Michigan Early Childhood Standards of Quality

Engineering and Technology: 3-5 Years

Children use tools (digital or non-digital) to learn, create, accomplish tasks, and solve problems. 1

a Explore and experiment with different uses for the tools, objects, and materials in their environment. 1A

1a. 3 Years 3.1A

1 Use a camera to take a picture of their block tower. 3.1A.1

2 Use a sand timer to know how long their turn is on a computer. 3.1A.2

3 Use a triangular block as a ramp for a small car. 3.1A.3

4 Use a large appliance box as a space for dramatic play. 3.1A.4

5 Use wood blocks to make a ramp for cars. 3.1A.5

6 Use wooden blocks to build a road for the animal toys to follow. 3.1A.6

7 With adult supervision, click on a specific, favorite game app on a tablet in the learning environment. 3.1A.7

8 Use a small mallet or hammer to pound golf tees into a Styrofoam block. 3.1A.8

9 Use a scoop to move water or sand from the sensory table into a container. 3.1A.9

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1a. 4 Years 4.1A

1. Record the behaviors of a classroom pet on a tablet, on chart paper, or in a science journal. 4.1A.1
2. Work with a group to build a tunnel out of shipping boxes that is large enough to crawl through. 4.1A.2
3. Use an empty cereal box to support an unsteady “balcony” area of the castle they are building. 4.1A.3
4. Make walls, tunnels, and towers for their castle construction with paper towel tubes and cardboard boxes. 4.1A.4
5. Use a stylus to navigate an interactive technology device and find out how tall a T. Rex was. 4.1A.5
6. With adult supervision, choose a game from the PBS Kids website using visual cues. 4.1A.6
7. Use a screwdriver to drive large, flat-tipped machine screws in and out of a block of wood, using their fingers to twist and untwist a bolt on the other side of the screw. 4.1A.7
8. Use a small garden trowel to dig holes for planting seeds. 4.1A.8

1a. 5 Years 5.1A

1. Use a tablet, or clipboard and paper, to record other children’s responses to a survey of their favorite colors, then use blocks or paper and markers to create a graph to show the most common favorites. 5.1A.1
2. Use a tablet and stylus to “sign in” when they enter the learning environment. 5.1A.2
3. Use a tablet to watch a video of how crayons are made. 5.1A.3
4. Use scrap supplies and paper to engineer an imaginary city. With adult supervision, identify a website of their choosing from the options bookmarked in the web browser. 5.1A.4
5. Use a stencil, straight-edge ruler, and/or compass to draw shapes on paper. 5.1A.5
6. Use an eyedropper to move liquid from one container to another. 5.1A.6

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b Learns from their experiments and experiences. 1B

1b. 3 Years 3.1B

1. Carry their toy cars to the hard floor or table to play “because they go faster” than when they’re on the carpet. 3.1B.1
2. Bounce balls on the sidewalk with more and more force, to get them to bounce higher. 3.1B.2

1b. 4 Years 4.1B

1. Add water to sand to make it moldable without turning into mud. 4.1B.1
2. Stop pouring milk into their cup before it’s full or overflows. 4.1B.2

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1b. 5 Years 5.1B

1 Learn how to play Red Light, Green Light and explain the rules to another child. 5.1B.1

2 Experiment to discover what a magnet will stick to. 5.1B.2

c Recognizes real-world problems in their environment and begins to experiment with tools and other strategies to solve those problems. 1C

1c. 3 Years 3.1C

1 With adult support, look through the basket of playdough tools to find something that will cut playdough. 3.1C.1

2 Walk around the room touching a magnet to different things to find out what will stick to it. 3.1C.2

1c. 4 Years 4.1C

1 Ask a familiar adult to plug in a tablet that won't turn on. 4.1C.1

2 Think of and test several ways to build a sturdy ramp for their toy cars. 4.1C.2

1c. 5 Years 5.1C

1 Ask a familiar adult to look up the directions for a card game they want to play. 5.1C.1

Children use tools (digital or non-digital) to communicate and collaborate with others. 2

a Explores tools for the purpose of communication or self-expression. 2A

2a. 3 Years 3.2A

1 Use a mirror to watch themselves make happy and sad faces. 3.2A.1

2a. 4 Years 4.2A

1 Use a tablet to take pictures of themselves making different faces. 4.2A.1

2 Use adaptive devices to operate software on the computer. 4.2A.2

3 Join in with others of differing abilities in solving a puzzle or maze. 4.2A.3

2a. 5 Years 5.2A

1 Play a "coding" game using arrow cards to "program" another child's movements. 5.2A.1

2 Use a translation or interpreter app to help them communicate with a friend whose home language is not the same as their own. 5.2A.2

b Uses tools to work with others. 2B

2b. 3 Years 3.2B

1 Work with other children to take pictures for a collage. 3.2B.1

2 Use a computer next to another child. 3.2B.2

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2b. 4 Years 4.2B

1 Work with other children to use a tablet to collect data on their peers' favorite fruit. 4.2B.1

2 Use glue sticks, scissors, and paintbrushes to create a mural with other children. 4.2B.2

3 Take turns using a tablet with another child. 4.2B.3

2b. 5 Years 5.2B

1 Work as a group to draw a map on a tablet or chart paper. 5.2B.1

2 Plan and build a complex block construction with other children. 5.2B.2

Children explore and interact with (digital or non-digital) tools and resources. 3

a With adult support and supervision, explores (digital or non-digital) tools and resources to find information. 3A

