Evaluating Water Competency Skill Attainment for Children

Research conducted by the American Red Cross

With financial and technical support from the Centers for Disease Control and Prevention and National Network of Public Health Institutes
Research Study Overview

- Beginning in December 2020 through July 2021, the American Red Cross conducted a 2-phase research study to examine:
  - Barriers to accessing swim lessons and water safety information among populations of children at higher risk of drowning (Phase 1).
  - Ages (estimated) that young children may acquire unsupported swim skills through developmentally appropriate group swim lessons (Phase 2).
    - This phase of the study was conducted in communities with populations at higher risk of drowning.
  - Funding for this initiative was provided to the National Network of Public Health Institutes (NNPHI) through a Cooperative Agreement with the Centers for Disease Control and Prevention (CDC – 6 NU38OT000303-03-01, CFDA 93.421). NNPHI and the Red Cross collaborated with the CDC’s National Center for Injury Prevention and Control on this initiative.
  - This report contains the findings of Phase 2 of this project. Phase 1 findings are provided in a separate report.
Among young children ages 1 to 4, drowning is the leading cause of fatal injuries in the United States (CDC, 2020).

Research indicates that an association exists between young children’s participation in swimming lessons and a decreased risk of drowning deaths (Brenner, Taneja, Haynie, Trumble, Qian, et al., 2009).

The American Academy of Pediatrics (AAP) recommends that children be “developmentally ready” for formal swimming lessons based not only the child’s age, but many “physical, social, behavioral, emotional, and cognitive skills balanced against the environmental risk of drowning” (Denny et al., 2021, p. 12).

Still, the AAP cites evidence that children ages 2 to 4 can acquire the motor skills needed for swimming, and that most children are developmentally ready for swimming by 4.5 years of age.
Central to this study is the concept of water competency. This study focused on the water skills derived from the American Red Cross definition of water competency (Quan, et al., 2014), which includes the following:

- Entry with total submersion
- Recovery to the surface and remaining there for at least 1 minute using floating or treading
- Change in body orientation to allow repositioning, turning at least 180° and facing toward an exit direction
- Propulsion, including leveling off and moving on front and/or on back position for at least 25 yards/meters
- Exit from the water
Gaps

- There is a lack of sufficient evidence related to the age at which children are able to achieve unsupported swimming behaviors.
- There is a lack of evidence evaluating swim lesson programs for young children that specifically examines the skills that lead to water competence through the progressions of the program.
- Phase 2 of this study conducted by the American Red Cross sought to help fill these research and evidence gaps.
Significance

- Phase 2 evaluated a specific swim lesson education program for young children (ages 1 to 5 years) and examined the skills that lead to water competence through the progression of the program.
  - The selected skills are key water competence components aimed at gaining unsupported swimming behaviors.
  - The components of water competence have different levels of behavior. The beginning levels are supported behaviors (i.e., physically supported by a caregiver, instructor, shallow water or a flotation device) and more advanced levels are unsupported behaviors (i.e., no physical support).
Research Purpose and Questions

- The purpose of the Phase 2 research was to determine at what developmentally appropriate ages it is reasonable for young children to acquire unsupported swimming behaviors.
- Outcomes from the study may impact the future design and delivery of swim instruction.

Phase 2 Research Questions:
1. At what ages can unsupported swimming behaviors for water competence components of water entry and exit, breath control, back flotation/buoyancy, and changing body position and orientation be demonstrated?
2. Across these 5 water competence components, what degree of improvement can be attained in an 8-lesson session?
Methodology

- An 8-lesson swim session was conducted at 2 locations in central and south Florida.
- Inclusion criteria were as follows: (1) a child aged 1 to 5 years; (2) informed consent from the parent or caregiver; and (3) minimum attendance of 4 lessons (Research Question 2 only).
- Parent and Child Aquatics (PCA) and Preschool Aquatics (PSA) levels of the program were presented.
  - PCA is designed as an in-water parent/caregiver-assisted experience for children ages 1 to about 3 years old.
  - PSA is designed for children about 4 to 5 years old, without their parent/caregiver in the water.
- Parents/caregivers self-selected either the PCA or PSA sessions in which to enroll their child(ren).
- Two versions of the Red Cross PCA and PSA courses were presented to participants (A = Typical, B = Modified)
  - Modifications aimed to encourage earlier introduction of the five selected unsupported water competence components at both PCA and PSA levels.
  - Parents/caregivers were not aware in which version, A or B, their child was assigned.
Methodology (Continued)

- Participants were recruited through local connections by program operators/aquatic managers.
- Participants received an additional session of swim lessons as an incentive.
- Parents/caregivers were presented with pre and post surveys to assess past experiences with swim lessons and water safety, as well as basic demographics.
- Swim skills performed by children 1 to 5 years old were assessed in a pre and post design by members of the research team using five water competence components.
- All swim sessions were video recorded to assess validity and reliability of the instrument, interpretation and future analysis.
Data Analysis

- **Data Collection**
  - Two methods were employed for assigning developmental steps to children’s swimming behavior.
    - The primary mode of data collection was live observation on Day 1 and Day 8.
    - The secondary mode employed for those individuals who were absent on Day 1 or Day 8 used video from their first and/or last days of attendance.

- **Reliability and Objectivity**
  - Observer objectivity was established by comparing the live observation data steps with independent observations from the video recordings.
    - Observer objectivity was calculated using proportion of exact agreement (P), with a minimum acceptable criterion of P > .80.
    - Based on a random sample comparing live observation with video, P = .90.
  - Consistency of the behavior was established by using video and assigning developmental steps based on a sample of day-to-day behavior.

Continued on next slide
Data Analysis (Continued)

- **Water Competence Developmental Steps**
  - Each child swimming’s behavior was assessed for five separate developmental water competence components:
    - Water entry (WE)
    - Water exit (WX)
    - Back float (BF)
    - Breath control (BC)
    - Change in body orientation (CBO)

- **Additional Variable Definitions**
  - Max step: the highest development step demonstrated by each child for each of the five water competence components
  - Unsupported/supported behavior: A binary variable to indicate observed skill level based on the multiple-assessment criteria (see next slide)
Data Analysis (Continued)
Explanation of the Assessment Instrument
Blue represents the Step(s) of “Unsupported Behavior Demonstrated”

Water Entry Component Sequence (WE)
1. No voluntary entry demonstrated
2. Caregiver- or flotation-supported feet-first entry
3. Unassisted voluntary feet-first entry

Water Exit Component Sequence (WX)
1. No voluntary exit demonstrated
2. Caregiver-supported exit to pool side
3. Flotation-supported or caregiver-assisted exit to pool side
4. Independent exit to pool side
5. Independent exit to pool side and exit from pool (over side, up stairs or ramp or ladder)

Back (Supine) Buoyancy/Flotation Component Sequence (BF)
1. No back flotation demonstrated
2. Back flotation with caregiver/instructor support
3. Back flotation with instructional flotation device support
4. Momentary (1-3 sec.) voluntary back flotation
5. Independent (>3 sec.) voluntary back flotation

Breath Control Component Sequence (BC)
1. Reflexive breath holding when face is voluntarily submerged
2. Allowing water voluntarily in and/or around mouth, resulting in shipping or spouting
3. Voluntary partial facial submersion (mouth and/or nose)
4. Voluntary full head submersion
5. Repeated voluntary submersion/breath-holding in water
6. Extended voluntary breath holding and/or repeated rhythmic breathing with water safety skills

Change in Body Orientation (turning around while vertical) Component Sequence (CBO)
1. No change in body orientation demonstrated
2. Caregiver/instructor-supported body orientation change (turning around)
3. Body orientation change (turning around) while supported by flotation device
4. Independent voluntary body orientation change (turning around)

American Red Cross Training Services
Data Analysis (Continued)

- Research Question 1:
  - Max step is coded dichotomously to supported or unsupported behaviors based on indicators of each competency.
  - 100% stacked bar chart of all assessment criteria illustrate the number of participants at each step.
  - Modified developmental curves (Robertson, et al., 1980) indicated frequency of unsupported behavior demonstrated by participants.
    - Development curves are split based on PCA and PSA groups.
Data Analysis (Continued)

- Research Question 2:
  - Based on step change from pre to post assessment
  - 100% stacked bar chart of pre and post assessment scores:
    - Illustrate the number of participants at each step
    - Classify the presence of supported and unsupported behaviors as binary outcomes
    - Present PCA and PSA group behaviors separately
  - Average improvement in pre and post assessment scores were calculated for each assessment criterion.
    - Calculation was also completed based on separate PCA and PSA groups.
  - Wilcoxon Signed-Rank test evaluated the statistical significance of pre and post changes.
  - Mann-Whitney U test evaluated the statistical significance of pre and post change between A and B groups.
Data Summary – Participation

- Target sample size of 96 to 128 adult/child pairs or children (based on minimum and maximum class size allowable by program design)
- 99 children were enrolled in lessons
- 74 children participated in at least 1 class
- 71 children had either pre and/or post assessment data
- Among those with documented Institutional Review Board (IRB) consent and criteria (e.g., 1 to 5 years old):
  - 60 children with pre and/or post data ("max step" data) for Research Question 1
  - 45 children with pre and post data for Research Question 2

Note: An additional inclusion criteria for Research Question 2 (e.g., both pre and post scores were required) reduced the sample size.
## Participant Profile: Swimming-Related

### Parental Rating of Child’s Swim Skill Level

<table>
<thead>
<tr>
<th>Skill Level</th>
<th>PCA</th>
<th>PSA</th>
<th>All</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-Swimmer</td>
<td>24</td>
<td>22</td>
<td>46</td>
</tr>
<tr>
<td>Beginner swimmer</td>
<td>7</td>
<td>7</td>
<td>14</td>
</tr>
<tr>
<td>Intermediate swimmer</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>31</td>
<td>30</td>
<td>61</td>
</tr>
</tbody>
</table>

### Parental Report of Child’s Prior Swim Lesson Experience

<table>
<thead>
<tr>
<th>Experience</th>
<th>PCA</th>
<th>PSA</th>
<th>All</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>1</td>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td>No</td>
<td>31</td>
<td>24</td>
<td>55</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>32</td>
<td>31</td>
<td>65</td>
</tr>
</tbody>
</table>

PCA – Parent and Child Aquatics  
PSA – Preschool Aquatics
## Participant Profile: Age and Gender Identity

### Child’s Age

<table>
<thead>
<tr>
<th>Age Range</th>
<th>PCA</th>
<th>PSA</th>
<th>All</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 to 1.9 years</td>
<td>13</td>
<td>1</td>
<td>14</td>
</tr>
<tr>
<td>2 to 2.9 years</td>
<td>17</td>
<td>2</td>
<td>19</td>
</tr>
<tr>
<td>3 to 3.9 years</td>
<td>2</td>
<td>9</td>
<td>11</td>
</tr>
<tr>
<td>4 to 4.9 years</td>
<td>13</td>
<td></td>
<td>13</td>
</tr>
<tr>
<td>5 to 5.9 years</td>
<td>6</td>
<td></td>
<td>6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>32</td>
<td>31</td>
<td>63</td>
</tr>
</tbody>
</table>

### Child’s Gender Identity

<table>
<thead>
<tr>
<th>Gender</th>
<th>PCA</th>
<th>PSA</th>
<th>All</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>17</td>
<td>17</td>
<td>34</td>
</tr>
<tr>
<td>Female</td>
<td>15</td>
<td>14</td>
<td>29</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>32</strong></td>
<td><strong>31</strong></td>
<td><strong>63</strong></td>
</tr>
</tbody>
</table>

PCA – Parent and Child Aquatics  
PSA – Preschool Aquatics
## Participant Profile: Race and Ethnicity

The table below shows the distribution of child’s race and ethnicity for the Parent and Child Aquatics (PCA) and Preschool Aquatics (PSA) groups.

### Child’s Race

<table>
<thead>
<tr>
<th>Race/Origin</th>
<th>PCA</th>
<th>PSA</th>
<th>All</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>9</td>
<td>7</td>
<td>16</td>
</tr>
<tr>
<td>Black</td>
<td>7</td>
<td>11</td>
<td>18</td>
</tr>
<tr>
<td>American Indian or Alaska Native</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Asian or Pacific Islander</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Other</td>
<td>2</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Prefer not to say</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>18</strong></td>
<td><strong>20</strong></td>
<td><strong>38</strong></td>
</tr>
</tbody>
</table>

### Hispanic or Latino Children

<table>
<thead>
<tr>
<th>Hispanic or Latino Children</th>
<th>PCA</th>
<th>PSA</th>
<th>All</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>3</td>
<td>5</td>
<td>8</td>
</tr>
<tr>
<td>No</td>
<td>14</td>
<td>15</td>
<td>29</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>17</strong></td>
<td><strong>20</strong></td>
<td><strong>37</strong></td>
</tr>
</tbody>
</table>

Note: Race and ethnicity were reported only in the post-participation survey. The numbers represent those who were present on Day 8.
Participant Profile: Family Income

<table>
<thead>
<tr>
<th>Income Range</th>
<th>PCA</th>
<th>PSA</th>
<th>All</th>
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</thead>
<tbody>
<tr>
<td>Less than $15,000</td>
<td>1</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>$15,000–$24,999</td>
<td>2</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>$25,000–$34,999</td>
<td>7</td>
<td>1</td>
<td>8</td>
</tr>
<tr>
<td>$35,000–$44,999</td>
<td>0</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>$45,000–$54,999</td>
<td>4</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>$55,000–$74,999</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>$75,000–$99,999</td>
<td>1</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>$100,000 or more</td>
<td>0</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Prefer not to answer</td>
<td>1</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>17</td>
<td>19</td>
<td>36</td>
</tr>
</tbody>
</table>

PCA – Parent and Child Aquatics  
PSA – Preschool Aquatics

Note: Family income was reported only in the post participation survey. The numbers represent the those who were present on Day 8.
Research Results Overview

**Research Question 1**
At what ages can unsupported swimming behaviors for water competence components of water entry and exit, breath control, back flotation/buoyancy, and changing body position and orientation be demonstrated?

