 75 total questions; 15 total per Lesson of which 3 are randomly selected to populate the Unit Test

Unit 3 - Lesson 4: Safety Next Generation Science Standards (NGSS)

Learning Objectives

- to learn about safety equipment
- to learn how to safely perform experiments

Defined Vocabulary Words

- battery, electricity, goggle, lab coat, label, safety gear, shocked

Activity Type

- Choose the things that will keep you safe when doing an experiment.
- Create a science safety poster

Lesson Components

Total Learning Objects – 35

Instruction Pages – 17

Activity Pages - 3

Lesson Quiz Questions– 15 total questions; 5 randomly selected to populate the Lesson Quiz

Unit Test Questions– 75 total questions; 15 total per Lesson of which 3 are randomly selected to populate the Unit Test

**Unit 3 - Lesson 5: Discoveries and Inventions
Next Generation Science Standards (NGSS)****Learning Objectives**

- to learn about discoveries made by inventors
- to learn about inventions that changed the world

Defined Vocabulary Words

- appliances, cell phone, electricity, engineer, experiment, invention, microwave oven, resources, science, scientist, smart phone, tablet, telephone, wash tub

Activity Type

- Draw a picture of what was used before the inventions listed
- Think of ways to improve a simple kite

Lesson Components

Total Learning Objects – 36

Instruction Pages – 18

Activity Pages - 3

Lesson Quiz Questions– 15 total questions; 5 randomly selected to populate the Lesson Quiz

Unit Test Questions– 75 total questions; 15 total per Lesson of which 3 are randomly selected to populate the Unit Test
