Florida Science Correlation (Grade 8)

Reference: Florida's Student Performance Science Standards (pdf), p. 63

Introduction

This document correlates Yenka Science software to the content performance indicators of the Florida science core curriculum. It highlights specific areas of the curriculum that are covered by Yenka Science and points to resources that will be useful when teaching the material.

The terminology we have used in this document is as follows:

- **Product***:* this is the relevant Yenka Science product, covering Physics and Chemistry. These products can be used independently of each other, and more information can be found on the Yenka website.

- **Online activity**: these are lesson plans for classroom activities for use with the Yenka software. Students work through these independently by interacting with a Yenka simulation, following notes and answering questions to learn about an aspect of the curriculum material. Some of these lesson kits are suitable for use as a whiteboard presentation, and are referred to as *online demonstrations.*

- **Model***:* a short pre-made Yenka model with instructions, which will give pupils the opportunity to apply their knowledge of a subject. These models are found under the *Content* tab when Yenka is opened.

Since all the Yenka Science titles are simulators, they will help you to cover other areas of the curriculum too. This is just a list of the activities and models that are currently available; there are plenty of other experiments you can simulate. You may wish to look at the tutorials under *Getting Started* in Yenka, and the *training videos* provided on the website, to explore more of the potential uses of the software, and show you how to create your own models.

Big Idea 5: Earth in Space and Time

Benchmark Code	Benchmark	Product	Content
SC.8.E.5.4	Explore the Law of Universal Gravitation by explaining the role that gravity plays in the formation of planets, stars, and solar systems and in determining their motions.	Yenka Motion	Related online activity: - Orbit
SC.8.E.5.9	Explain the impact of objects in space on each other including: 1. the Sun on the Earth including seasons and gravitational attraction 2. the Moon on the Earth, including phases, tides, and eclipses, and the relative position of each body.	Yenka Motion Yenka Light and Sound	Online activities: - Orbit - Light Rays 3 - Eclipses
SC.8.E.5.11	Identify and compare characteristics of the electromagnetic spectrum such as wavelength, frequency, use, and hazards and recognize its application to an understanding of planetary images and satellite photographs.	Yenka Light and Sound	Models: - Electromagnetic spectrum (waves) - Absorption of radiation (waves) Related online activities: - X-rays in Medicine

Big Idea 8: Properties of Matter

Benchmark Code	Benchmark	Product	Content
SC.8.P.8.1	Explore the scientific theory of atoms (also known as atomic theory) by using models to explain the motion of particles in solids, liquids, and gases.	Yenka Inorganic Chemistry	Online activities: - Comparing Gases, Liquids and Solids - The Behaviour of Solids, Liquids and Gases Models: - Solids, liquids and gases (Classifying Materials)

SC.8.P.8.2	Differentiate between weight and mass recognizing that weight is the amount of gravitational pull on an object and is distinct from, though proportional to, mass.	Yenka Motion	Online activity: - Weight or Mass? - Weight Model: - Weight (Force and Acceleration)
SC.8.P.8.4	Classify and compare substances on the basis of characteristic physical properties that can be demonstrated or measured; for example, density, thermal or electrical conductivity, solubility, magnetic properties, melting and boiling points, and know that these properties are independent of the amount of the sample.	Yenka Inorganic Chemistry	Online activity: - Physical Properties of Liquids Models: - Ionic, covalent and metallic (conductivity) (Classifying Materials) - Ionic, covalent and metallic (melting points) (Classifying Materials) - Ionic, covalent and metallic (solubility) (Classifying Materials) See also: - Properties of Ionic Materials - Properties of Covalent Materials
SC.8.P.8.6	Recognize that elements are grouped in the periodic table according to similarities of their properties.	Yenka Inorganic Chemistry	Online activities: - Periodic Table (1) - Periodic Table (2) See also: - Periodicity of Group 7 – Reactions - Periodicity in Group 1 - Periodicity in Group 7
SC.8.P.8.9	Distinguish among mixtures (including solutions) and pure substances.	Yenka Inorganic Chemistry	Related online activities: - Substances and Mixtures - The Vocabulary of Mixtures - Particles in Elements, Compounds and Mixtures

Big Idea 9: Changes in Matter

Benchmark Code	Benchmark	Product	Content
SC.8.P.9.1	Explore the Law of Conservation of Mass by demonstrating and concluding that mass is conserved when substances undergo physical and chemical changes.	Yenka Inorganic Chemistry	Online activity: - Mass Changes in Chemical Reactions Related activity: - Mass Changes During Chemical Reactions
SC.8.P.9.2	Differentiate between physical changes and chemical changes.	Yenka Inorganic Chemistry	Online activities: - Some Physical and Chemical Changes - Looking at Chemical Changes
SC.8.P.9.3	Investigate and describe how temperature influences chemical changes.	Yenka Inorganic Chemistry	Online activity: - Heating Metal Oxides