- The youngest child age category at which unsupported water entry and water exit was demonstrated was 1 to 1.9 years old.
- The youngest child age category to demonstrate unsupported breath control, back flotation/buoyancy, and changing body orientation was 2 to 2.9 years old.

**Research Question 2**
Across these 5 water competence components, what degree of improvement can be attained in an 8-lesson session?

- The greatest improvement occurred in water exit (M = 1.61), followed by breath control (M = 0.80), back flotation/buoyancy (M = 0.57), water entry (M = 0.48), and changing body position and orientation (M = 0.48).
- Across all five components, improvements from pre to post test were statistically significant.
- No significant differences in average improvement were detected between A and B groups except for water entry, where B group’s improvement was lower (P < .005).

M = Mean
Research Question 1 Results

1. At what ages can unsupported swimming behaviors for water competence components of water entry and exit, breath control, back flotation/buoyancy, and changing body position and orientation be demonstrated?

<table>
<thead>
<tr>
<th>Score of…</th>
<th>Water Entry</th>
<th>Water Exit</th>
<th>Breath Control</th>
<th>Back Float</th>
<th>Change in Body Orient.</th>
</tr>
</thead>
<tbody>
<tr>
<td>…meaning:</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>Unassisted voluntary feet-first entry</td>
<td>Independent exit to side</td>
<td>Repeated voluntary submersion/breath-holding in water</td>
<td>Independent (&gt;3 sec.) voluntary back flotation</td>
<td>Independent voluntary body orientation change (turning around)</td>
<td></td>
</tr>
</tbody>
</table>

**ALL**

<table>
<thead>
<tr>
<th>Count</th>
<th>Minimum age</th>
<th>Average age</th>
</tr>
</thead>
<tbody>
<tr>
<td>38</td>
<td>1.6</td>
<td>3.4</td>
</tr>
<tr>
<td>38</td>
<td>1.6</td>
<td>3.5</td>
</tr>
<tr>
<td>10</td>
<td>2.8</td>
<td>4.0</td>
</tr>
<tr>
<td>6</td>
<td>2.9</td>
<td>4.2</td>
</tr>
<tr>
<td>9</td>
<td>2.9</td>
<td>4.0</td>
</tr>
</tbody>
</table>

**PCA**

<table>
<thead>
<tr>
<th>Count</th>
<th>Minimum age</th>
<th>Average age</th>
</tr>
</thead>
<tbody>
<tr>
<td>17</td>
<td>1.6</td>
<td>2.4</td>
</tr>
<tr>
<td>17</td>
<td>1.6</td>
<td>2.5</td>
</tr>
<tr>
<td>3</td>
<td>2.8</td>
<td>3.0</td>
</tr>
<tr>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>2</td>
<td>2.9</td>
<td>3.2</td>
</tr>
</tbody>
</table>

**PSA**

<table>
<thead>
<tr>
<th>Count</th>
<th>Minimum age</th>
<th>Average age</th>
</tr>
</thead>
<tbody>
<tr>
<td>21</td>
<td>2.0</td>
<td>4.3</td>
</tr>
<tr>
<td>21</td>
<td>3.0</td>
<td>4.4</td>
</tr>
<tr>
<td>7</td>
<td>3.0</td>
<td>4.4</td>
</tr>
<tr>
<td>6</td>
<td>2.9</td>
<td>4.2</td>
</tr>
<tr>
<td>7</td>
<td>3.0</td>
<td>4.3</td>
</tr>
</tbody>
</table>

As determined by max step of either pre or post assessment.
Research Question 1 Results
Water Entry

1. At what ages can unsupported swimming behaviors for water competence components of water entry and exit, breath control, back flotation/buoyancy, and changing body position and orientation be demonstrated?

Number of Participants by Step, as Percent of Group

Water Entry Component Sequence
1. No voluntary entry demonstrated
2. Caregiver- or flotation-supported feet-first entry
3. Unassisted voluntary feet-first entry

[Bar chart showing the number of participants by step for different age groups]
1. At what ages can unsupported swimming behaviors for water competence components of water entry and exit, breath control, back flotation/buoyancy, and changing body position and orientation be demonstrated?

Research Question 1 Results
Water Entry

Frequency of Unsupported Water Entry Across Ages

Water Entry Component Sequence
1. No voluntary entry demonstrated
2. Caregiver- or flotation-supported feet-first entry
3. Unassisted voluntary feet-first entry
1. At what ages can unsupported swimming behaviors for water competence components of water entry and exit, breath control, back flotation/buoyancy, and changing body position and orientation be demonstrated?

**Research Question 1 Results**

**Water Entry**

**Frequency of Unsupported Water Entry Across Ages and Groups**

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Parent and Child Aquatics</th>
<th>Preschool Aquatics</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-1.9 year olds</td>
<td>36%</td>
<td>100%</td>
</tr>
<tr>
<td>2-2.9 year olds</td>
<td>65%</td>
<td>44%</td>
</tr>
<tr>
<td>3-3.9 year olds</td>
<td>100%</td>
<td>69%</td>
</tr>
<tr>
<td>4-4.9 year olds</td>
<td></td>
<td>83%</td>
</tr>
<tr>
<td>5-5.9 year olds</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Unsupervised behavior demonstrated
Research Question 1 Results

Water Exit

1. At what ages can unsupported swimming behaviors for water competence components of water entry and exit, breath control, back flotation/buoyancy, and changing body position and orientation be demonstrated?

Number of Participants by Step, as Percent of Group

Water Exit Component Sequence
1. No voluntary exit demonstrated
2. Caregiver-supported exit to pool side
3. Flotation-supported or caregiver-assisted exit to pool side
4. Independent exit to pool side
5. Independent exit to pool side and exit from pool (over side, up stairs or ramp or ladder)

Indicates steps at which the behavior is demonstrated independently
Research Question 1 Results

Water Exit

1. At what ages can unsupported swimming behaviors for water competence components of water entry and exit, breath control, back flotation/buoyancy, and changing body position and orientation be demonstrated?

Frequency of Unsupported Water Exit Across Ages

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Frequency of Unsupported Exit</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-1.9 year olds</td>
<td>27%</td>
</tr>
<tr>
<td>2-2.9 year olds</td>
<td>63%</td>
</tr>
<tr>
<td>3-3.9 year olds</td>
<td>73%</td>
</tr>
<tr>
<td>4-4.9 year olds</td>
<td>77%</td>
</tr>
<tr>
<td>5-5.9 year olds</td>
<td>67%</td>
</tr>
</tbody>
</table>

Water Exit Component Sequence

1. No voluntary exit demonstrated
2. Caregiver-supported exit to pool side
3. Flotation-supported or caregiver-assisted exit to pool side
4. Independent exit to pool side
5. Independent exit to pool side and exit from pool (over side, up stairs or ramp or ladder)
Research Question 1 Results

Water Exit

1. At what ages can unsupported swimming behaviors for water competence components of water entry and exit, breath control, back flotation/buoyancy, and changing body position and orientation be demonstrated?

Frequency of Unsupported Water Exit Across Ages and Groups

Parent and Child Aquatics

- 1-1.9 year olds: 27%
- 2-2.9 year olds: 71%
- 3-3.9 year olds: 100%

Preschool Aquatics

- 2-2.9 year olds: 0%
- 3-3.9 year olds: 67%
- 4-4.9 year olds: 77%
- 5-5.9 year olds: 67%
Research Question 1 Results
Breath Control

1. At what ages can unsupported swimming behaviors for water competence components of water entry and exit, breath control, back flotation/buoyancy, and changing body position and orientation be demonstrated?

Number of Participants by Step, as Percent of Group

<table>
<thead>
<tr>
<th>Step</th>
<th>1-1.9 year olds</th>
<th>2-2.9 year olds</th>
<th>3-3.9 year olds</th>
<th>4-4.9 year olds</th>
<th>5-5.9 year olds</th>
<th>All</th>
</tr>
</thead>
<tbody>
<tr>
<td>0%</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>3</td>
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<tr>
<td>10%</td>
<td>2</td>
<td>4</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>20%</td>
<td>4</td>
<td>11</td>
<td>4</td>
<td>5</td>
<td>3</td>
<td>28</td>
</tr>
<tr>
<td>30%</td>
<td>4</td>
<td>11</td>
<td>4</td>
<td>5</td>
<td>3</td>
<td>28</td>
</tr>
<tr>
<td>40%</td>
<td>2</td>
<td>4</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>50%</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td>60%</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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</tr>
<tr>
<td>70%</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>80%</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>90%</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>100%</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Breath Control Component Sequence

1. Reflexive breath holding when face is voluntarily submerged
2. Allowing water voluntarily in and/or around mouth resulting in shipping or spouting
3. Voluntary partial facial submersion (mouth and/or nose)
4. Voluntary full head submersion
5. Repeated voluntary submersion/breath-holding in water
6. Extended voluntary breath holding and/or repeated rhythmic breathing with water safety skills

 Indicates steps at which the behavior is demonstrated independently
Research Question 1 Results

Breath Control

1. At what ages can unsupported swimming behaviors for water competence, components of water entry and exit, breath control, back flotation/buoyancy, and changing body position and orientation be demonstrated?

Frequency of Unsupported Breath Control Across Ages

Breath Control Component Sequence
1. Reflexive breath holding when face is voluntarily submerged
2. Allowing water voluntarily in and/or around mouth resulting in shipping or spouting
3. Voluntary partial facial submersion (mouth and/or nose)
4. Voluntary full head submersion
5. Repeated voluntary submersion/breath-holding in water
6. Extended voluntary breath holding and/or repeated rhythmic breathing with water safety skills
Research Question 1 Results
Breath Control

1. At what ages can unsupported swimming behaviors for water competence components of water entry and exit, breath control, back flotation/buoyancy, and changing body position and orientation be demonstrated?

Frequency of Unsupported Breath Control Across Ages and Groups

- **Parent and Child Aquatics**
  - 1-1.9 year olds: 0%
  - 2-2.9 year olds: 12%
  - 3-3.9 year olds: 50%

- **Preschool Aquatics**
  - 2-2.9 year olds: 0%
  - 3-3.9 year olds: 22%
  - 4-4.9 year olds: 23%
  - 5-5.9 year olds: 33%

American Red Cross
Training Services
Research Question 1 Results
Back Flotation

1. At what ages can unsupported swimming behaviors for water competence components of water entry and exit, breath control, back flotation/buoyancy, and changing body position and orientation be demonstrated?

Number of Participants by Step, as Percent of Group

<table>
<thead>
<tr>
<th>Step</th>
<th>1-1.9 year olds</th>
<th>2-2.9 year olds</th>
<th>3-3.9 year olds</th>
<th>4-4.9 year olds</th>
<th>5-5.9 year olds</th>
<th>All</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level 1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>7</td>
<td>2</td>
<td>9</td>
</tr>
<tr>
<td>Level 2</td>
<td>14</td>
<td>14</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>35</td>
</tr>
<tr>
<td>Level 3</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>1</td>
<td>0</td>
<td>4</td>
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<tr>
<td>Level 4</td>
<td>9</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>24</td>
</tr>
<tr>
<td>Level 5 (Independent)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>6</td>
</tr>
</tbody>
</table>

Indicates step at which the behavior is demonstrated independently

Back (Supine) Buoyancy/Flotation Component Sequence
1. No back flotation demonstrated
2. Back flotation with caregiver/instructor support
3. Back flotation with instructional flotation device support
4. Momentary (1-3 sec.) voluntary back flotation
5. Independent (>3 sec.) voluntary back flotation

American Red Cross Training Services
1. At what ages can unsupported swimming behaviors for water competence components of water entry and exit, breath control, back flotation/buoyancy, and changing body position and orientation be demonstrated?

**Back (Supine) Buoyancy/Flotation Component Sequence**
- No back flotation demonstrated
- Back flotation with caregiver/instructor support
- Back flotation with instructional flotation device support
- Momentary (1-3 sec.) voluntary back flotation
- Independent (>3 sec.) voluntary back flotation

**Frequency of Unsupported Back Float Across Ages**

<table>
<thead>
<tr>
<th>Age Group</th>
<th>0%</th>
<th>5%</th>
<th>9%</th>
<th>23%</th>
<th>17%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-1.9 year olds</td>
<td>0%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-2.9 year olds</td>
<td></td>
<td>5%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3-3.9 year olds</td>
<td></td>
<td></td>
<td>9%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4-4.9 year olds</td>
<td></td>
<td></td>
<td></td>
<td>23%</td>
<td></td>
</tr>
<tr>
<td>5-5.9 year olds</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>17%</td>
</tr>
</tbody>
</table>

- Unsupported behavior demonstrated
Research Question 1 Results
Back Flotation

1. At what ages can unsupported swimming behaviors for water competence components of water entry and exit, breath control, back flotation/buoyancy, and changing body position and orientation be demonstrated?

Frequency of Unsupported Back Float Across Ages and Group

Parent and Child Aquatics

- 1-1.9 year olds: 0%
- 2-2.9 year olds: 0%
- 3-3.9 year olds: 0%

Preschool Aquatics

- 2-2.9 year olds: 50%
- 3-3.9 year olds: 49%
- 4-4.9 year olds: 23%
- 5-5.9 year olds: 17%

American Red Cross Training Services
Research Question 1 Results
Change in Body Orientation

1. At what ages can unsupported swimming behaviors for water competence components of water entry and exit, breath control, back flotation/buoyancy, and changing body position and orientation be demonstrated?

Change in Body Orientation (turning around while vertical) Component Sequence
1. No change in body orientation demonstrated
2. Caregiver/instructor-supported body orientation change (turning around)
3. Body orientation change (turning around) while supported by flotation device
4. Independent voluntary body orientation change (turning around)
Research Question 1 Results
Change in Body Orientation

1. At what ages can unsupported swimming behaviors for water competence components of water entry and exit, breath control, back flotation/buoyancy, and changing body position and orientation be demonstrated?

