

Science in the Elementary and Middle School Years Checklist:

This is a list of some of the science units and topics we'll cover in elementary and middle school. We will return to these topics more than once, each time going into more depth. We spend as much time as needed (and while interest lasts). I know we'll cover the topic again in a few years.

The Human Body

Cells
Tissues
Nervous System
Skeletal, Muscular and Integumentary Systems (skin, etc.)
Circulatory and Respiratory Systems
Digestive and Excretory Systems
Endocrine and Reproductive Systems
Immune System and Disease

Biology

Plants and Animal Cells
Cell structure and Process
Cell Function (chemical reactions inside cells)
Cell Division
DNA-RNA, Genetics
Life Cycle and Reproduction
Plants
Growth
Photosynthesis
Genetics
Animals
Unit on animal adaptations, animal habitats, animal homes, animal characteristics, migration, camouflage, animals and their young, vertebrates/invertebrates, herbivores/carnivores/omnivores, conservation - extinct vs. endangered animals, [This is a carryover from the science we covered in the preschool years (ages 4-6)... and there is a separate checklist for that!]
Classification, taxonomy
Kingdom, phylum, class, order, family, genus, species
Offspring names
Group names
Levels of organization
Biosphere, ecosystem (biome), community, population, organism, groups of cells, cells, molecules
Microorganisms - bacteria, viruses, protists, fungi
Biomes (ecosystems)
Ocean Life
Ecology - interdependence of organisms and their environment, food chain
Population Dynamics
Animal anatomy and physiology

Chemistry

Atoms, Molecules
States of Matter

	Properties of Matter
	Acids & Bases
	Atomic structure - periodic table
	Common elements, chemical bonds, chemical reactions
	Mixtures - Solutions
	Molecular Chains
	Organic Chemistry -- chemistry of carbon

Astronomy

	Solar System Inner and outer planets, asteroid belt
	Moon
	Gravity
	Kinds of Stars
	Galaxies

Earth Science

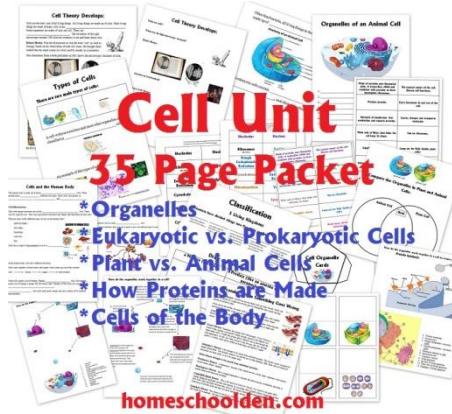
	Geology - history of the Earth
	inside Earth – geosphere
	Rocks & Minerals - sedimentary, metamorphic, igneous rocks
	Earth systems (geosphere, biosphere, hydrosphere, atmosphere)
	Magnets
	Earth's Magnetism
	Earth's movement – changes to Earth's surface
	plate movement
	what changes landforms
	what causes mountains, volcanoes, earthquakes
	how has Earth's surface changed
	Weather
	Water
	Freshwater
	Underground water
	Oceans, Tides, Currents – The Hydrosphere
	Cycles
	Water Cycle
	Oxygen Cycle
	Nutrient Cycle
	Nitrogen Cycle
	Carbon Cycle
	Sulfur Cycle
	Phosphorus Cycle
	Rock Cycle

Physics

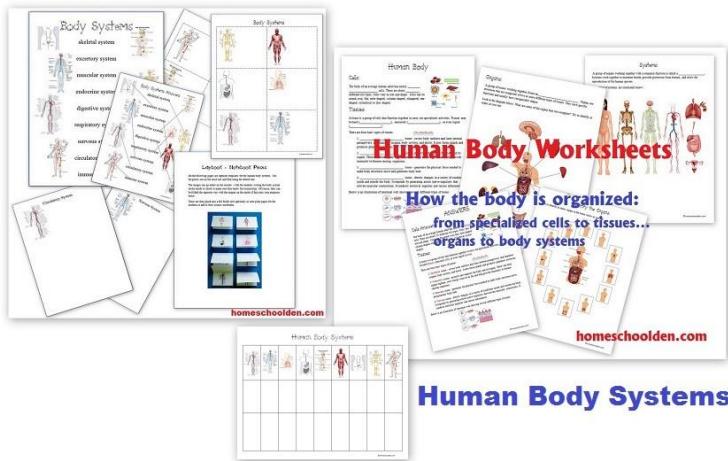
	Simple Machines
	Speed, force, energy, motion, power, heat, heat transfer, conduction, convection, radiation
	Light and optics
	Electricity
	Sound - vibration, waves, speed, frequency, wavelength, amplitude

