



Exploring



Gardening



Fauna



Flora



Observing



Natural Events

# NATURALIST WAYS OF KNOWING

Adapted by Leslie Wessman from the work of Howard Gardner, Karen Roth, David Lazaer, Robin Fogarty, K. Checkley, and Maggie Meyer.

## DEFINITION

Howard Gardner has added the eighth intelligence because he had often been asked to explain the achievements of great biologists within the context of the seven intelligences and there was not an appropriate “fit.”

Individuals who had a real mastery of taxonomy, who understood about different species, and who could recognize patterns in nature, classify objects, and quickly grasp relationships in ecosystems could not be explained without manipulating the other intelligences in appropriate ways.

According to his most recent studies, Gardner had identified the naturalist intelligence as the ability to recognize and make distinctions about living things and artifacts, and to notice subtle abstract patterns or changes.

Many teachers know of children who know all there is to know about dinosaurs, butterflies, fish, rocks, or plants. They have a deep interest and fascination with something in nature and are driven to investigate and become an “expert” in a

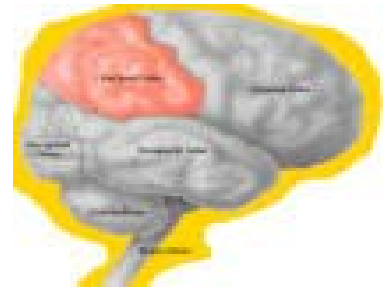
particular natural subject. These are the students who exhibit naturalist intelligence.

## BRAIN CONNECTION

Gardner is not yet certain just which neural centers are involved in the naturalist intelligence. It may depend on whether the information is recognized from illustration or from direct interaction. But because the human naturalist intelligence appears to clearly have been of value to the early humans as hunters, gatherers, and farmers—and relates to the natural abilities of other animals—it should be possible to identify which brain centers are involved.

## LEARNING CAPACITIES

- Observing and recording every detail of an object from nature (flower, insect, etc.)
- Collecting and analyzing data from the environment (life cycle of a pond).
- Sorting and categorizing representatives from a species.
- Planting and tending a garden, and keeping a record of the stages of growth



## CLASSROOM TOOLS

- Field trips to a nature setting
- Field studies
- Bird watching; observing nests
- Planting
- Photographing
- Star gazing
- Fishing
- Ecology studies
- Shell collecting

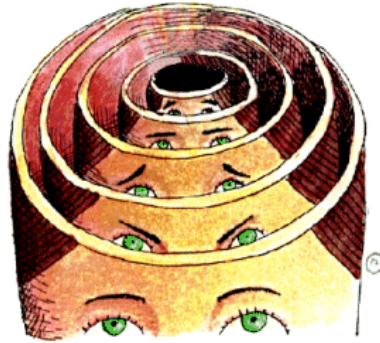
## ASSESSMENT INSTRUMENTS

Includes the above and:

- Nature walks to identify flora and fauna
- Forecasting weather
- Categorizing rocks
- Catching and displaying butterflies and insects
- Identifying plants
- Examining bird pellets

## CAREER POSSIBILITIES

- Biologist
- Botanist
- Hunter
- Farmer
- Gardner
- Chef



## FURTHER READING

Roth, Karen. The Naturalist Intelligence: An Intro to Gardner's Eighth Intelligence, 1998.

Checkley, K. "The First Seven...and the Eighth: A Conversation with Howard Gardner."

Educational Leadership, September 1997, pp. 8-13

Meyer, Maggie. "The Greening of Learning: Using the Eighth Intelligence." Educational Leadership, Sept. 1997, pp 32-34.

## David Lazaer's Four-Stage Model for Developing Naturalist Intelligence

### Stage 1

#### AWAKEN

Trigger the Naturalist intelligence by immersing the student in the full sensory experience of the natural world including plants, animals, weather conditions, water, forests, inorganic matter, etc.

### Stage 2

#### AMPLIFY

Strengthen naturalist intelligence through practice recognizing members of a species, learning to distinguish differences among members of the same species, understanding other "neighboring" species and interacting with nature.

### Stage 3

#### TEACH

Teach to the naturalist intelligence by using the specific tools of this intelligence... (classifying, discovering, observing)...to help learn the academic content, to acquire certain specific knowledge and/or skills, and to achieve the stated outcomes of the unit or lesson.

### Stage 4

#### TRANSFER

Transfer naturalist intelligence to life by discussing the intelligence tools employed and finding applications to the world outside the classroom.