Frequency of Unsupported Change in Body Position Orientation Across Ages

<table>
<thead>
<tr>
<th>Age Group</th>
<th>% of Occurrences Within Age Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-1.9 year olds</td>
<td>0%</td>
</tr>
<tr>
<td>2-2.9 year olds</td>
<td>5%</td>
</tr>
<tr>
<td>3-3.9 year olds</td>
<td>18%</td>
</tr>
<tr>
<td>4-4.9 year olds</td>
<td>38%</td>
</tr>
<tr>
<td>5-5.9 year olds</td>
<td>17%</td>
</tr>
</tbody>
</table>

Change in Body Orientation (turning around while vertical) Component Sequence
1. No change in body orientation demonstrated
2. Caregiver/instructor-supported body orientation change (turning around)
3. Body orientation change (turning around) while supported by flotation device
4. Independent voluntary body orientation change (turning around)
1. At what ages can unsupported swimming behaviors for water competence components of water entry and exit, breath control, back flotation/buoyancy, and changing body position and orientation be demonstrated?

**Frequency of Unsupported Change in Body Orientation Across Ages and Groups**

**Parent and Child Aquatics**

- 1-1.9 year olds: 0%
- 2-2.9 year olds: 6%
- 3-3.9 year olds: 50%

**Preschool Aquatics**

- 2-2.9 year olds: 0%
- 3-3.9 year olds: 11%
- 4-4.9 year olds: 38%
- 5-5.9 year olds: 17%
Research Question 2 Results
Pre and Post Program Unsupported Skill Summary

2. Across these 5 water competence components, what degree of improvement was attained in an 8-lesson session? (Average attendance: 6.9 sessions)

All Children, as Percent of Occurrence

<table>
<thead>
<tr>
<th>Water Entry</th>
<th>Water Exit</th>
<th>Breath Control</th>
<th>Back Flotation</th>
<th>∆ in Body Orientation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre</td>
<td>Post</td>
<td>Pre</td>
<td>Post</td>
<td>Pre</td>
</tr>
<tr>
<td>71%</td>
<td>29%</td>
<td>76%</td>
<td>24%</td>
<td>2%</td>
</tr>
<tr>
<td>29%</td>
<td>71%</td>
<td>24%</td>
<td>76%</td>
<td>22%</td>
</tr>
<tr>
<td>98%</td>
<td>98%</td>
<td>98%</td>
<td>98%</td>
<td>87%</td>
</tr>
<tr>
<td>91%</td>
<td>82%</td>
<td>91%</td>
<td>82%</td>
<td></td>
</tr>
</tbody>
</table>

Supported behaviors demonstrated  Unsupported behaviors demonstrated

American Red Cross Training Services
Research Question 2 Results
Pre and Post Program Unsupported Skill Summary

2. Across these 5 water competence components, what degree of improvement was attained in an 8-lesson session? (Average attendance: 6.9 sessions)

Parent and Child Aquatics, as Percent of Occurrence

<table>
<thead>
<tr>
<th></th>
<th>Pre</th>
<th>Post</th>
<th>Pre</th>
<th>Post</th>
<th>Pre</th>
<th>Post</th>
<th>Pre</th>
<th>Post</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Entry</td>
<td>92%</td>
<td>29%</td>
<td>71%</td>
<td>13%</td>
<td>0%</td>
<td>13%</td>
<td>0%</td>
<td>13%</td>
</tr>
<tr>
<td>Water Exit</td>
<td>8%</td>
<td>13%</td>
<td>67%</td>
<td>0%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Breath Control</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Back Flotation</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>△ in Body Orientation</td>
<td>0%</td>
<td>8%</td>
<td>0%</td>
<td>92%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>

- **Supported behaviors demonstrated**
- **Unsupported behaviors demonstrated**
2. Across these five water competence components, what degree of improvement was attained in an 8-lesson session? (Average attendance: 6.9 sessions)

### Preschool Aquatics, as Percent of Occurrence

<table>
<thead>
<tr>
<th>Water Entry</th>
<th>Water Exit</th>
<th>Breath Control</th>
<th>Back Flotation</th>
<th>∆ in Body Orientation</th>
</tr>
</thead>
<tbody>
<tr>
<td>52% (Pre)</td>
<td>38% (Post)</td>
<td>5% (Pre)</td>
<td>5% (Pre)</td>
<td>19% (Pre)</td>
</tr>
<tr>
<td>71% (Post)</td>
<td>86% (Post)</td>
<td>95% (Post)</td>
<td>95% (Post)</td>
<td>29% (Post)</td>
</tr>
</tbody>
</table>

- **Water Entry**: 52% supported, 29% unsupported.
- **Water Exit**: 38% supported, 14% unsupported.
- **Breath Control**: 5% supported, 67% unsupported.
- **Back Flotation**: 95% supported, 71% unsupported.
- **Δ in Body Orientation**: 19% supported, 29% unsupported.

**Legend**:
- **Blue**: Supported behaviors demonstrated
- **Gray**: Unsupported behaviors demonstrated
## Research Question 2 Results

2. Across these 5 water competence components, what degree of improvement was attained in an 8-lesson session? (Average attendance: 6.9 sessions)

<table>
<thead>
<tr>
<th></th>
<th>Water Entry</th>
<th>Water Exit</th>
<th>Breath Control</th>
<th>Back Float</th>
<th>Change Body Orientation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>All</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-1.9 year olds</td>
<td>0.75</td>
<td>0.50</td>
<td>0.25</td>
<td>0.00</td>
<td>0.38</td>
</tr>
<tr>
<td>2-2.9 year olds</td>
<td>0.69</td>
<td>2.13</td>
<td>0.81</td>
<td>0.25</td>
<td>0.50</td>
</tr>
<tr>
<td>3-3.9 year olds</td>
<td>0.33</td>
<td>1.78</td>
<td>0.89</td>
<td>1.22</td>
<td>0.56</td>
</tr>
<tr>
<td>4-4.9 year olds</td>
<td>0.22</td>
<td>1.44</td>
<td>1.11</td>
<td>0.56</td>
<td>0.44</td>
</tr>
<tr>
<td>5-5.9 year olds</td>
<td>0.00</td>
<td>2.00</td>
<td>1.33</td>
<td>2.00</td>
<td>0.33</td>
</tr>
<tr>
<td><strong>Average</strong></td>
<td>0.49</td>
<td>1.62</td>
<td>0.82</td>
<td>0.58</td>
<td>0.47</td>
</tr>
</tbody>
</table>

### PCA

<table>
<thead>
<tr>
<th></th>
<th>Water Entry</th>
<th>Water Exit</th>
<th>Breath Control</th>
<th>Back Float</th>
<th>Change Body Orientation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-1.9 year olds</td>
<td>0.75</td>
<td>0.50</td>
<td>0.25</td>
<td>0.00</td>
<td>0.38</td>
</tr>
<tr>
<td>2-2.9 year olds</td>
<td>0.64</td>
<td>2.43</td>
<td>0.86</td>
<td>0.07</td>
<td>0.43</td>
</tr>
<tr>
<td>3-3.9 year olds</td>
<td>1.00</td>
<td>2.00</td>
<td>0.50</td>
<td>1.50</td>
<td>0.50</td>
</tr>
<tr>
<td><strong>Average</strong></td>
<td>0.71</td>
<td>1.75</td>
<td>0.63</td>
<td>0.17</td>
<td>0.42</td>
</tr>
</tbody>
</table>

### PSA

<table>
<thead>
<tr>
<th></th>
<th>Water Entry</th>
<th>Water Exit</th>
<th>Breath Control</th>
<th>Back Float</th>
<th>Change Body Orientation</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-2.9 year olds</td>
<td>1.00</td>
<td>0.00</td>
<td>0.50</td>
<td>1.50</td>
<td>1.00</td>
</tr>
<tr>
<td>3-3.9 year olds</td>
<td>0.14</td>
<td>1.71</td>
<td>1.00</td>
<td>1.14</td>
<td>0.57</td>
</tr>
<tr>
<td>4-4.9 year olds</td>
<td>0.22</td>
<td>1.44</td>
<td>1.11</td>
<td>0.56</td>
<td>0.44</td>
</tr>
<tr>
<td>5-5.9 year olds</td>
<td>0.00</td>
<td>2.00</td>
<td>1.33</td>
<td>2.00</td>
<td>0.33</td>
</tr>
<tr>
<td><strong>Average</strong></td>
<td>0.24</td>
<td>1.48</td>
<td>1.05</td>
<td>1.05</td>
<td>0.52</td>
</tr>
</tbody>
</table>

Notes:

- PCA – Parent and Child Aquatics; PSA – Preschool Aquatics
- Levels do not reflect continuous variables, e.g., progression from a 2 to a 3 level on Breath Control may not represent an equivalent level of progression as growth from a level 3 to a 4
Research Question 2 Results

2. Across these 5 water competence components, what degree of improvement was attained in an 8-lesson session? (Average attendance: 6.9 sessions)

Wilcoxon Signed-Rank Results
Used to evaluate differences in ordinal, matched-pair (pre/post) data

<table>
<thead>
<tr>
<th>Component</th>
<th>Mean, Standard Deviation (M, SD)$^a$</th>
<th>Z</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Entry</td>
<td>2.22 (0.56) 2.71 (0.49)</td>
<td>-4.69</td>
<td>&lt; .001***</td>
</tr>
<tr>
<td>Water Exit</td>
<td>2.62 (0.86) 4.24 (1.15)</td>
<td>-5.17</td>
<td>&lt; .001***</td>
</tr>
<tr>
<td>Breath Control</td>
<td>2.69 (0.90) 3.51 (1.20)</td>
<td>-4.4</td>
<td>&lt; .001***</td>
</tr>
<tr>
<td>Back Flotation</td>
<td>2.16 (0.74) 2.73 (1.12)</td>
<td>-3.45</td>
<td>.001**</td>
</tr>
<tr>
<td>Change in Body Orientation</td>
<td>2.49 (0.73) 2.96 (0.64)</td>
<td>-3.87</td>
<td>&lt;0.001***</td>
</tr>
</tbody>
</table>

$^a$Mean and standard deviation provided for context. Levels do not reflect continuous variables, e.g., progression from a 2 to a 3 level on Breath Control may not represent an equivalent level of progression as growth from a level 3 to a 4.
Research Question 2 Results

2. Across these 5 water competence components, what degree of improvement was attained in an 8-lesson session? (Average attendance: 6.9 sessions)

Mann Whitney U Test

Used to evaluate differences in average change between A & B groups

<table>
<thead>
<tr>
<th>All Children</th>
<th>Average (M) Change</th>
<th>All (n = 45)</th>
<th>A (n = 23)</th>
<th>B (n = 22)</th>
<th>U</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Entry</td>
<td></td>
<td>0.49</td>
<td>0.70</td>
<td>0.27</td>
<td>146</td>
<td>.005**</td>
</tr>
<tr>
<td>Water Exit</td>
<td></td>
<td>1.62</td>
<td>1.65</td>
<td>1.59</td>
<td>232</td>
<td>.621</td>
</tr>
<tr>
<td>Breath Control</td>
<td></td>
<td>0.82</td>
<td>0.78</td>
<td>0.86</td>
<td>242</td>
<td>.788</td>
</tr>
<tr>
<td>Back Float</td>
<td></td>
<td>0.58</td>
<td>0.35</td>
<td>0.82</td>
<td>192.5</td>
<td>.113</td>
</tr>
<tr>
<td>Change in Body Orientation</td>
<td></td>
<td>0.47</td>
<td>0.52</td>
<td>0.41</td>
<td>217.5</td>
<td>.363</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Indian River Participants</th>
<th>Average (M) Change</th>
<th>All (n = 33)</th>
<th>A (n = 19)</th>
<th>B (n = 14)</th>
<th>U</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Entry</td>
<td></td>
<td>0.55</td>
<td>0.74</td>
<td>0.29</td>
<td>73</td>
<td>.011*</td>
</tr>
<tr>
<td>Water Exit</td>
<td></td>
<td>1.52</td>
<td>1.58</td>
<td>1.43</td>
<td>121</td>
<td>.648</td>
</tr>
<tr>
<td>Breath Control</td>
<td></td>
<td>0.85</td>
<td>0.84</td>
<td>0.86</td>
<td>118</td>
<td>.577</td>
</tr>
<tr>
<td>Back Float</td>
<td></td>
<td>0.39</td>
<td>0.26</td>
<td>0.57</td>
<td>118</td>
<td>.444</td>
</tr>
<tr>
<td>Change in Body Orientation</td>
<td></td>
<td>0.52</td>
<td>0.58</td>
<td>0.43</td>
<td>108</td>
<td>.313</td>
</tr>
</tbody>
</table>

*p < 0.05, **p < 0.01

Note: aMean provided for context. Levels do not reflect continuous variables, e.g., progression from a 2 to a 3 level on Breath Control may not represent an equivalent level of progression as growth from a level 3 to a 4.
Interpreting Results: Research Question 1

- Children in group lessons demonstrated performance of these five behaviors without support.
- Aside from water entry and water exit, the other three behaviors (breath control, back flotation and change in body position) were not demonstrated by a majority of the participants, even at 5 years of age.
- These results suggest several possible explanations:
  - Extended exposure time could have resulted in better skill acquisition.
  - Different developmentally appropriate instructional methods may be needed to achieve competency in these behaviors by a majority of children before 4 to 5 years old.
  - Findings reinforce previous literature that water competence components such as BC, BF and CBO do not emerge prior to 4 to 5 years old in a majority of children participating in group lessons.

Continued on next slide
Interpreting Results: Research Question 1 (Continued)

- A strong discrepancy existed between the earliest ages at which children could independently enter the water and the ages at which they could perform unsupported breath control, back flotation and changing body orientation.
  - Not only were the earliest ages older, but the frequency at which the participants achieved unsupported breath control, back flotation and change in body orientation ranged from 11% to 33% (BC), 5% to 23% (BF) and 5% to 38% (CBO).
  - In no case did a majority of the participants achieve unsupported breath control, back flotation or change in body orientation.
- Among children enrolled in PCA, none demonstrated unsupported back flotation between the ages of 1 to 3.9 years.
  - Children enrolled in PSA between ages 2 to 2.9 years (50%) and 3 to 3.9 years (11%) were able to demonstrate this skill unsupported.