We've made lots of science worksheet packets that are available at our blog, homeschoolden.com:

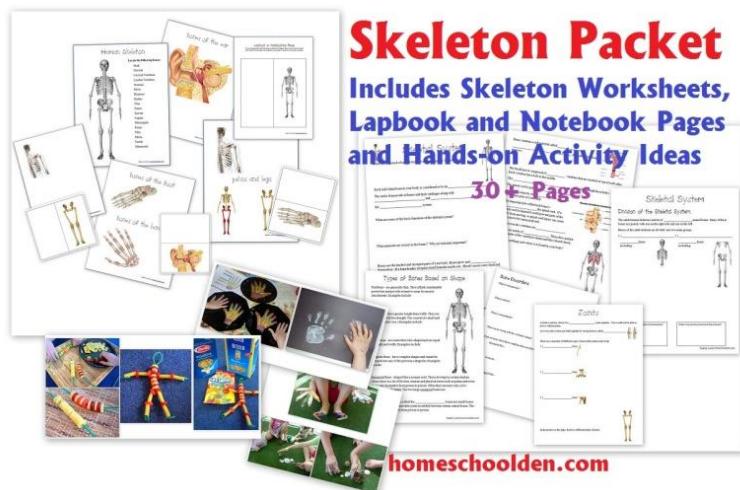
A Study of Cells Packet



Human Body Systems



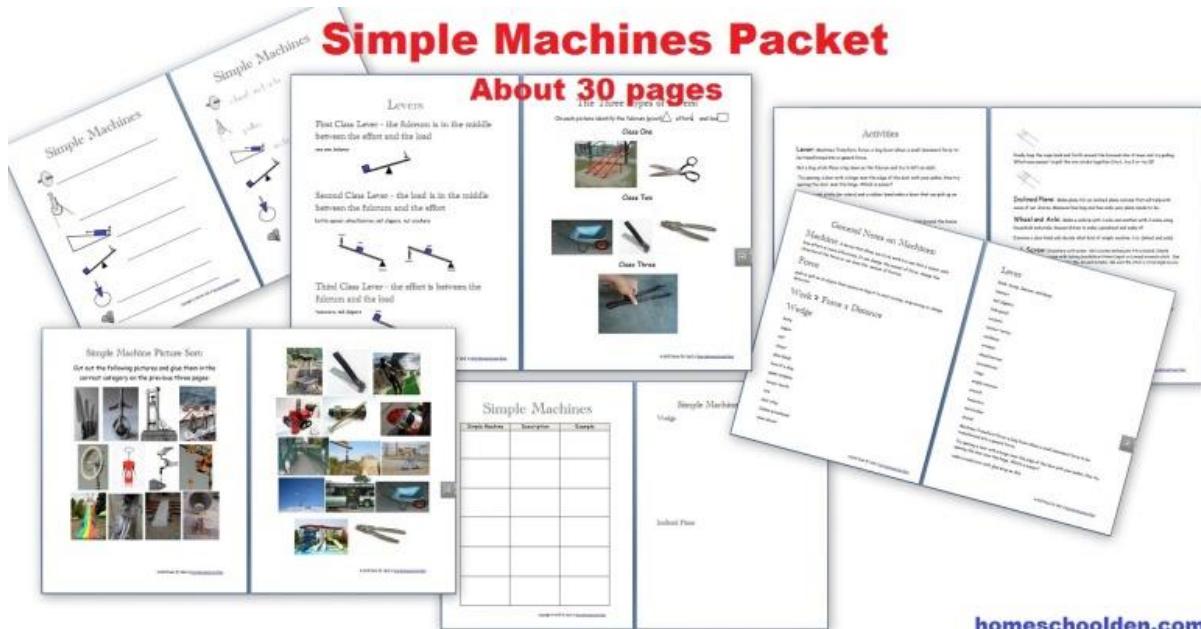
