

# Inquiry

## Question

- Scientific investigations are designed to gain knowledge about the natural world.

## Investigate

- A scientific investigation may include making and following a plan to accurately observe and describe objects, events, and organisms; make and record measurements; and predict outcomes.

## Inference

- Inferences are based on observations.

## Investigate

- Simple instruments, such as magnifiers, thermometers, and rulers provide more information than scientists can obtain using only their unaided senses.

## Model

- Models are useful for understanding systems that are too big, too small, or too dangerous to study directly.

## Explain

- Scientists develop explanations, using observations (evidence) and what they already know about the world. Explanations should be based on evidence from investigations.

## Communicate/Intellectual Honesty

- Scientists make the results of their investigations public, even when the results contradict their expectations.

# Science Vocabulary

- Abdomen
- Adult
- Air
- Air resistance
- Asphalt
- Axis
- Axle
- Balance
- Boulder
- Build
- chrysalis
- Coarse
- Cobble
- Cocoon
- Compare
- Counterweight
- Crystal
- Data
- Dead
- Describe
- Design
- Direction
- Dull
- Ecosystem
- Effect
- Egg
- Energy
- Female
- Food
- Force
- Function
- Geologist
- Gravel
- Gravity
- Habitats
- Hatch
- Humus
- Insect
- Larva
- Life Cycle
- Living
- Magnifier
- Male
- Metamorphosis
- Minerals
- Model
- Motion
- Nutrients
- Object
- Observation
- Organisms
- Pebble
- Predict
- Properties
- Pupa
- Question
- Rock
- Rotate
- Shaft
- Shape
- Slope
- Soil
- Solution
- Sort
- Sphere
- Space
- Speed
- spin
- Stage
- System
- Texture
- Thermometer
- Tools
- Tuff
- Waste
- Weight

## Tacoma Priority Science Standards 2011-2012 for Second Grade



### Supporting Science at Home

- 1. Keep a science notebook at home for your child to write questions, make observations and record notes.**
- 2. Talk to your child about science that is happening at school.**
- 3. Take advantage of local resources around Tacoma.**

# BIG Picture

The *Tacoma Priority Science Standards* are adapted from The *Washington State Science Standards*.

“The standards are not the curriculum. The standards describe what all students at this grade level are expected to know and be able to do in the area of science.”\* The purpose of this document is to clarify standards taught at each grade level and to provide strong support for students, parents, teachers, and the broader community by guiding the alignment of the school curriculum, instruction and assessment.”

*\*Revised Washington State K-12 Science Standards. Page 1*

# Systems & Application

- ◇ A system is a group of interacting parts that form a whole.
- ◇ A whole object, plant, or animal may not continue to function the same way if some of its parts are missing.
- ◇ Simple problems can be solved through a technological design process that includes; defining the problem, gathering information, exploring ideas, making a plan, testing possible solutions to see which is best, and communicating the results.
- ◇ Scientific ideas and discoveries can be applied to solving problems.
- ◇ Tools help scientists see more, measure more accurately, and do things that they could not otherwise accomplish.
- ◇ Successful solutions to problems often depend on selection of the best tools and materials and on previous experience.

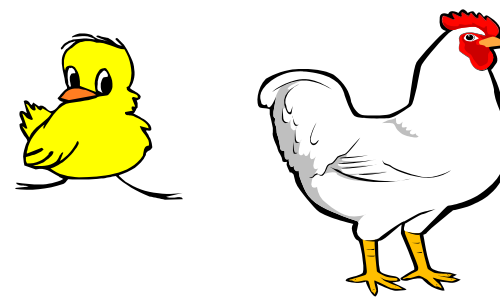


# Physical Science

- ◇ Motion can be described as a change in position over a period of time. (Balance & Motion)
- ◇ There is always a force involved when something starts moving or changes its speed or direction of motion. (Balance & Motion)
- ◇ A greater force can make an object move faster and farther. (Balance & Motion)
- ◇ The relative strength of two forces can be compared by observing the difference in how they move a common object. (Balance & Motion)
- ◇ Objects have properties, including size, weight, hardness, color, shape, texture, and magnetism. Unknown substances can sometimes be identified by their properties. (Pebbles, Sand & Silt)
- ◇ An object may be made from different materials. These materials give the object certain properties. (Balance & Motion)
- ◇ Motion is a form of energy. (Balance & Motion)

# Life Science

- ◇ Animals have life cycles that include being born, developing into children, adolescents, then adults, reproducing (which begins a new cycle) and eventually dying. The details of the life cycle are different for different animals. (Insects)
- ◇ There are different kinds of natural areas, or habitats, where many different plants and animals live together. (Insects)
- ◇ A habitat supports the growth of many different plants and animals by meeting their basic needs of food, water, and shelter. (Insects)
- ◇ All ecosystems change over time as a result of natural causes like storms, floods, volcanic eruptions, or fire. Some of these changes are beneficial for the plants and animals, some are harmful, and some have no effect. (Insects)



# Earth & Space Science

- ◇ Earth Materials include solid rocks, sand, soil, and water. These materials have different observable properties. (Pebbles, Sand & Silt)
- ◇ Some Earth objects are made of more than one material. (Pebbles, Sand & Silt)
- ◇ Outdoor shadows are longest during the morning and evening, and shortest during the middle of the day. These changes in the length and direction of an object's shadow indicate the changing position of the Sun during the day.