Continued on next slide
Interpreting Results: Research Question 1 (Continued)

- The higher performance of unsupported water exit requires further explanation.
  - While the achievement of unsupported water exit ranged between 71% to 77%, the assessment did not require that children demonstrate that they could get from deep water to the side in order to exit.
  - If the assessment for unsupported water exit behavior had included prerequisites of supported breath control, back float and change in body orientation, it is likely that unsupported water exit would have had much lower frequencies even at ages 3, 4 and 5.
Interpreting Results: Research Question 2

- As currently taught in the Red Cross group lessons (Parent and Child Aquatics and Preschool Aquatics), performance of all five water competence components did improve significantly—although to differing degrees across components.

- Improvement was greater among the older participants enrolled in the Preschool Aquatics lessons than in the Parent and Child Aquatics lessons.

- The attempt to differentiate between Typical and Modified curricula generally did not produce significant differences except for behaviors within the water entry component.
Study Limitations

- Inconsistent attendance, early withdrawal and ineligibility of some program participants program reduced sample size.
- Duration of the intervention was limited to a maximum of 8 sessions.
- Choice of test sites were limited due to COVID-19 regulations, which impacted ability to target recruitment efforts to some specific racial/ethnic participants (e.g., American Indian or Alaska Native).
- Levels of instructor experience were varied.
- The social-emotional readiness of the children was not assessed.

Note: Possible environmental barriers to participation included:

- A tropical system that was present off the coast of Florida during the second week of lessons, causing weather conditions to be very windy and cold for water activity.
- A major fire that caused significant disruption to the transportation system in Day 8 in Indian River County.
Lessons Learned

▪ Swim lessons were available at no charge to the participants, which may have been a factor in the lack of commitment to show up to every lesson.

▪ The difference between the “Typical” and “Modified” program was negligible in relation to study outcomes.
  ▪ We do not know if training to the Modified program influenced delivery of the Typical program.

▪ The findings raised the need for future research addressing the impact of the following in skill acquisition in developmentally appropriate group lessons:
  ▪ Number of lessons.
  ▪ Length of lessons.
  ▪ Number of participants in each class.
  ▪ Types of teaching techniques.
  ▪ Social-emotional readiness of the children.
Projected Impacts on Future Programming

- Swim lesson curriculum developers can use the resulting information from this study to examine and revise swim lesson programs for young children.
- Earlier attainment of unsupported levels of water competence may have a buffering effect against drowning.
- Consider employing any teaching/learning techniques including progressions and activities which have an evidence-basis that leads to earlier achievement of unsupported swimming behaviors.
- Progressions leading to unsupported skills may be introduced earlier in completion requirements for swim lesson levels for children ages 1 to 4 years.

Continued on next slide
Consider designing assessments that are a composite of multiple components of water competence (i.e., “putting it all together”).

All swimming skill completion requirements should be designed to conclude with the child reaching a position of safety (e.g., poolside, standing water depth or exiting the water).

For “adult-assisted” lessons, such as Parent and Child Aquatics, consider establishing completion requirements (e.g., exit skills assessments).
Next Steps: Dissemination of Findings

Articles and abstracts are intended to be submitted to the following:

- **Publications**
  - *International Journal of Aquatic Research and Education*
  - *American Journal of Public Health*
  - *Pediatrics*
  - *Injury Prevention*

- **Presentations**
  - *American Public Health Association Conference*
  - *Association of Aquatics Professionals Conference*
  - *Diversity in Aquatics Convention*
  - *World Aquatic Health Conference*
  - *National Recreation and Parks Association Conference*
  - *National Drowning Prevention Alliance Water Safety Conference*
References


Appendix A: Teaching Tools

- Typical (A) Course Outlines
- Modified (B) Course Outline
- Component Sequence Charts
- Typical (A) Course Skills Charts
- Modified (B) Course Skills Charts
Typical (A) Course Outlines
**PARENT AND CHILD AQUATICS LEVEL 1 OUTLINE**

*I instructor's Note: The skills in the outline are not listed in a teaching order. Refer to the sample block plan and lesson plan on Instructor's Corner (instructors.corner.org) for examples of how to organize the skills.*

**Recommended Equipment**
- Pool toys, such as floating rubber animals
- U.S. Coast Guard–approved life jackets in appropriate sizes for parents and children
- Floatation devices, such as foam noodles, kickboards or swim bar floats

**Skills**

<table>
<thead>
<tr>
<th>Skills</th>
<th>Completion Goals</th>
<th>References</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Holding and Support Techniques</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Face-to-face positions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Hug position</td>
<td>Demonstrate (parent)</td>
<td>WSIM, Ch 3</td>
</tr>
<tr>
<td>• Chin support</td>
<td>Demonstrate (parent)</td>
<td>WSIM, Ch 3</td>
</tr>
<tr>
<td>• Shoulder support on front</td>
<td>Demonstrate (parent)</td>
<td>WSIM, Ch 3</td>
</tr>
<tr>
<td>Back-to-chest positions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Cuddle position</td>
<td>Demonstrate (parent)</td>
<td>WSIM, Ch 3</td>
</tr>
<tr>
<td>Side-to-side positions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Hip straddle</td>
<td>Demonstrate (parent)</td>
<td>WSIM, Ch 3</td>
</tr>
<tr>
<td>• Shoulder support on side</td>
<td>Demonstrate (parent)</td>
<td>WSIM, Ch 3</td>
</tr>
<tr>
<td><strong>Working with the Child</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crawling</td>
<td>Demonstrate (parent)</td>
<td>WSIM, Ch 7, PCA 1</td>
</tr>
<tr>
<td><strong>Water Adjustment, Entry and Exit</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Getting wet</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Getting wet with toys</td>
<td>Explore</td>
<td>WSIM, Ch 7, PCA 1</td>
</tr>
<tr>
<td>• Getting wet kicking</td>
<td>Explore</td>
<td>WSIM, Ch 7, PCA 1</td>
</tr>
<tr>
<td>Water entry</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Enter water by lifting in</td>
<td>Demonstrate (parent)</td>
<td>WSIM, Ch 7, PCA 1</td>
</tr>
<tr>
<td>• Enter water by walking in</td>
<td>Demonstrate (parent)</td>
<td>WSIM, Ch 7, PCA 1</td>
</tr>
<tr>
<td>Exploring the pool</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Out-of-water exploration</td>
<td>Explore</td>
<td>WSIM, Ch 7, PCA 1</td>
</tr>
<tr>
<td>• In-water exploration</td>
<td>Explore, with support</td>
<td>WSIM, Ch 7, PCA 1</td>
</tr>
<tr>
<td>Water exit</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Exit water by lifting out</td>
<td>Demonstrate (parent)</td>
<td>WSIM, Ch 7, PCA 1</td>
</tr>
<tr>
<td>• Exit water by walking out</td>
<td>Demonstrate (parent)</td>
<td>WSIM, Ch 7, PCA 1</td>
</tr>
<tr>
<td>• Exit water using a ladder</td>
<td>Demonstrate (child)</td>
<td>WSIM, Ch 7, PCA 1</td>
</tr>
</tbody>
</table>

**Breath Control**
- Blow bubbles on the surface
  - Explore, with support
  - WSIM, Ch 7, PCA 1
- Blow bubbles with mouth and nose submerged
  - Explore, with support
  - WSIM, Ch 7, PCA 1
- Underwater exploration
  - Explore, with support
  - WSIM, Ch 7, PCA 1
- Submerge mouth, nose and eyes
  - Explore, with support or independently
  - WSIM, Ch 7, PCA 1

**Buoyancy on Front**
- Front glide
  - Explore, with support
  - WSIM, Ch 7, PCA 1

**Buoyancy on Back**
- Back glide
  - Explore, with support
  - WSIM, Ch 7, PCA 1
- Back float
  - Explore, with support
  - WSIM, Ch 7, PCA 1

**Changing Direction**
- Roll from front to back
  - Explore, with support
  - WSIM, Ch 7, PCA 1
- Roll from back to front
  - Explore, with support
  - WSIM, Ch 7, PCA 1

**Swim on Front**
- Paddling from instructor to parent
  - Explore, with support
  - WSIM, Ch 7, PCA 1
- Leg action on front
  - Explore, with support
  - WSIM, Ch 7, PCA 1

**Swim on Back**
- Leg action on back
  - Explore, with support
  - WSIM, Ch 7, PCA 1

**Water Safety**
- The importance of wearing a life jacket
  - Discuss (parent) and
  - Demonstrate (parent and child)
  - WSIM, Ch 4
  - SWS, Ch 2
- How to call for help and the importance of knowing first aid and CPR
  - Discuss (parent) and
  - Demonstrate (parent and child)
  - WSIM, Ch 4
  - SWS, Ch 2
- Basic water safety rules
  - Discuss (parent)
  - WSIM, Ch 4
  - SWS, Ch 2
- General water safety around the home
  - Discuss (parent)
  - WSIM, Ch 4
  - SWS, Ch 2
- Recreational water illnesses
  - Discuss (parent)
  - WSIM, Ch 4
  - SWS, Ch 2
- Sun safety
  - Discuss (parent)
  - WSIM, Ch 4
  - SWS, Ch 2

*LWT, Longfellow’s WHALE Tales; PCA, Parent and Child Aquatics; SWS, Swimming and Water Safety; WSIM, Water Safety Instructor’s Manual.*
### PARENT AND CHILD AQUATICS LEVEL 2 OUTLINE

**Instructor’s Note:** The skills in the outline are not listed in a teaching order. Refer to the sample block plan and lesson plan on Instructor’s Corner (instructorscorner.org) for examples of how to organize the skills.

#### Recommended Equipment
- Pool toys, such as floating rubber animals and weighted diving objects
- U.S. Coast Guard-approved life jackets in appropriate sizes for parents and children
- Flotation devices, such as foam noodles, kickboards or swim bar floats
- Safety equipment

#### Skills Table

<table>
<thead>
<tr>
<th>Skills</th>
<th>Completion Goals</th>
<th>References</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Holding and Support Techniques</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Face-to-face positions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Hip support on front</td>
<td>Demonstrate, with assistance</td>
<td>WSIM, Ch 3</td>
</tr>
<tr>
<td>Back-to-chest positions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Hip support on back</td>
<td>Demonstrate, with assistance</td>
<td>WSIM, Ch 3</td>
</tr>
<tr>
<td>- Back support</td>
<td>Demonstrate, with assistance</td>
<td>WSIM, Ch 3</td>
</tr>
<tr>
<td>- Arm stroke position</td>
<td>Demonstrate, with assistance</td>
<td>WSIM, Ch 3</td>
</tr>
<tr>
<td><strong>Water Adjustment, Entry and Exit</strong></td>
<td></td>
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<tr>
<td>Water entry</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Enter water from a seated position</td>
<td>Demonstrate, with assistance</td>
<td>WSIM, Ch 7, PCA 2</td>
</tr>
<tr>
<td>- Enter water from a seated position—rolling over and sliding in</td>
<td>Demonstrate, with assistance</td>
<td>WSIM, Ch 7, PCA 2</td>
</tr>
<tr>
<td>- Enter water by stepping or jumping in</td>
<td>Demonstrate, with assistance</td>
<td>WSIM, Ch 7, PCA 2</td>
</tr>
<tr>
<td>- Enter water using steps or ramp</td>
<td>Demonstrate, with assistance</td>
<td>WSIM, Ch 7, PCA 2</td>
</tr>
<tr>
<td>Exploring the pool</td>
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</tr>
<tr>
<td>- In-water exploration</td>
<td>Explore, independently, in shallow water</td>
<td>WSIM, Ch 7, PCA 1</td>
</tr>
<tr>
<td>Water exit</td>
<td></td>
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<tr>
<td>- Exit water using side of pool</td>
<td>Demonstrate, with assistance</td>
<td>WSIM, Ch 7, PCA 2</td>
</tr>
<tr>
<td>- Exit water using steps or ramp</td>
<td>Demonstrate, with assistance</td>
<td>WSIM, Ch 7, PCA 2</td>
</tr>
<tr>
<td>- Exit water using a ladder</td>
<td>Demonstrate, with assistance</td>
<td>WSIM, Ch 7, PCA 1</td>
</tr>
<tr>
<td><strong>Breath Control</strong></td>
<td></td>
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<tr>
<td>Underwater exploration</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Open eyes and retrieve objects below the surface</td>
<td>Explore, with support, in shallow water</td>
<td>WSIM, Ch 7, PCA 2</td>
</tr>
<tr>
<td>- Open eyes and retrieve submerged objects</td>
<td>Explore, with assistance, in shallow water</td>
<td>WSIM, Ch 7, PCA 2</td>
</tr>
<tr>
<td>- Bobbing</td>
<td>Explore, independently</td>
<td>WSIM, Ch 7, PCA 2</td>
</tr>
</tbody>
</table>

#### Buoyancy on Front
- Front glide: Demonstrate, with support or assistance
- Front glide to the wall: Demonstrate, with assistance
- Front float: Demonstrate, with support or assistance

#### Buoyancy on Back
- Back glide: Demonstrate, with support or assistance
- Back float: Demonstrate, with support or assistance

#### Changing Direction
- Roll from front to back: Demonstrate, with assistance
- Roll from back to front: Demonstrate, with assistance

#### Swim on Front
- Passing from instructor to parent: Demonstrate, with assistance
- Drafting with breathing: Demonstrate, with assistance
- Leg action on front—alternating or simultaneous movements: Demonstrate, with assistance
- Arm action on front—alternating or simultaneous movements: Demonstrate, with support or assistance
- Combined arm and leg actions on front with breathing: Explore, with assistance

#### Swim on Back
- Leg action on back—alternating or simultaneous movements: Demonstrate, with assistance
- Arm action on back—alternating or simultaneous movements: Demonstrate, with support or assistance
- Combined arm and leg actions on back: Explore, with support or assistance

#### Water Safety
- Wearing a life jacket in the water: Discuss (parent) and Demonstrate (child)
- Reaching assists: Discuss/demonstrate (parent)
- Basic water safety rules review: Discuss (parent)
- Safety at the beach and at the waterpark: Discuss (parent)
- Water toys and their limitations: Discuss (parent)

**References**
- WSIM, Ch 7, PCA 2
- WSIM, Ch 4, SWS, Ch 2
- WSIM, Ch 4, SWS, Ch 3
## Preschool Aquatics Level 1 Outline

**Instructor’s Note:** The skills in the outline are not listed in a teaching order. Refer to the sample’s block plan and lesson plan on Instructor’s Corner (instructor.corner.org) for examples of how to organize the skills. All skills should be repeated until the participant is comfortable with the skill. Allow sufficient practice time in each lesson plan. Participants should be able to achieve the completion requirements of each skill at least several times.