Skeleton Lapbook and Notebook Pages



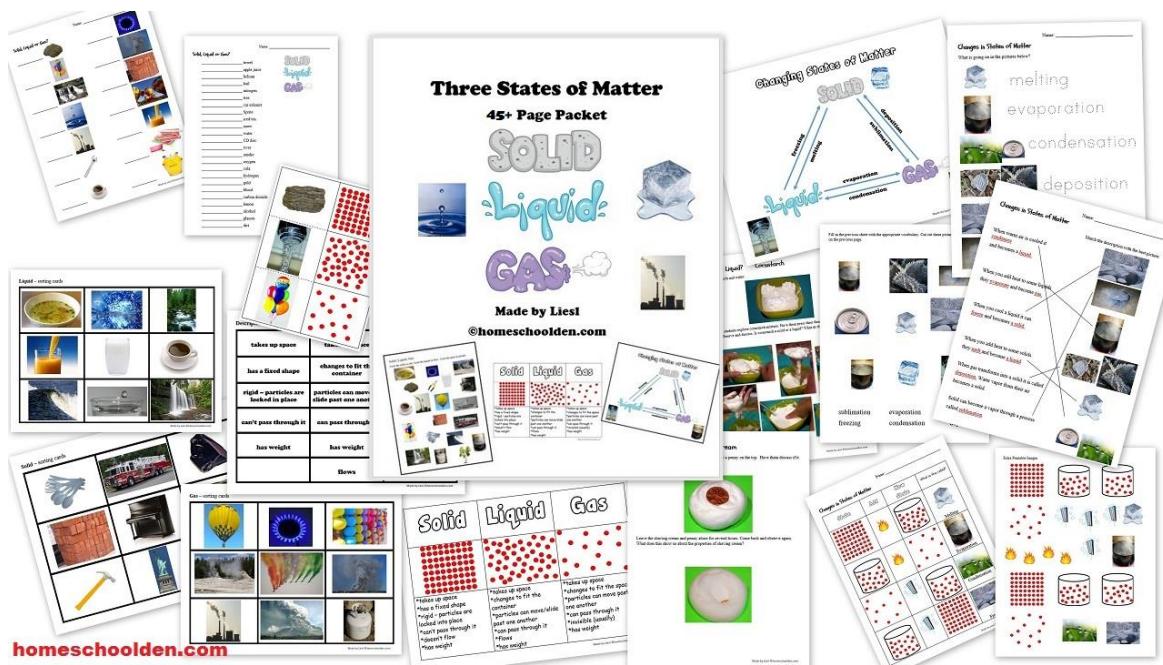
Digestive System Pack



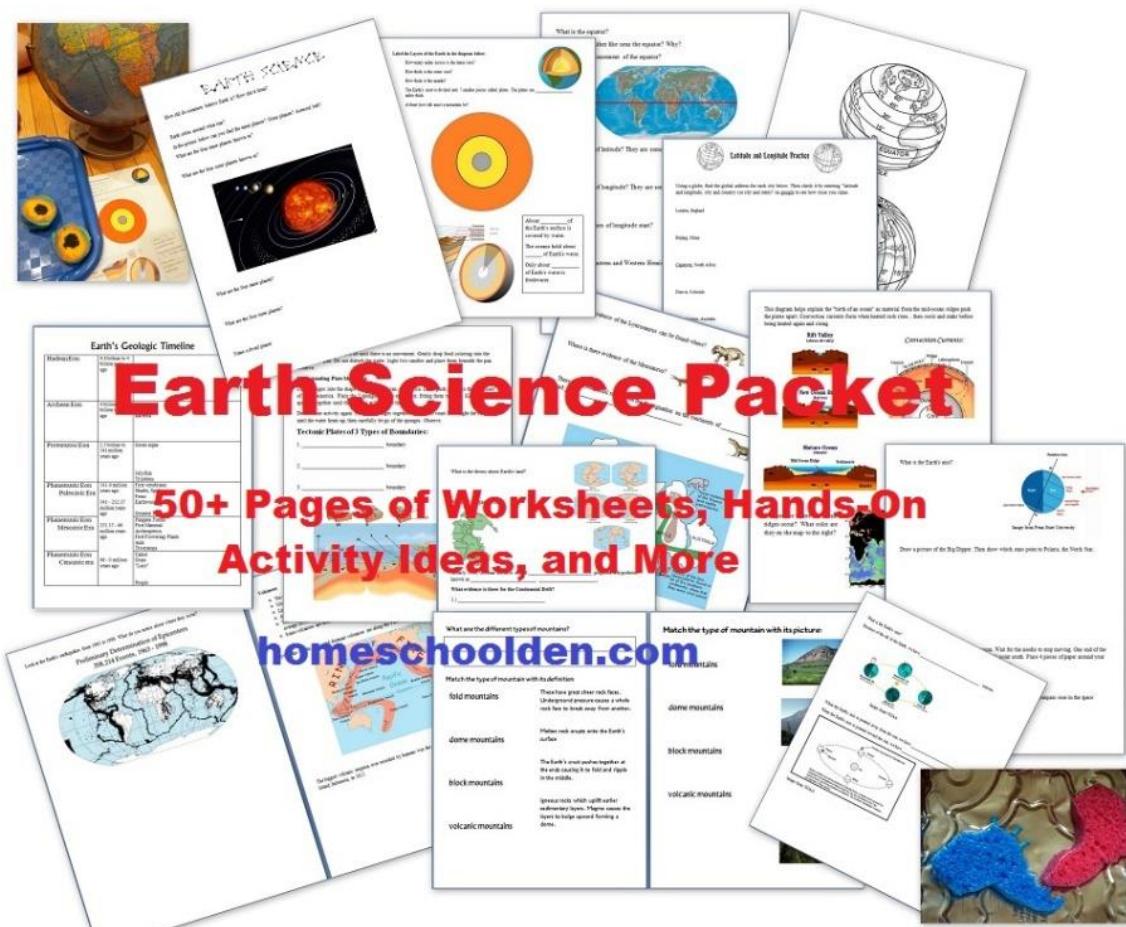
Simple Machines Packet



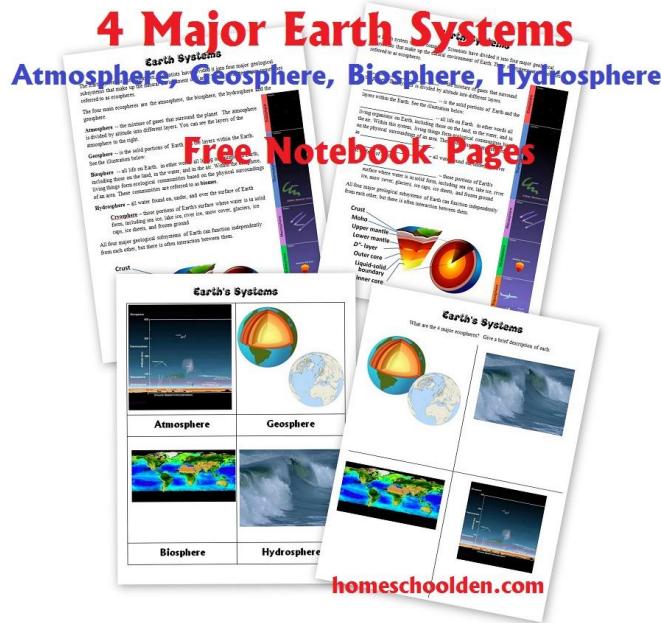
States of Matter



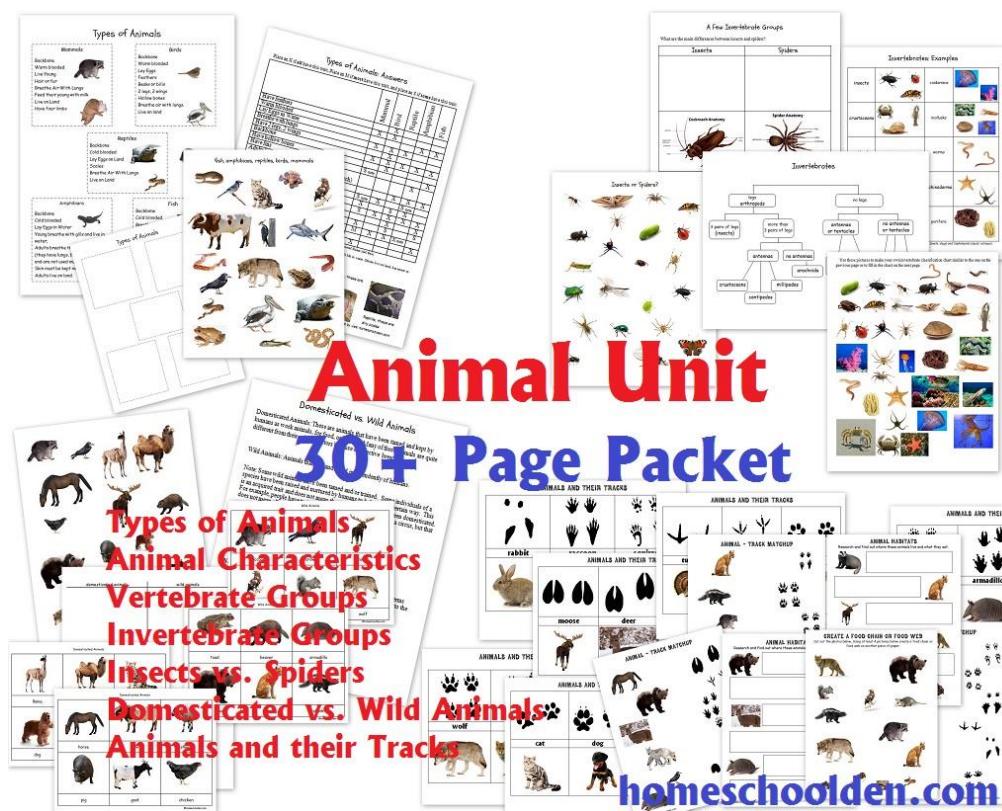
Earth Science Packet: Plate Movement, Earthquakes Volcanoes and more!



Free Page on the [Earth's 4 Systems: Geosphere, Atmosphere, Hydrosphere, Biosphere](#) (There's a free packet on the atmosphere over at our blog.)

