

**A Continuum of Learning
Math, Science, Literacy and Social Emotional Development
Ingham Great Start Collaborative
March 9, 2010**

The purpose of this packet is to provide an overview of a proposed common set of competencies to be shared and supported by teachers, programs and families in Ingham County. The competencies outline what teachers, caregivers and parents will do and what children should have in early learning experiences to support their development in math, science, literacy and social emotional development.

This packet contains four documents that span the developmental stages from infancy to first grade. These documents should be viewed as a work in progress. They are not meant to be exhaustive resources, but rather as a starting point to provide guidance for those working with and caring for children birth through grade one to support their learning and development. They represent the work of the Ingham Birth to Five Great Start Collaborative and several of its workgroups, including Quality Initiatives and the Kindergarten Transition Committee.

The following documents were used in developing these continuums: The Early Childhood Standards of Quality for Infant and Toddler Programs (ECSQ-I/T), the Early Childhood Standards of Quality for Pre-kindergarten (ECSQ-PK), and the Grade Level Content Expectations (GLCE) in kindergarten and first grade. These documents define expectations for children in the birth to seven-year-old age range. This work shows the alignment across these developmental stages and was also done with alignment to the Head Start Child Outcomes. The ECSQ-I/T, ECSQ-PK and Grade Level Content Expectations are available at the website for the Michigan Department of Education. <http://www.michigan.gov/mde>

The knowledge and skills, as described in these documents, are not intended as a checklist of developmental milestones; those are readily available in textbooks on child development and in materials designed to alert parents and caregivers to potential concerns with a child's developmental trajectory. Instead, the developing knowledge and skills are intended to define what young children from birth to age seven might reasonably be learning and doing, how this learning is connected over time and what adults should be helping them to learn and do, in high-quality programs and settings.

May the work you do in helping children grow be full of ordinary, but important, moments and milestones that are long remembered.

For more information about these documents contact Michelle Nicholson, Supervisor of Early Childhood Education, Ingham Intermediate School District at 517.244.1384 or mnichols@inghamisd.org.

Infancy through First Grade: A Continuum of Skills in Science

	Early Childhood Standards of Quality for Infants and Toddlers: Science	Early Childhood Standards of Quality for Prekindergarten: Science	Michigan’s Grade Level Content Expectations for Kindergarten: Science	Michigan’s Grade Level Content Expectations for First Grade: Science
Inquiry Process	Strategies for actively exploring and making sense of the world by using their bodies, including active exploration with all the senses, and the use of tools, materials, and equipment to extend skills. Strand C, Goal 2b	Children develop positive attitudes and gain knowledge about science through observation and active play. ECSQ: ELE-S 1, HSCOF-S 4.1.1, 4.1.3, 4.1.4	Make purposeful observation of the natural world using the appropriate senses. S.IP.01.11	Make purposeful observation of the natural world using the appropriate senses. S.IP.01.11
	An attitude of themselves as “explorers” – competent, confident learners who ask questions and make discoveries. Strand C, Goal 3b		Generate questions based on observations. S.IP.00.12	Generate questions based on observations. S.IP.00.12
			Plan and conduct simple investigations. S.IP.00.13	Plan and conduct simple investigations. S.IP.00.13
			Manipulate simple tools that aid observation and data collection. S.IP.00.14	Manipulate simple tools that aid observation and data collection. S.IP.00.14
			Make accurate measurements with appropriate (non-standard) units for the measurement tool. S.IP.00.15	Make accurate measurements with appropriate (non-standard) units for the measurement tool. S.IP.00.15
			Construct simple charts from data and observations. S.IP.00.16	Construct simple charts from data and observations. S.IP.00.16
			Share ideas about science through purposeful conversation. S.IA.00.12	Share ideas about science through purposeful conversation. S.IA.00.12
			Communicate and present findings of observations. S.IA.00.13	Communicate and present findings of observations. S.IA.00.13

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Inquiry Process			Develop strategies for information gathering. S.IA.00.14	Develop strategies for information gathering. S.IA.00.14
			Demonstrate scientific concepts through various illustrations, performances, models, exhibits, and activities. S.RS.00.11	Demonstrate scientific concepts through various illustrations, performances, models, exhibits, and activities. S.RS.00.11
				Recognize that science investigations are done more than one time. S.RS.00.12
Physical Science	The confidence to choose and experiment with materials, to explore actively with all their sense, and to use what they learn to generalize their learning to other experiences. Strand C, Goal 3c		Describe the position of an object in relation to other objects around it. P.FM.00.11	Demonstrate the ability to sort objects according to observable attributes such as color, shape, size, sinking or floating. P.PM.01.11
			Describe the direction of a moving object from different observers' views. P.FM.00.12	Demonstrate that water as a solid keeps its own shape. P.PM.01.21
			Observe how objects fall toward the earth. P.FM.00.21	Demonstrate that water as a liquid takes on the shape of various containers. P.PM.01.22
			Demonstrate pushes and pulls on objects that can move. P.FM.00.31	Identify materials that are attracted by magnets. P.PM.01.31
			Observe that objects initially at rest will move in the direction of the push or pull. P.FM.00.32	Observe that like poles of a magnet repel and unlike poles of a magnet attract. P.PM.01.32

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Physical Science			Observe how pushes and pulls can change the speed or direction of moving objects. P.FM.00.33	
			Observe how shape and mass of an object can affect motion. P.FM.00.34	
Life Science	Familiarity with a variety of materials (e.g. sand, water, ice, bubbles, blocks, paper) Strand C, Goal 4b	Children show a beginning awareness of scientific knowledge related to living and nonliving things. ECSQ: ELE-S 2 HSCOF-4.2.1. 4.2.2	Identify that living things have basic needs. L.OL.00.11	Identify the needs of animals. L.OL.01.13
	A knowledge of the natural environment in the outdoor area of the program and the local neighborhood. Strand C, Goal 4d		Identify and compare living and nonliving things L.OL.00.12	Describe the life cycle of animals including the following stages: egg, young, adult; egg, larva, pup, adult. L.OL.01.21
				Identify characteristics that re passed on from parents to young. L.HE.01.11
				Classify young animals based on characteristics that are passed on from parents. L. HE.01.12

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Earth Science	The ability to question, explore, generate and modify their own ideas about the world around them. Strand C, Goal 4a	Children show a beginning awareness of scientific knowledge related to the earth. ECSQ: ELE-S 3	Identify Earth materials that occur in nature (sand, rocks, soil, water). E.SE.00.11	Identify the sun as the most important source of heat which warms the land, air, and water of the Earth. E.ES.01.11
			Describe how Earth materials contribute to the growth of plant and animal life. E.SE.00.12	Demonstrate the importance of sunlight and warmth in plant growth. E.ES.01.12
				Compare daily changes in the weather related to temperature, cloud cover, precipitation and wind. E.ES.01.21
				Describe and compare weather related to the four seasons in terms of temperature, cloud cover, precipitation, and wind. E.ES.01.22
				Describe severe weather characteristics. E.ES.01.23
				Describe precautions that should be taken for human safety during severe weather conditions. E.ES.01.24
				Identify the tools that might be used to measure temperature, precipitation, cloud cover and wind. E.ES.01.31
				Observe and collect data of weather conditions over a period of time. E.ES.01.32