Eggs Worksheet

Objective:
Students will be able to create a hypothesis in order to try to correctly guess an outcome of an experiment.

Indiana Academic Standards:
Sixth - Eighth Grade Science Standards
6-8.LST.7.1 - Conduct short research assignments and tasks to answer a question (including a self-generated question), or test a hypothesis, drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.

7.PS.2 - Describe the properties of solids, liquids, and gases. Develop models that predict and describe changes in particle motion, density, temperature, and state of a pure substance when thermal energy is added or removed.

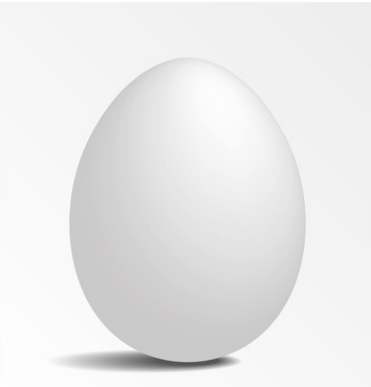
Materials:

- Writing Utensil
- Student Worksheet
- Two tall drinking glasses
- Two raw eggs
- Water
- Salt
- Spoon

INDIANA AG ESCAPE

Name: _____

EGGS



Instructions: Uncover the nutrients! There are several essential nutrients found in eggs. Do you know what they mean? Do you know how they can support your health?

Pick one nutrient from the box. Using reference materials like the Internet, proceed to answer the following questions as you uncover the nutrient.

Vitamin D	Riboflavin	Pantothenic Acid
Calcium	Niacin	Phosphorus
Iron	Vitamin B6	Iodine
Potassium	Folate	Zinc
Vitamin A	Vitamin B12	Selenium
Vitamin E	Biotin	Choline

Nutrient: _____

How does this nutrient benefit your body and health? _____

_____

_____

How much do our bodies need of _____ each day? (Amount that applies to your age range)

_____

What other foods provide us with this nutrient? _____

_____

What will happen if you do not get enough of this nutrient? _____

_____

_____

What is an interesting fact about this nutrient? _____

_____

INDIANA AG ESCAPE

Indiana Farm Bureau®
Agriculture in the Classroom

Teacher Answer Key

all information has been summarized from the National Institutes of Health: Office of Dietary Supplements (https://ods.od.nih.gov/factsheets/list-all/)

Nutrient	Benefit	Daily intake (children 9-18 years)	Other sources	Effects of low intake	Facts
Vitamin D	promotes calcium absorption, needed for bone growth	15 mcg	Trout, Salmon, Milk, Mushrooms	rickets, soft bones, skeletal deformities	also referred to as calciferol
Calcium	maintain strong bones	1,300 mg	Milk, kale, broccoli	low bone mass, increase risk of osteoporosis and bone fractures	is a mineral
Iron	needed for growth and development; body uses it to make hemoglobin and myoglobin and some hormones	11-15 mg	meat, seafood, poultry, cereals, nuts, spinach	iron deficiency that leads to anemia	the body doesn't abosrb nonheme iron found in plant foods as well as iron found in animal meats
Potassium	body needs it for just about everything it does: kidney function, heart function, muscles and nerves	2,300-3,000 mg	Fruits, vegetables, soybeans, milk	increase blood pressure, increase the rick of kideny stones	dried apricots are an excellent source
Vitamin A	needed for normal vision, immune system and reproduction	600-900 mcg	Beef liver, salmon, green leafy vegetables, fruits, dairy	eye condition called xerophthalmia - can not see in low light and will lead to blindness	deficiency is rare in the USA
Vitamin E	acts as an antioxidant and will protect cells from damage (from smoke or air pollution) and will boost the body immune system	11-15 mg	Vegetable oils, nuts, green vetables	can be linked to Crohn's disease; can cause nerve/muscle damage	wheat germ, sunflower and safflower oil are great sources
Riboflavin	important for growth, development and function of cells; it will also help to turn food you eat into energy	0.9-1.3 mg	Green Vegetables like asparagus, broccoli and spinach, lean meats	can cause skin discorders, sores at the corners of your mouth, hair loss	also referred to as vitamin B2
Niacin	important for growth, development and function of cells; it will also help to turn food you eat into energy	12-16 mg	beef, pork fish, poultry, nuts, legumes	can lead to a disease: pellagra	also referred to as vitamin B3
Vitamin B6	involved in metabolism, brain development	1.0-1.3 mg	poultry, fish, potatoes, fruit	can lead to anemia, or have itchy rashes, scaly skin on the lips and other symptoms	found naturally in many foods
Folate	to make DNA and genetic material, for cells to divide	300-400 mcg	naturally present in many foods (fortified foods), vegetables, fruits and fruit juices	a blood disorder that causes weakness, fatigue, trouble concentrating, irritability and other symptoms	is a B-vitamin

Vitamin B12	keeps body's nerve and blood cells healthy and make DNA and helps to prevent a type of anemia	1.8-2.4 mcg	beef, pork, poultry, milk, dairy products	causes tiredness, weakness, constipation, loss of appetite, weight loss and megaloblastic anemiz	Foods from animals (not plants) naturally have vitamin B12
Biotin	helps convert carbohydrates, fats, and proteins in the foods eaten into energy needed	20-25 mcg	meat, fish, seeds and nuts	thinning of hair and loss of body hair, pinkeye, seizures	is a B-vitamin
Pantothenic Acid	helps turn food into energy and breaking down fats	4-5 mg	beef, poutry, milk, mushrooms, whole grains	can cause numbness and burning of the hands and feet, irritability, sleeping problems and several others	very rare deficiency in the USA
Phosphorus	found in each cell within our bodies, needs to make energy and perform chemical processes	1,250 mg	dairy products, grain products, meats, nuts and seeds	loss of appetite, anemiz, coordination problems, bone pain and several other causes	dairy products are an excellent source
Iodine	needed to make thyroid hormones	120-150 mg	fish, dairy products, iodized salt	cannot make the right about of thyroid hormones	thyroid hormones are important to control body's metabolism
Zinc	helps immune system, needed for body to make proteins and DNA	8-11 mg	Oysters, red meats, beans and nuts	slow growth in infants and children	helps wounds heal and important for proper senses of taste and smell to function properly
Selenium	needed to keep body healthy; proper thyroid gland function and DNA production	40-55 mcg	seafood, meat, poultry, dairy, breads, cereals	can cause Keshan disease or a form of arthritis	naturally found in many foods like seafood
Choline	needed to regulate memory (nervous sytem), mood, and muscle control	375-550 mg	meat, poultry, fish and dairy products, potatoes, cruciferous vegetables	muscle and liver damage	our bodies can make choline

Background Information:

- When determining the grade of an egg, four things are evaluated:
    1. Air cell
    2. Yolk
    3. White
    4. Shell
- Chickens have the highest feed efficiency of any farm animal.
- Indiana is the third largest egg-producing state of eggs.
- In Indiana, there are 7,000 egg-industry jobs created annually.
- Eggs have the highest quality of protein that occurs naturally
- Egg yolks are a natural source of vitamin D.
- The egg industry is responsible for $29 billion of economic impact annually.

Careers:

Food scientist, egg inspector, poultry production manager and barn maintenance worker