### Recommended Equipment
- Submersion items, such as diving rings
- U.S. Coast Guard–approved life jackets in appropriate sizes for children
- flotation devices, such as foam noodles, kickboards or swim bar floats

### Skills

<table>
<thead>
<tr>
<th>Activity</th>
<th>Completion Requirements</th>
<th>References</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Water Adjustment, Entry and Exit</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enter water using ramp, steps or side</td>
<td>Demonstrate, independently</td>
<td>WSIM, Ch 6, PSA 1</td>
</tr>
<tr>
<td>Exit water using ladder, steps or side</td>
<td>Demonstrate, independently</td>
<td>WSIM, Ch 6, PSA 1</td>
</tr>
<tr>
<td><strong>Breath Control and Submerging</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Blow bubbles</td>
<td>Demonstrate, at least 3 seconds</td>
<td>WSIM, Ch 6, PSA 1</td>
</tr>
<tr>
<td>Submerge mouth, nose and eyes</td>
<td>Demonstrate in shallow water</td>
<td>WSIM, Ch 8, PSA 1</td>
</tr>
<tr>
<td>Open eyes underwater and retrieve submerged objects</td>
<td>Demonstrate in shallow water</td>
<td>WSIM, Ch 8, PSA 1</td>
</tr>
<tr>
<td><strong>Buoyancy on Front</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Front glide</td>
<td>Demonstrate, with or without assistance, at least 2 body lengths</td>
<td>WSIM, Ch 8, PSA 1</td>
</tr>
<tr>
<td>Recover from a front glide to a vertical position</td>
<td>Demonstrate, with or without assistance</td>
<td>WSIM, Ch 8, PSA 1</td>
</tr>
<tr>
<td><strong>Buoyancy on Back</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Back glide</td>
<td>Demonstrate, with assistance, at least 2 body lengths</td>
<td>WSIM, Ch 8, PSA 1</td>
</tr>
<tr>
<td>Back float</td>
<td>Demonstrate, with assistance, at least 3 seconds</td>
<td>WSIM, Ch 8, PSA 1</td>
</tr>
<tr>
<td>Recover from a back float or glide to a vertical position</td>
<td>Demonstrate, with assistance</td>
<td>WSIM, Ch 8, PSA 1</td>
</tr>
<tr>
<td><strong>Changing Direction and Position and Treading</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Roll from front to back</td>
<td>Demonstrate, with support</td>
<td>WSIM, Ch 8, PSA 1</td>
</tr>
<tr>
<td>Roll from back to front</td>
<td>Demonstrate, with support</td>
<td>WSIM, Ch 8, PSA 1</td>
</tr>
<tr>
<td>Arm and hand treading actions</td>
<td>Explore, in chest-deep water</td>
<td>WSIM, Ch 8, PSA 1, SWS, Ch 6</td>
</tr>
<tr>
<td><strong>Swim on Front</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alternating leg action on front</td>
<td>Demonstrate, with support, at least 2 body lengths</td>
<td>WSIM, Ch 8, PSA 1</td>
</tr>
<tr>
<td>Simultaneous leg action on front</td>
<td>Demonstrate, with support, at least 2 body lengths</td>
<td>WSIM, Ch 8, PSA 1</td>
</tr>
<tr>
<td>Alternating arm action on front</td>
<td>Demonstrate, with support, at least 2 body lengths</td>
<td>WSIM, Ch 8, PSA 1</td>
</tr>
<tr>
<td>Simultaneous arm action on front</td>
<td>Demonstrate, with support, at least 2 body lengths</td>
<td>WSIM, Ch 8, PSA 1</td>
</tr>
<tr>
<td>Combined arm and leg actions on front</td>
<td>Demonstrate, with support, at least 2 body lengths</td>
<td>WSIM, Ch 8, PSA 1</td>
</tr>
<tr>
<td><strong>Swim on Back</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alternating leg action on back</td>
<td>Demonstrate, with support, at least 2 body lengths</td>
<td>WSIM, Ch 8, PSA 1</td>
</tr>
<tr>
<td>Simultaneous leg action on back</td>
<td>Demonstrate, with support, at least 2 body lengths</td>
<td>WSIM, Ch 8, PSA 1</td>
</tr>
<tr>
<td>Alternating arm action on back</td>
<td>Demonstrate, with support, at least 2 body lengths</td>
<td>WSIM, Ch 8, PSA 1</td>
</tr>
<tr>
<td>Simultaneous arm action on back</td>
<td>Demonstrate, with support, at least 2 body lengths</td>
<td>WSIM, Ch 8, PSA 1</td>
</tr>
<tr>
<td>Combined arm and leg actions on back</td>
<td>Demonstrate, with support, at least 2 body lengths</td>
<td>WSIM, Ch 8, PSA 1</td>
</tr>
<tr>
<td><strong>Water Safety</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Staying safe around water</td>
<td>Show and tell</td>
<td>WSIM, Ch 4, SWS, Ch 2</td>
</tr>
<tr>
<td>Recognizing the lifeguards</td>
<td>Show and tell</td>
<td>WSIM, Ch 4, SWS, Ch 2</td>
</tr>
<tr>
<td>Don’t Just Pack It, Wear Your Jacket</td>
<td>Demonstrate</td>
<td>WSIM, Ch 4, SWS, Ch 2, LWT</td>
</tr>
<tr>
<td>Recognizing an emergency</td>
<td>Show and tell</td>
<td>WSIM, Ch 4, SWS, Ch 3</td>
</tr>
<tr>
<td>How to call for help</td>
<td>Demonstrate</td>
<td>WSIM, Ch 4, SWS, Ch 3</td>
</tr>
<tr>
<td>Too Much Sun Is No Fun</td>
<td>Show and tell</td>
<td>WSIM, Ch 4, SWS, Ch 2, LWT</td>
</tr>
</tbody>
</table>

### Exit Skills Assessment
All Preschool Aquatics Level 1 exit skills can be performed with support.

1. Enter independently, using either the ramp, steps or side, travel at least 5 yards, submerge to mouth and blow bubbles for at least 3 seconds, then safely exit the water. (Children can walk, move along the gutter or “swim.”)
2. While in shallow water, glide on front for at least 2 body lengths, then roll to back and float on back for 5 seconds, then recover to a vertical position.

*LWT, Longfellow’s WHALE Tales; PSA, Preschool Aquatics; SWS, Swimming and Water Safety; WSIM, Water Safety Instructor’s Manual.*
**PRESCHOOL AQUATICS LEVEL 2 OUTLINE**

*Instructor’s Note:* The skills in the outline are not listed in a teaching order. Refer to the sample block plan and lesson plan on Instructor’s Corner (instructors.corner.org) for examples of how to organize the skills. All skills should be repeated until the participant is comfortable with the skill. Allow sufficient practice time in each lesson plan. Participants should be able to achieve the completion requirements of each skill at least several times.

---

### Recommended Equipment
- Submersion items, such as diving rings
- U.S. Coast Guard–approved life jackets in appropriate sizes for children
- Flotation devices, such as foam noodles, kickboards or swim bar floats

### Skills | Completion Requirements | References
--- | --- | ---
**Water Adjustments, Entry and Exit**
- Enter water by stepping in from the deck or low height: Demonstrate, independently, into shoulder-deep water
- Exit water using ladder, steps or side: Demonstrate, independently, in chest-deep water

**Breath Control and Submerging**
- Bobbing: Demonstrate, independently, at least 5 times
- Open eyes underwater and retrieve submerged objects: Demonstrate, independently, in chest-deep water

**Buoyancy on Front**
- Front glide: Demonstrate, with assistance, at least 2 body lengths
- Front float: Demonstrate, with assistance, for at least 3 seconds
- Recover from a front float or glide to a vertical position: Demonstrate, with assistance, in chest-deep water

**Buoyancy on Back**
- Back glide: Demonstrate, with assistance, at least 2 body lengths
- Back float: Demonstrate, with assistance, at least 5 seconds
- Recover from a back float or glide to a vertical position: Demonstrate, with assistance, in chest-deep water

**Changing Direction and Position and Treading**
- Roll from front to back: Demonstrate, with assistance
- Roll from back to front: Demonstrate, with assistance
- Tread water using arm and leg actions: Demonstrate, with assistance, at least 15 seconds, in shoulder-deep water

**Swim on Front**
- Combined arm and leg actions on front: Demonstrate, with assistance, at least 3 body lengths

**Swim on Back**
- Floating arm action on back: Demonstrate, with assistance, at least 3 body lengths
- Combined arm and leg actions on back: Demonstrate, with assistance, at least 3 body lengths

**Water Safety**
- Staying safe around water: Discuss
- Recognizing the lifeguards: Discuss
- Don’t Just Pack It, Wear Your Jacket: Discuss/demonstrate
- Recognizing an emergency: Discuss
- How to call for help: Discuss/demonstrate
- Too Much Sun Is No Fun: Discuss

**Exit Skills Assessment**
All Preschool Aquatics Level 2 exit skills can be performed with assistance.

1. Glide on front for at least 2 body lengths, roll to back, float on back for 15 seconds, then recover to a vertical position.
2. Glide on back for at least 2 body lengths, roll to front, then recover to a vertical position.
3. Swim using combined arm and leg actions on front for 3 body lengths, roll to back, float for 15 seconds, roll to front, then continue swimming on front for at least 3 body lengths.
Modified (B) Course Outlines
## PARENT AND CHILD AQUATICS LEVEL 1B OUTLINE

### Recommended Equipment
- Float toys, such as floating rubber animals, rings and sinking objects
- U.S. Coast Guard-approved life jackets of appropriate sizes for parents and children
- Floatation devices, such as foam noodles, kickboards or swim bars

### Skills
<table>
<thead>
<tr>
<th>Completion Goals</th>
<th>ARWCAG</th>
<th>References</th>
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</thead>
<tbody>
<tr>
<td><strong>Holding and Support Techniques</strong></td>
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<tr>
<td>Face-to-face positions</td>
<td>Demonstrate (parent)</td>
<td></td>
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<tr>
<td>Hug position</td>
<td>Demonstrate (parent)</td>
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<tr>
<td>Chin support</td>
<td>Demonstrate (parent)</td>
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<tr>
<td>Shoulder support on front</td>
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</tr>
<tr>
<td>Back-to-chest position</td>
<td>Demonstrate (parent)</td>
<td></td>
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<tr>
<td>Cuddle</td>
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<tr>
<td>Side-to-side position</td>
<td>Demonstrate (parent)</td>
<td></td>
</tr>
<tr>
<td>Hip strap</td>
<td>Demonstrate (parent)</td>
<td></td>
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<tr>
<td>Shoulder support on side</td>
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<td></td>
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<tr>
<td>Working with the Child</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cuing</td>
<td>Demonstrate (parent)</td>
<td></td>
</tr>
</tbody>
</table>

### Water Adjustment, Entry and Exit

#### Getting Wet
- Getting wet with toys
- Getting wet kicking

#### Water Entry
- Lifting in
- From a seated position—rolling over and sliding in
- Walking in

#### Exploring the Pool
- Out-of-water exploration
- In-water exploration

#### Water Exit
- Hanging on to side of pool
- Lifting out
- Walking out

### Breath Control
- Blowing bubbles on the surface
- Blowing bubbles with mouth and nose submerged
- Underwater exploration
- Submerging mouth, nose and eyes

### Buoyancy on Front
- Front float

### Front glide
- Explore, with support or assistance, at least 2 body lengths

### Recover from a front float or glide to a vertical position
- Explore, with support or assistance

### Buoyancy on Back
- Back float
- Back glide
- Recover from a back float or glide to a vertical position

### Changing Body Position and Direction
- Roll from front to back
- Roll from back to front
- Turn toward pool side

### Swim on Front
- Passing from instructor to parent
- Log action
- Arm action
- Combined movement on front

### Swim on Back
- Log action
- Arm action
- Combined movement on back

### Water Safety
- The importance of wearing a life jacket
- How to call for help and the importance of knowing first aid and CPR
- Basic water safety rules
- General water safety around the home
- Recreational water illnesses
- Sun safety

### Exit Skills Assessment
All Parent and Child Aquatics Level 1 exit skills can be performed with support or assistance.