3a. 3 Years 3.3A

1 With adult support and supervision, use a tablet to look for pictures of a plant's life cycle. 3.3A.1

2 Look at a picture of a block tower as an example of what they can build. 3.3A.2

3a. 4 Years 4.3A

1 With adult support and supervision, use a computer to look up instructions for how to plant seeds. 4.3A.1

2 With adult support, use non-standard measuring tools, such as blocks or carpet squares, to figure out how long something is. 4.3A.2

3 Look through a book about birds to find out how many different colors a parakeet can be. 4.3A.3

3a. 5 Years 5.3A

1 With adult supervision, look up dinosaurs in an encyclopedia app to find out what color dinosaurs were. 5.3A.1

2 Use a cup, compass, or stencil to draw a circle. 5.3A.2

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b Communicates about their experiences with (digital or non-digital) tools and resources. 3B

3b. 3 Years 3.3B

1 Describe a game they play on a family member's phone at home. 3.3B.1

2 Draw a picture of one of the characters from a favorite game. 3.3B.2

3 Show a familiar adult how they used scoops and funnels in the sensory table. 3.3B.3

4 Use adaptive devices for support when telling peers about themselves. 3.3B.4

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3b. 4 Years 4.3B

1. Use a tablet to take pictures of themselves making different faces. 4.3B.1
2. Tell about something they learned from a video clip about penguins. 4.3B.2
3. Draw pictures of their bicycle with more and more detail. 4.3B.3
4. Show others a video they made of themselves dancing. 4.3B.4

3b. 5 Years 5.3B

1. Follow along with a simple YouTube Kids video as it demonstrates how to draw a cat. 5.3B.1
2. Record their measurement of the rain in their science journal. 5.3B.2
3. Use an encyclopedia app to answer their questions about where penguins live. 5.3B.3

Children begin to use digital tools and resources responsibly. 4

a With adult support and supervision, uses digital tools and resources responsibly. 4A

4a. 3 Years 3.4A

1. Engage in a large group activity to make a short list of what is expected when they are using digital tools in the learning environment. 3.4A.1
2. When reminded, leave their food or drink on a table away from the device they're using. 3.4A.2
3. With modeling and guidance, turn a device on and off, and navigate to favorite apps. 3.4A.3
4. When reminded, shut down a device when they are finished using it. 3.4A.4
5. With modeling and practice, return a device to an adult when they see a low battery warning. 3.4A.5

4a. 4 Years 4.4A

1. Ask questions and engage in a conversation about how to use digital tools responsibly when the group is making a list of expectations. 4.4A.1
2. With modeling and guidance, carry a device carefully around the room to take photos. 4.4A.2
3. When reminded, and with modeling and guidance, plug a tablet into its charger when they see a low battery warning. 4.4A.3

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4a. 5 Years 5.4A

1 Make suggestions about how to use digital tools responsibly when the group is deciding on expectations for their use. 5.4A.1

2 With modeling and guidance, use a mouse to navigate a computer screen. 5.4A.2

3 With support, use different apps on a device to take a series of photos of a plant, and then include those photos in a slideshow of the plant's growth. 5.4A.3

4 With guidance and support, explain that a photo on the internet belongs to the person who took the picture. 5.4A.4

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b With adult guidance and supervision, begins to demonstrate an understanding of internet safety 4B

4b. 3 Years 3.4B

1 Emerging 3.4B.1

4b. 4 Years 4.4B

1 Ask questions and engage in a conversation about how to use the internet safely when the group is making a list of expectations. 4.4B.1

2 Use only provided apps and digital resources on their device. 4.4B.2

3 Share pictures by showing the device to other children. 4.4B.3

4b. 5 Years 5.4B

1 Make suggestions about how to use the internet safely when the group is deciding on expectations for their use. 5.4B.1

2 Use a tablet to take pictures of themselves making different faces. 5.4B.2

3 With guidance and supervision, use only those websites listed in a web browser's bookmarks. 5.4B.3

4 With guidance, remember to only open a web browser or internet-connected software when an adult is supervising. 5.4B.4

5 With modeling and support, use the share feature of a photo app to upload a photo of their block tower to an archive managed by a familiar adult. 5.4B.5

6 With modeling and support, remember that they should not share any personal information (name, age, address, phone number) online. 5.4B.6