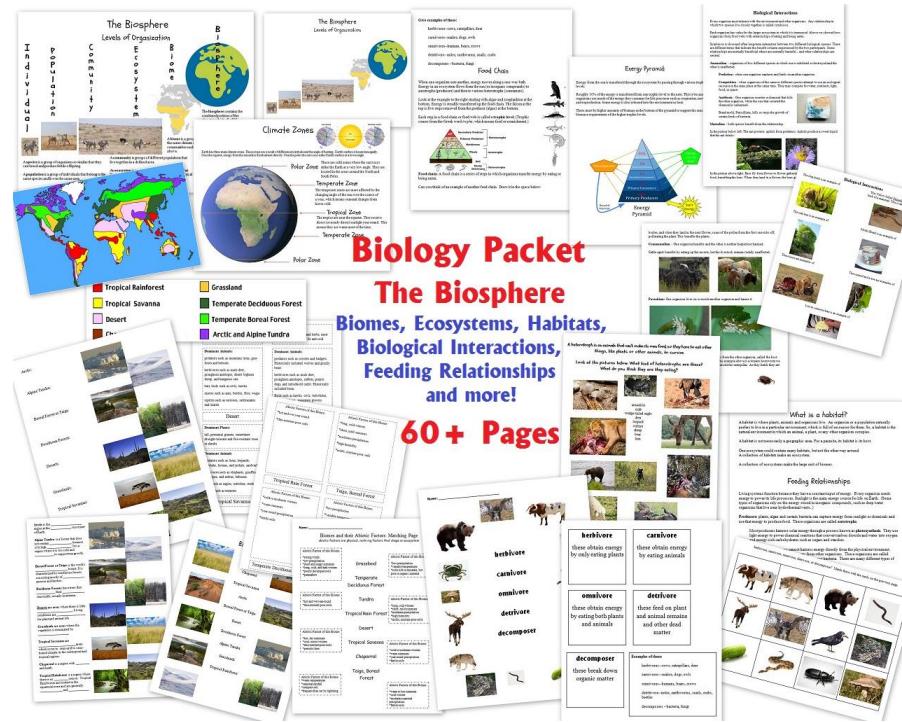


Animal Unit Packet: in this unit we covered the types of animals (both vertebrates and invertebrates), animal characteristics, plus activities on domesticated vs. wild animals and also on animal tracks. There are also some materials on animal habitats and food webs, but we'll go into much more detail in the 2nd half of this unit. This was made more for my 2nd grader, though it was great review for my older kids.

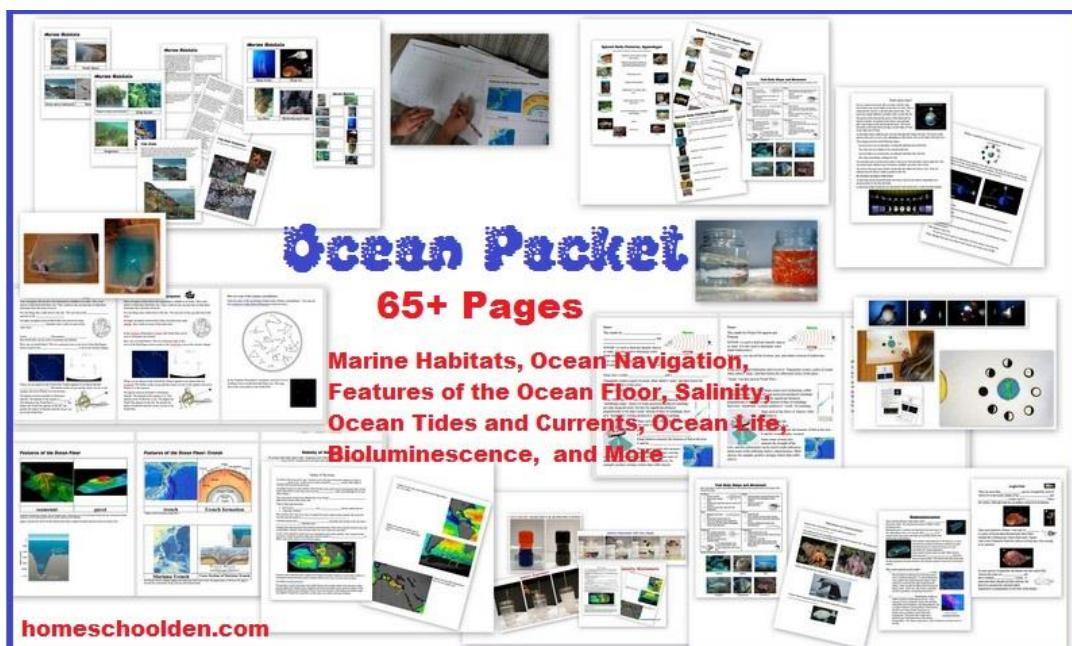


Biology Unit: We did a unit on the different biomes, ecosystems, and animal relationships.

Now that the kids are older we went into detail about feeding relationships (herbivores, carnivores, detritivores) and talked about biological interactions like commensalism (where one organism benefits, the other is unharmed), mutualism (both organisms benefit), parasitism (where one organism benefits, the other is harmed)... and various other things.



Ocean Unit: This packet has various worksheets on the marine habitats, the various features of the ocean floor, currents and tides, fish body shape, bioluminescence, and more. We did a number of great hands-on activities (the kids really loved the salinity experiment and determining the depth of the ocean activity we did another day.)



Rocks and Mineral Packet



Electricity and Circuits, Plus 10+ Hands-On Activities: Coming in the Fall 2016

homeschoolden.com

Plus, we have a Weather Unit, A packet on the Layers of the Atmosphere and lots of animal classification worksheets and printables.

[Earth's Atmosphere](#) - free

[Weather Packet](#)

[Free Cloud Worksheets](#)



Weather Packet
by Liesl at the Homeschool Den



We have a muscular and circulatory packet that will come out at some point down the line! :)