1. Enter water using either the ramp, steps or side (W01, W02), travel at least 2 body lengths (CMF2), submerge to mouth and blow bubbles for at least 3 seconds (B02), then safely exit the water. (Children can walk, move along the gutter or “swim.”)
2. Start in the water with support from the adult (PF2), travel at least 2 body lengths using the combined movement on front (CMF2) to get to the side then safely exit the water.
### Parent and Child Aquatics Level 2B Outline

#### Recommended Equipment
- Pool toys, such as floating rubber animals and weighted diving objects
- US Coast Guard-approved life jackets of appropriate sizes for parents and children
- Floatation devices, such as foam noodles, kickboards or barbells
- Reaching equipment

#### Skills | Completion Goals | ARWCAG | References
--- | --- | --- | ---
**Holding and Support Techniques**
**Face-to-face position**
- Hip support on front
**Demonstrate** | WQ2 | W5IM, Ch7

**Back-to-chest positions**
- Hip support on back
- Back support
- Arm stroke
**Demonstrate** | WQ2 | WQ2 | WQ2 | WQ2

**Water Adjustment, Entry and Exit**
**Water Entry**
- Seated position
- Seated position—rolling over and sliding in
- Stepping or jumping in
- Using a ladder
- Using stairs
**Demonstrate, with assistance** | WQ2, WE2 | WQ2, WE2 | WQ2, WE2 | WQ2, WE2 | WQ2, WE2 | W5IM, Ch7

**In-water exploration**
- Explore, independently, in shallow water
**Demonstrate, with or without assistance** | WQ2, CMF2

**Water Exit**
- Using side of pool
- Using steps or ramp
- Using a ladder
**Demonstrate, with or without assistance** | WQ2, WQ2, WQ2 | WQ2, WQ2, WQ2 | WQ2, WQ2, WQ2

**Breath Control**
- Open eyes and retrieve objects below the surface
- Open eyes and retrieve submerged objects
**Demonstrate, with support or assistance, in shallow water** | WQ2, WE2 | W5IM, Ch7

**Bobbing**
- Explore, independently, at least 10 times
**Demonstrate, with or without assistance** | SD4

**Buoyancy on Front**
- Front glide
**Demonstrate, with or without assistance, at least 2 body lengths** | BD1, PF2 | W5IM, Ch7

- Front glide to the wall
**Demonstrate, with or without assistance, at least 2 body lengths** | BD1, PF2 | PF2

- Front float
**Demonstrate, with or without assistance, at least 3 seconds** | PF2 | PF2

- Recover from a front float or glide to a vertical position
**Demonstrate, with or without assistance** | CBP2 | CBP2

**Buoyancy on Back**
- Back glide
**Demonstrate, with support, assistance or independently, at least 2 body lengths** | BF2 | BF2 | BF2 | W5IM, Ch7

- Back float
**Demonstrate, with support, assistance or independently, at least 10 seconds** | BF2 | BF2 | BF2

- Recover from a back float or glide to a vertical position
**Demonstrate, with or without assistance** | CBP2 | CBP2

**Changing Body Position and Direction**
- Roll from front to back
**Demonstrate, with or without assistance** | CBP2 | CBP2 | W5IM, Ch7

- Roll from back to front
**Demonstrate, with or without assistance** | CBP2

- Turn toward side of pool
**Demonstrate, with or without assistance** | CBP2 | CBP2

**Swim on Front**
- Passing between adults
**Demonstrate, with assistance** | CMF2 | W5IM, Ch7

- Diving with breathing
**Demonstrate, with assistance** | CMF2 | CMF2 | CMF2

- Leg action—alternating or simultaneous movements
**Demonstrate, with or without assistance, at least 3 body lengths** | CMF2

- Arm action—alternating or simultaneous movements
**Demonstrate, with support, assistance or independently, at least 3 body lengths** | CMF2

- Combined arm and leg actions on front with breathing
**Demonstrate, with or without assistance, at least 3 body lengths** | CMF2 | CMF2

**Swim on Back**
- Leg action—alternating or simultaneous movements
**Demonstrate, with or without assistance, at least 3 body lengths** | CMF2 | CMF2 | CMF2 | W5IM, Ch7

- Arm action—alternating or simultaneous movements
**Demonstrate, with support, assistance or independently, at least 3 body lengths** | CMF2 | CMF2

- Combined arm and leg actions on back
**Demonstrate, with or without assistance, at least 3 body lengths** | CMF2

**Water Safety**
- Wearing a life jacket in the water
**Discuss (parent) and Demonstrate (child)** | SWAS, Ch 2 | W5IM, Ch 4

- Reaching assists
**Discuss/demonstrate (parent)** | W5IM, Ch 4

- Basic water safety rules review
**Discuss (parent)** | W5IM, Ch 4

- Safety at the beach and at the waterpark
**Discuss (parent)** | W5IM, Ch 4

- Water toys and their limitations
**Discuss (parent)** | W5IM, Ch 4

### Exit Skills Assessment
All Parent-Child Aquatics Level 2 exit skills may be performed with assistance or independently. A position of safety could be hanging on the wall or exiting the water.

1. **Enter water (ME2 or 3), glide on front at least 2 body lengths (FP2 or 3), roll to back (CBP2 or 3), float on back for 10 seconds (BF3).** Recover to a vertical position, (CBP2 or 3) then travel to a position of safety.

2. **Glide on back for at least 2 body lengths (BF2 or 3), roll to front (CBP2 or 3), recover to a vertical position, (CBP2 or 3) then travel to a position of safety.**

3. **Swim using combined arm and leg actions on front for at least 3 body lengths (CMF2 or 3), roll to back (CBP2 or 3), float for 5 seconds (BF2, 3, or 4), roll to front (CMF2 or 3), continue swimming on front for at least 3 body lengths (CMF2 or 3) to a position of safety.**
## Preschool Aquatics Level 1B Outline

### Equipment
- Submersion items (such as diving rings)
- U.S. Coast Guard-approved life jackets (appropriate sizes for children)
- Unattached flotation support devices, such as foam noodles, swim bar floats and kickboards

### Skills

<table>
<thead>
<tr>
<th>Equipment</th>
<th>Completion Requirements</th>
<th>ARWCG</th>
<th>Reference(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Entry and Exit</td>
<td>Demonstrate, independently</td>
<td>W3C, WE3</td>
<td>WGM, CH8, PSA1</td>
</tr>
<tr>
<td>Breath Control and Submerging</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Blowing bubbles</td>
<td>Demonstrate, at least 3 seconds</td>
<td>BC3</td>
<td>WGM, CH8, PSA1</td>
</tr>
<tr>
<td>Submerging mouth, nose and eyes</td>
<td>Demonstrate in shallow water</td>
<td>BC3/4</td>
<td></td>
</tr>
<tr>
<td>Opening eyes under water and retrieving submerged objects</td>
<td>Demonstrate in shallow water</td>
<td>BC3 or BC4</td>
<td></td>
</tr>
<tr>
<td>Buoyancy on Front</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Front glide</td>
<td>Demonstrate, with or without assistance, at least 2 body lengths</td>
<td>BS5, FP3/4</td>
<td>WGM, CH8, PSA1</td>
</tr>
<tr>
<td>Recover from a front glide to a vertical position</td>
<td>Demonstrate, with or without assistance</td>
<td>CBP2/3/4</td>
<td></td>
</tr>
<tr>
<td>Buoyancy on Back</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Back glide</td>
<td>Demonstrate, with or without assistance, at least 2 body lengths</td>
<td>BP2/3, CMR2/3</td>
<td>WGM, CH8, PSA1</td>
</tr>
<tr>
<td>Back float</td>
<td>Demonstrate, with or without assistance, at least 3 seconds</td>
<td>BF5/4</td>
<td></td>
</tr>
<tr>
<td>Recover from a back float to a vertical position</td>
<td>Demonstrate, with or without assistance</td>
<td>BP2, CBP2/3</td>
<td></td>
</tr>
<tr>
<td>Changing Direction and Position and Treading</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Roll from front to back</td>
<td>Demonstrate, with support or assistance</td>
<td>CBP2</td>
<td>WGM, CH8, PSA1, SW5, CH5</td>
</tr>
<tr>
<td>Roll from back to front</td>
<td>Demonstrate, with support or assistance</td>
<td>CBP2</td>
<td></td>
</tr>
<tr>
<td>Arm and hand treading actions</td>
<td>Explore, in chest-deep water</td>
<td>CBP2</td>
<td></td>
</tr>
<tr>
<td>Turn toward pool side</td>
<td>Explore, with support or assistance</td>
<td>C502 or 3</td>
<td></td>
</tr>
<tr>
<td>Swim on Front</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alternating leg action</td>
<td>Demonstrate, with support or assistance, at least 2 body lengths</td>
<td>CMR2 or 3</td>
<td>WGM, CH8, PSA1</td>
</tr>
<tr>
<td>Simultaneous leg action</td>
<td>Demonstrate, with support or assistance, at least 2 body lengths</td>
<td>CMR2 or 3</td>
<td>WGM, CH8, PSA1</td>
</tr>
<tr>
<td>Alternating arm action</td>
<td>Demonstrate, with support or assistance, at least 2 body lengths</td>
<td>CMR2 or 3</td>
<td></td>
</tr>
<tr>
<td>Simultaneous arm action</td>
<td>Demonstrate, with support or assistance, at least 2 body lengths</td>
<td>CMR2 or 3</td>
<td></td>
</tr>
<tr>
<td>Combined arm and leg actions on front</td>
<td>Demonstrate, with support or assistance, at least 2 body lengths</td>
<td>CMR2 or 3</td>
<td></td>
</tr>
</tbody>
</table>

### Water Safety
- Staying safe around aquatic environments
- Recognizing the lifeguards
- Don't Just Pack It, Wear Your Jacket
- Recognizing an emergency
- How to call for help
- Too Much Sun Is No Fun

### Exit Skills Assessment
All Preschool Aquatics Level 1 exit skills can be performed with support, assistance or independently.

1. Enter independently (WE2 or 3), using either the ramp, steps or side (WE3), travel at least 5 yards (CMR3), submerge to mouth (BC3) and blow bubbles for at least 3 seconds (BC3) then safely exit the water (WE3). (Children can walk, move along the gutter or swim.)
2. While in shallow water, glide on front at least 2 body lengths (CMR3), then roll to back (CBS3) and float on back for 3 seconds (SP3 or 4) recover to a vertical position, (CBS3) then travel to a position of safety.
# Preschool Aquatics Level 2B Outline

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<td><strong>Water Entry and Exit</strong></td>
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<tr>
<td>Enter water by stepping in from dock or low height</td>
<td>Demonstrate, independently into shoulder-deep water</td>
<td>WE3, WSRM, CSE, P3A2</td>
</tr>
<tr>
<td>After entering, turn around and face the wall (entry pji)</td>
<td>Demonstrate independently in shoulder-deep water</td>
<td>CB03 or 4</td>
</tr>
<tr>
<td>Exit water using ladder, steps or side</td>
<td>Demonstrate, independently, in chest-deep water</td>
<td>WE3, WSRM, CSE, P3A1</td>
</tr>
<tr>
<td><strong>Breath Control and Submerging</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bobbing</td>
<td>Demonstrate, independently, at least 5 times</td>
<td>BS05, WSRM, CSE, P3A2</td>
</tr>
<tr>
<td>Opening eyes under water and retrieving submerged objects</td>
<td>Demonstrate, independently, in chest-deep water</td>
<td>BS05, WSRM, CSE, P3A2</td>
</tr>
<tr>
<td><strong>Buoyancy on Front</strong></td>
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</tr>
<tr>
<td>Front glide</td>
<td>Demonstrate, with or without assistance, at least 2 body lengths</td>
<td>FF4, BS05, WSRM, CSE, P3A2</td>
</tr>
<tr>
<td>Front float</td>
<td>Demonstrate, with or without assistance, for at least 3 seconds</td>
<td>FF4</td>
</tr>
<tr>
<td>Recover from a front float or glide to a vertical position</td>
<td>Demonstrate, with or without assistance, in chest-deep water</td>
<td>CB04, WSRM, CSE, P3A2</td>
</tr>
<tr>
<td><strong>Buoyancy on Back</strong></td>
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</tr>
<tr>
<td>Back glide</td>
<td>Demonstrate, with or without assistance, at least 2 body lengths</td>
<td>BP4, WSRM, CSE, P3A1</td>
</tr>
<tr>
<td>Back float</td>
<td>Demonstrate, with or without assistance, at least 15 seconds</td>
<td>BP4</td>
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<tr>
<td>Recover from a back float or glide to a vertical position</td>
<td>Demonstrate, with or without assistance, in chest-deep water</td>
<td>CB04, WSRM, CSE, P3A2</td>
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<tr>
<td><strong>Changing Direction and Position and Treading</strong></td>
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</tr>
<tr>
<td>Roll from front to back</td>
<td>Demonstrate, with or without assistance</td>
<td>CB04, WSRM, CSE, P3A2</td>
</tr>
<tr>
<td>Roll from back to front</td>
<td>Demonstrate, with or without assistance</td>
<td>CB04</td>
</tr>
<tr>
<td>Using arm and leg actions</td>
<td>Demonstrate, with or without assistance, at least 15 seconds, in shoulder-deep water</td>
<td>CB04</td>
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<tr>
<td>Turn around</td>
<td>Demonstrate, with or without assistance</td>
<td>CB03 or 4</td>
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<tr>
<td><strong>Swim on Front</strong></td>
<td>Demonstrate, with or without assistance, at least 3 body lengths</td>
<td>CMF4 or 5, WSRM, CSE, P3A1</td>
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<tr>
<td><strong>Swim on Back</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Floating arm action</td>
<td>Demonstrate, with or without assistance, at least 3 body lengths</td>
<td>CB03 or 4, WSRM, CSE, P3A2</td>
</tr>
<tr>
<td>Combined arm and leg actions on back</td>
<td>Demonstrate, with or without assistance, at least 3 body lengths</td>
<td>CB03 or 4, WSRM, CSE, P3A1</td>
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<tr>
<td><strong>Water Safety</strong></td>
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<tr>
<td>Staying safe around aquatic environments</td>
<td>Discuss</td>
<td>SRM, CSE, WSRM, CH4, WAT</td>
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<tr>
<td>Recognizing the lifeguards</td>
<td>Discuss</td>
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<tr>
<td>Don’t just pack it, wear your jacket</td>
<td>Discuss/demonstrate</td>
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<tr>
<td>Recognizing an emergency</td>
<td>Discuss</td>
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<tr>
<td>How to call for help</td>
<td>Discuss/demonstrate</td>
<td></td>
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<tr>
<td>Too much sun is no fun</td>
<td>Discuss</td>
<td></td>
</tr>
<tr>
<td><strong>Exit Skills Assessment</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All Preschool Aquatics Level 2 exit skills may be performed with or without assistance. A position of safety could be hanging on the wall or exiting the water.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Glide on front at least 2 body lengths (BS05; FF4), roll to back (CB03), float on back for 15 seconds (BS04/5), recover to a vertical position, (CB03) then travel to a position of safety.</td>
<td></td>
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</tr>
<tr>
<td>2. Glide on back for at least 2 body lengths (BF4), roll to front (CB03), then recover to a vertical position (CB03) then travel to a position of safety.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Swim using combined arm and leg actions on front for at least 3 body lengths (CMF4), roll to back (CB03), float on back for 15 seconds (BF5), roll to front (CB03), continue swimming on front for at least 3 body lengths, (CMF3) then travel to a position of safety.</td>
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Component Sequence Charts
# Water Entry

## Water Entry Component Sequence (WE)

<table>
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<tr>
<th>Water Entry Component Sequence (WE)</th>
<th>Possible Games, Songs, Rhymes to Promote WE</th>
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<tr>
<td><strong>If a swimmer demonstrates…….</strong></td>
<td><strong>Water Entry (WE) Levels</strong></td>
</tr>
<tr>
<td><strong>Then that swimmer may be ready to…</strong></td>
<td><strong>Right Hand Side</strong></td>
</tr>
<tr>
<td>1. No voluntary entry</td>
<td>No voluntary entry</td>
</tr>
<tr>
<td>• Sit on deck, dangle feet in water, gently splash</td>
<td>• Caregiver/Instructor lift into pool or walk in together</td>
</tr>
<tr>
<td>• Be lifted in by instructor/ caregiver</td>
<td>• Caregiver/child partner sit and slide in</td>
</tr>
<tr>
<td>• Climb in over side or walk down steps while holding caregiver or instructor hand</td>
<td></td>
</tr>
<tr>
<td>2. Caregiver- or flotation-supported feet-first entry</td>
<td>Caregiver- or flotation-supported feet-first entry</td>
</tr>
<tr>
<td>• Practice getting in and out of pool over the side</td>
<td>• Caregiver/child partner step in holding hands*</td>
</tr>
<tr>
<td>• Step in while holding caregiver or instructor hand</td>
<td>• “Humpty Dumpty”</td>
</tr>
<tr>
<td>3. Unassisted voluntary feet-first entry</td>
<td>Unassisted voluntary feet-first entry</td>
</tr>
<tr>
<td>• Practice different ways to jump in with minimal assistance in both shallow and deeper water</td>
<td>• Chop Chop Timber!</td>
</tr>
<tr>
<td>• Slide in on stomach with support or assistance</td>
<td>• Hoop Jumping</td>
</tr>
<tr>
<td></td>
<td>• Jump and Turn</td>
</tr>
<tr>
<td></td>
<td>• Jump plus Rocket Ship Launch (push off bottom)</td>
</tr>
</tbody>
</table>

* See *Aquatic Readiness* games
Water Exit

Water Exit Component Sequence (WX)

If a swimmer demonstrates…… Then that swimmer may be ready to……

1. No voluntary exit demonstrated
   - Be lifted out by instructor/caregiver
   - Walk up down steps or ramp while holding caregiver’s hand
   - Crawl out in zero depth water

2. Caregiver-supported exit to pool side
   - Practice getting out of pool over the side or up stairs or ramp holding on to railing with assistance by caregiver or instructor

3. Flotation-supported or caregiver-assisted exit to pool side
   - Climb out of pool over the side with minimal caregiver support
   - Walk up stairs or ramp independently

4. Independent exit to pool side
   - Explore different ways to climb out of pool at different places in the pool (shallow, deep water, ladders)

5. Independent exit to pool side and exit from pool (over side, up stairs/ladder or ramp or ladder)
   - Practice feet-first entry into pool, return to side, and exit the water at different parts of the pool

Water Exit (WX) Levels

<table>
<thead>
<tr>
<th>No voluntary exit demonstrated</th>
<th>Lift out/walk out together</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>“Up, up, and away” game with caregiver assist</td>
</tr>
<tr>
<td>Caregiver-supported exit to pool side</td>
<td>“Turn Around Game” (on deck)</td>
</tr>
<tr>
<td></td>
<td>“Up, up, and away” game using noodle or flotation</td>
</tr>
<tr>
<td>Flotation-supported or caregiver-assisted exit to pool side</td>
<td>“Turn Around Game” (in water)</td>
</tr>
<tr>
<td></td>
<td>“Up, Up, and Away” game without flotation</td>
</tr>
<tr>
<td>Independent exit to pool side</td>
<td>“Rocket ship blast off” in water from side, turn, and back to wall followed by “Up, up, and away game”</td>
</tr>
<tr>
<td>Independent exit to pool side and exit from pool</td>
<td>“Jump into my circle” followed by turning around, coming back to side and playing “Up, up, and away game”</td>
</tr>
</tbody>
</table>

American Red Cross
Training Services
Breath Control

Breath Control Component Sequence (BC)

If a swimmer demonstrates...... Then that swimmer may be ready to......

1. Reflexive breath holding when face is voluntarily submerged
   - Mimic face submersion by caregiver; put chin and mouth in water
   - Play Magic Candle w/ finger
   - Wash face with wet cloth

2. Allowing water voluntarily in and/or around mouth resulting in spouting
   - Practice “whale spouting” or blowing bubbles
   - Wash face
   - Sprinkle water over the head to acclimate to water

3. Voluntary partial facial submersion (mouth or nose)
   - Practice submerging different parts of head

4. Voluntary full head submersion
   - Prolong submersion to several seconds; do repeated brief submersions

5. Repeated voluntary submersion/short periods of breath-holding
   - Combine repeated submersions with activities (e.g., walking, bouncing, floating, gliding)

6. Extended voluntary breath-holding and/or repeated rhythmic breathing
   - Practice rhythmic and rotary breathing with various strokes starting w/ 1 cycle and then add more cycles of stroke

Breath Control (BC) Levels

1. Reflexive breath holding when face is voluntarily submerged
   - Washcloth Play*
   - It’s Raining, It’s Pouring*

2. Allowing water voluntarily in and/or around mouth resulting in spouting
   - Look and Listen (Fish Talk)*
   - Whale spouting*
   - Bobbing*

3. Voluntary partial facial submersion (mouth or nose)
   - Magic Candle*
   - “London Bridge”
   - Baby Dolphin

4. Voluntary full head submersion
   - Pop Goes the Weasel/ Jack in the Box
   - Treasure Hunt
   - Flower Garden*
   - Buddy Bobbing

5. Repeated voluntary submersion/short periods of breath-holding
   - Treasure Hunt
   - Water Push Ball
   - Tea Party
   - Disappearing Fish Game

6. Extended voluntary breath-holding and/or repeated rhythmic breathing
   - Submarine
   - Drop the Puck (Water Duck, Duck, Goose)
   - Charlie Over the Water

* See Aquatic Readiness games
Back Buoyancy/Flotation

Back (Supine) Buoyancy/Flotation Component Sequence (BF)

If a swimmer demonstrates ….. Then that swimmer may be ready to …..

1. No back flotation demonstrated
   - Practice assisted back float w/caregiver or using side

2. Back flotation with caregiver/instructor support
   - Practice assisted back float with different flotation devices
   - Practice recovery to vertical to stand up from back float with assist

3. Back flotation with instructional flotation device support
   - Brief unsupported back floats (use wall) and recover to vertical (with assist if needed)

4. Momentary (1-3 seconds) voluntary back flotation
   - Extend back float to 5+ seconds in various depths of water, w/ & without assist or support

5. Independent (>3 seconds) voluntary back flotation
   - Extend back float with different body inclinations and recover to vertical + roll over without assist

<table>
<thead>
<tr>
<th>Back Float (BF) Levels</th>
<th>Possible Games, Songs, Rhymes to Promote BF</th>
</tr>
</thead>
<tbody>
<tr>
<td>No back flotation demonstrated</td>
<td>• Limbo* – on deck and in water with adult support</td>
</tr>
<tr>
<td></td>
<td>• Twinkle Twinkle Little Star</td>
</tr>
<tr>
<td></td>
<td>• The Best Log</td>
</tr>
<tr>
<td>Back flotation with caregiver/instructor support</td>
<td>• In-Water Limbo* (in shallow water or at pool side)</td>
</tr>
<tr>
<td></td>
<td>• Float like a Boat</td>
</tr>
<tr>
<td></td>
<td>• Be an airplane or a butterfly and stretch out wings (arms)</td>
</tr>
<tr>
<td></td>
<td>• Gingerbread Cookie Float</td>
</tr>
<tr>
<td>Back flotation with instructional flotation device support</td>
<td>• Airplane</td>
</tr>
<tr>
<td></td>
<td>• Water Limbo*</td>
</tr>
<tr>
<td></td>
<td>• “Twinkle, Twinkle Little Star”</td>
</tr>
<tr>
<td></td>
<td>• Imagination</td>
</tr>
<tr>
<td></td>
<td>• Merry-Go-Round</td>
</tr>
<tr>
<td></td>
<td>• Be a leaf floating on a pond</td>
</tr>
<tr>
<td></td>
<td>• Pretend it is nighttime and quietly count the stars (lights)</td>
</tr>
<tr>
<td>Momentary (1-3 seconds) voluntary back flotation</td>
<td>• Musical Kickboards</td>
</tr>
<tr>
<td>Independent (&gt;3 seconds) voluntary back flotation</td>
<td>• Rocket Ship</td>
</tr>
<tr>
<td></td>
<td>• Rocket Ship</td>
</tr>
<tr>
<td></td>
<td>• Log Tag</td>
</tr>
</tbody>
</table>

* See Aquatic Readiness games
# Change in Body Orientation

**Change in Body Orientation** (turning around) **Component Sequence (CBO)**

<table>
<thead>
<tr>
<th>If a swimmer demonstrates ……</th>
<th>Then that swimmer may be ready to ……</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. No change in body orientation demonstrated</td>
<td>• Practice turning around with caregiver/instructor support and assist</td>
</tr>
<tr>
<td>2. Caregiver/instructor-supported body orientation (turning around) change</td>
<td>• Turn around toward pool side while using different flotation devices</td>
</tr>
<tr>
<td>3. Body orientation (turning around) change while supported by instructional flotation device</td>
<td>• Turn toward and away from side with minimum assist—may use bottom or side of pool to independently turn around</td>
</tr>
<tr>
<td>4. Independent voluntary body orientation (turning around) change</td>
<td>• Practice turning toward and away from side in different directions with no assist for &gt;5-10 sec</td>
</tr>
</tbody>
</table>

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### Change in Body Orientation (CBO) Levels

<table>
<thead>
<tr>
<th>Change in Body Orientation (CBO)</th>
<th>Possible Games, Songs, Rhymes to Promote CBO</th>
</tr>
</thead>
<tbody>
<tr>
<td>No change in body orientation demonstrated</td>
<td>• Turn Around game (on deck and at side with adult)*</td>
</tr>
</tbody>
</table>
| Caregiver/instructor-supported body orientation (turning around) change | • Turn Around game (with adult support)*  
| | • Do Si Do – Turn Your Partner* |
| Body orientation (turning around) change while supported by instructional flotation device | • Turn Around game*  
| | • Ride ‘em Cowboy(girl) – using noodle* |
| Independent voluntary body orientation (turning around) change | • Hoop Jumping  
| | • Jump and Turn |

* See *Aquatic Readiness* or other games
Typical (A) Course Skills Checklists
## Skills Checklist

**Parent and Child Aquatics Level 1**

<table>
<thead>
<tr>
<th>Instructor's Name:</th>
<th>Participant Name:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1. Parent</td>
</tr>
<tr>
<td></td>
<td>Child</td>
</tr>
<tr>
<td></td>
<td>2. Parent</td>
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<tr>
<td></td>
<td>Child</td>
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<td>3. Parent</td>
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<td>4. Parent</td>
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<td>5. Parent</td>
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<td>6. Parent</td>
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<td>7. Parent</td>
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<td>Child</td>
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<td>8. Parent</td>
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<td>Child</td>
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<td></td>
<td>9. Parent</td>
</tr>
<tr>
<td></td>
<td>Child</td>
</tr>
<tr>
<td></td>
<td>10. Parent</td>
</tr>
<tr>
<td></td>
<td>Child</td>
</tr>
</tbody>
</table>

### Skill Categories

- **Exit water by walking out**
- **Exit water using a ladder**
- **Blow bubbles on the surface**
- **Blow bubbles with mouth and nose submerged**
- **Underwater exploration**
- **Submerge mouth, nose and eyes**
- **Front glide**
- **Back glide**
- **Back float**
- **Roll from front to back**
- **Roll from back to front**
- **Passing from instructor to parent**
- **Leg action on front**
- **Leg action on back**

### Safety Topics

- **The importance of wearing a life jacket**
- **How to call for help and the importance of knowing first aid and CPR**
- **Basic water safety rules**
- **General water safety around the home**
- **Recreational water illnesses**
- **Sun safety**
# Parent and Child Aquatics Level 2

<table>
<thead>
<tr>
<th>Instructor's Name:</th>
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</thead>
<tbody>
<tr>
<td>Date:</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

## Skills Checklist

### Bobbing
- [ ] 1. Parent
- [ ] 2. Parent
- [ ] 3. Parent
- [ ] 4. Parent
- [ ] 5. Parent
- [ ] 6. Parent
- [ ] 7. Parent
- [ ] 8. Parent
- [ ] 9. Parent
- [ ] 10. Parent

<table>
<thead>
<tr>
<th>Skill</th>
<th>Parent</th>
<th>Child</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hip support on front</td>
<td></td>
<td></td>
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<tr>
<td>Hip support on back</td>
<td></td>
<td></td>
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<tr>
<td>Back support</td>
<td></td>
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<tr>
<td>Arm stroke position</td>
<td></td>
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</tr>
<tr>
<td>Enter water from a seated position</td>
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<tr>
<td>Enter water from a seated position—rolling over and sliding in</td>
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<tr>
<td>Enter water by stepping or jumping in</td>
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<tr>
<td>Enter water using a ladder</td>
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<td></td>
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<tr>
<td>Enter water using steps or ramp</td>
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<td></td>
</tr>
<tr>
<td>In-water exploration (in shallow water)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exit water using side of pool</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exit water using steps or ramp</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exit water using a ladder</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Open eyes and retrieve objects below the surface</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Open eyes and retrieve submerged objects</td>
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<td></td>
</tr>
</tbody>
</table>

### Safety Topics
- Wearing a life jacket in the water
- Reaching assists
- Basic water safety rules review
- Safety at the beach and at the waterpark
- Water toys and their limitations

### Instructor’s Name:

### Date:

## Clear Form
**SKILLS CHECKLIST**

**Preschool Aquatics Level 1**

<table>
<thead>
<tr>
<th>Instructor’s Name:</th>
<th>1.</th>
<th>2.</th>
<th>3.</th>
<th>4.</th>
<th>5.</th>
<th>6.</th>
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<th>9.</th>
<th>10.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date:</td>
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</tr>
</tbody>
</table>

- Enter water using ramp, steps or side
- Exit water using ladder, steps or side
- Blow bubbles, 3 seconds
- Submerge mouth, nose and eyes
- Open eyes underwater and retrieve submerged objects (in shallow water)
- Front glide, 2 body lengths
- Recover from a front glide to a vertical position
- Back glide, 2 body lengths
- Back float, 3 seconds
- Recover from a back float or glide to a vertical position
- Roll from front to back
- Roll from back to front
- Arm and hand treading actions (in chest-deep water)

**Safety Topics**
- Staying safe around water
- Recognizing the lifeguards
- Don’t Just Pack It, Wear Your Jacket
- Recognizing an emergency
- How to call for help
- Too Much Sun Is No Fun

**Exit Skills Assessment**

1. Enter independently, using either the ramp, steps or side, travel at least 5 yards, submerge to mouth and blow bubbles for at least 3 seconds; then safely exit the water. (Children can walk, move along the gutter or “swim.”)

2. While in shallow water, glide on front for at least 2 body lengths, then roll to back and float on back for 3 seconds, then recover to a vertical position.

*All Preschool Aquatics Level 1 skills can be performed with support.*
## Preschool Aquatics Level 2 Skills Checklist

### Skills Section:

- **Instructor’s Name:**
- **Date:**

<table>
<thead>
<tr>
<th>Participant’s Name</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enter water by stepping in from the deck or low height (in shoulder-deep water)</td>
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<tr>
<td>Exit water using ladder, steps or side (in chest-deep water)</td>
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<tr>
<td>Bobbing, 5 times</td>
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<tr>
<td>Open eyes underwater and retrieve submerged objects (in chest-deep water)</td>
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<tr>
<td>Front glide, 2 body lengths</td>
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<tr>
<td>Front float, 3 seconds</td>
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<tr>
<td>Recover from a front float or glide to a vertical position (in chest-deep water)</td>
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<tr>
<td>Back glide, 2 body lengths</td>
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<tr>
<td>Back float, 5 seconds</td>
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<tr>
<td>Recover from a back float or glide to a vertical position</td>
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<tr>
<td>Roll from front to back</td>
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<td>Roll from back to front</td>
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</tbody>
</table>

### Safety Topics:

- Staying safe around water
- Recognizing the lifeguards
- Don’t Just Pack It, Wear Your Jacket
- Recognizing an emergency
- How to call for help
- Too Much Sun Is No Fun

### Exit Skills Assessment*:

1. Glide on front for at least 2 body lengths, roll to back, float on back for 15 seconds, then recover to a vertical position.
2. Glide on back for at least 2 body lengths, roll to front, then recover to a vertical position.
3. Swim using combined arm and leg actions on front for 3 body lengths, roll to back, float for 15 seconds, roll to front, then continue swimming on front for 3 body lengths.

*All Preschool Aquatics Level 2 skills can be performed with assistance.
Modified (B) Course Skills Checklists
## SKILLS CHECKLIST (B)
### Parent and Child Aquatics Level 1

<table>
<thead>
<tr>
<th>Instructor Name:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Skill</th>
<th>Pass</th>
<th>Fail</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hug position</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chin support</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shoulder support on front</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cuddle</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hip straddle</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shoulder support on side</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Curling</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Getting wet with toys</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Getting wet kicking</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enter water by sitting in</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Enter water from a seated position – rolling over and sliding in</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enter water by walking in</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Out-of-water exploration</td>
<td></td>
<td></td>
</tr>
<tr>
<td>In-water exploration</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Hanging on to side of pool</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exit water by sitting out</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exit water by walking out</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exit water using a ladder</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Blowing bubbles on the surface, 3 seconds</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Blowing bubbles with mouth and nose submerged, 3 seconds</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Underwater exploration</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Submerging mouth, nose and eyes, 3 seconds</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Front float, 2 body lengths</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Front glide</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recover from a front float or glide to a vertical position</td>
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<td></td>
</tr>
<tr>
<td><strong>Back float, 3 seconds</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Back glide, 2 body lengths</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recover from a back float or glide to a vertical position</td>
<td></td>
<td></td>
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<tr>
<td><strong>Roll from front to back</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Roll from back to front</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Turn toward pool side</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Passing from instructor to parent</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Leg action on front, 2 body lengths</strong></td>
<td></td>
<td></td>
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<tr>
<td>Arm action on front, 2 body lengths</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Combined movement on front, 2 body lengths</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leg action on back, 2 body lengths</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arm action on back, 2 body lengths</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Combined movement on back, 2 body lengths</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Safety Topics</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The importance of wearing a life jacket</td>
<td></td>
<td></td>
</tr>
<tr>
<td>How to call for help &amp; the importance of knowing first aid and CPR</td>
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<tr>
<td>Basic water safety rules</td>
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<tr>
<td>General water safety around the home</td>
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</table>

*Continued on next slide*
Parent and Child Aquatics Level 1
*Continued from Previous Slide*

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<thead>
<tr>
<th>Instructor Name:</th>
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<tr>
<td>Date:</td>
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</tbody>
</table>

- Recreational water illnesses
- Sun safety

**Exit Skills Assessments**

1. Enter water using either the ramp, steps or slide, travel at least 2 body lengths, submerge to mouth and blow bubbles for at least 3 seconds, then safely exit the water.**

2. Start in the water with support from the adult, travel at least 2 body lengths using the combined movement on front to get to the side, then safely exit the water.

*All Parent and Child Aquatics Level 1 exit skills can be performed with support or assistance as appropriate.
**Children can walk, move along the gutter or “swim.”
## Parent and Child Aquatics Level 2

**Instructor Name:**

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<tbody>
<tr>
<td>Hip support on front</td>
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<td>Hip support on back</td>
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<td>Back support</td>
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<tr>
<td>Arm stroke position</td>
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<tr>
<td>Enter water from a seated position</td>
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<tr>
<td>Enter water from a seated position—rolling over and sliding in</td>
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<tr>
<td>Enter water by stepping or jumping in</td>
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<tr>
<td>Enter water using a ladder</td>
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<td>Enter water using stairs or ramp</td>
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<tr>
<td>In-water exploration (in shallow water)</td>
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<td>Exit water using side of pool</td>
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<td>Exit water using steps or ramp</td>
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<tr>
<td>Exit water using a ladder</td>
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<tr>
<td>Open eyes and retrieve objects below the surface</td>
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<tr>
<td>Open eyes and retrieve submerged objects</td>
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<tr>
<td>Bobbling, 5 times</td>
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<tr>
<td>Front glide, 2 body lengths</td>
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<tr>
<td>Front glide to the wall, 2 body lengths</td>
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<td>Front, 3 seconds</td>
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<tr>
<td>Recover from a front float or glide to a vertical position</td>
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</table>

### Instructor Name:

#### Date:

**Position**

- Back glide, 2 body lengths
- Back float, 10 seconds
- Recover from a back float or glide to a vertical position
- Roll from front to back
- Roll from back to front
- **Turn toward side of pool**

**Passing from instructor to parent**

- Drifting with breathing
- **Leg action on front—alternating or simultaneous movements, 3 body lengths**
- **Arm action on front—alternating or simultaneous movements, 3 body lengths**
- Combined arm and leg actions on front with breathing, 3 body lengths
- **Leg action on back—alternating or simultaneous movements, 3 body lengths**
- **Arm action on back—alternating or simultaneous movements, 3 body lengths**
- Combined arm and leg actions on back, 3 body lengths

**Water Safety**

- Wearing a life jacket in the water
- Reaching assists
- Basic water safety rules review
- Safety at the beach and at the waterpark
- Water toys and their limitations

**Exit Skills Assessments**

1. Enter water, glide on front at least 2 body lengths, roll to back, float on back for 10 seconds, recover to a vertical position
<table>
<thead>
<tr>
<th>Instructor Name:</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Date:</td>
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</tbody>
</table>

2. Glide on back for at least 2 body lengths, roll to front, recover to a vertical position, then travel to a position of safety.

3. Swim using combined arm and leg actions on front for at least 3 body lengths, roll to back, **float for 5 seconds**; roll to front, continue swimming on front for at least 3 body lengths, then travel to a position of safety.

*All Parent Child Aquatics Level 2 exit skills may be performed with assistance or independently as appropriate. A position of safety could be hanging on the wall or exiting the water.*
### Preschool Aquatics Level 1

<table>
<thead>
<tr>
<th>Instructor Name:</th>
<th>Child #</th>
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<th>Child #</th>
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<th>Child #</th>
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<td>Date:</td>
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</tbody>
</table>

- **Enter water using ramps, steps or side**
- **Exit water using ladder, steps or side**
- **Blowing bubbles, 3 seconds**
- **Submerge mouth, nose and eyes**
- **Open eyes under water and retrieving submerged objects**
- **Front glide, 2 body lengths**
- **Recover from a front glide to a vertical position**
- **Back glide, 2 body lengths**
- **Back float, 3 seconds**
- **Recover from a back float to a vertical position**
- **Roll from front to back**
- **Roll from back to front**
- **Arm and hand treading actions (in chest-deep water)**
- **Turn toward pool side**
- **Alternating leg action on front, 2 body lengths**
- **Simultaneous leg action on front, 2 body lengths**
- **Alternating arm action on front, 2 body lengths**
- **Simultaneous arm action, 2 body lengths**
- **Combined arm and leg actions on front, 2 body lengths**
- **Simultaneous leg action on back, 2 body lengths**
- **Alternating leg action on back, 2 body lengths**

### Instructor Name:

<table>
<thead>
<tr>
<th>Child #</th>
<th>Child #</th>
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<th>Child #</th>
<th>Child #</th>
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<td>Date:</td>
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</tbody>
</table>

- **Simultaneous leg action on back, 2 body lengths**
- **Alternating arm action on back, 2 body lengths**
- **Simultaneous arm action on back, 2 body lengths**
- **Combined arm and leg actions on back, 2 body lengths**

### Water Safety

- **Staying safe around aquatic environments**
- **Recognizing the lifeguards**
- **Don’t Just Pack it, Wear Your Jacket**
- **Recognizing an emergency**
- **How to call for help**
- **Too Much Sun Is No Fun**

### Exit Skills Assessment*

1. Enter independently, using either the ramp, steps or side, travel at least 5 yards, submerge mouth and blow bubbles for at least 3 seconds then safely exit the water.
2. While in shallow water, glide on front at least 2 body lengths, then roll to back and float on back for 3 seconds then recover to a vertical position.

*All Preschool Aquatics Level 1 exit skills can be performed with support or assistance as appropriate. A position of safety could be hanging on the wall or exiting the water.

**Children can walk, move along the gutter or "swim."**
### Preschool Aquatics Level 2

**Instructor Name:**

<table>
<thead>
<tr>
<th>Date:</th>
<th>Child #</th>
<th>Child #</th>
<th>Child #</th>
<th>Child #</th>
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</thead>
</table>

**Water Safety**

- Staying safe around aquatic environments
- Recognizing the lifeguards
- Don’t Just Pack It, Wear Your Jacket
- Recognizing an emergency
- How to call for help
- Too Much Sun is No Fun

**Exit Skills Assessment**

1. Glide on front at least 2 body lengths, roll to back, float on back for 15 seconds, recover to a vertical position then travel to a position of safety.

2. Glide on back for at least 2 body lengths, roll to front, then recover to a vertical position, then travel to a position of safety.

3. Swim using combined arm and leg actions on front for at least 3 body lengths, roll to back (CRP3), float on back for 15 seconds, roll to front, continue swimming on front for at least 3 body lengths, then travel to a position of safety.

*All Preschool Aquatics Level 2 exit skills may be performed with assistance or independently as appropriate. A position of safety could be hanging on the wall or exiting the water.
Appendix B: Data Collection Tools

Pre-Participation Parent Surveys
Water Competence Assessment Form
Post-Participation Parent Surveys
Pre-Participation Parent Survey – Parent and Child Aquatics

Child’s Name: __________________________ Level: 1 2
Date of Birth: __________________________ Gender: Please circle.
Male Female Non-binary Transgender Other Prefer not to answer

1. How would you rate your swimming ability? Please check one.
☐ Non-Swimmer
☐ Beginner swimmer
☐ Intermediate swimmer (comfortable and/or safe in deep water)
☐ Advanced swimmer (can swim multiple strokes efficiently)

2. How would you rate your child’s swimming ability? Please check one.
☐ Non-Swimmer
☐ Beginner swimmer
☐ Intermediate swimmer
☐ Advanced swimmer

3. Has your child ever participated in group swim lessons before this session? Please check one and enter the number.
☐ Yes If yes, how many classes (in other words, how many days)? __________
☐ No

4. Has your child ever participated in private swim lessons? Check one and enter the number.
☐ Yes If yes, how many classes? __________
☐ No

5. What types of bodies of water does your child have easy and regular access to and experience with? Select all that apply.
☐ Residential pool
☐ Inflatable/Portable pool
☐ Neighborhood pool
☐ Splashpad
☐ Waterpark
☐ Pond or Lake
☐ Ocean

6. Which of the following skills can your child perform in the water without support or assistance from an adult or a flotation device? Check all that apply.
☐ Enter the water
☐ Float on front
☐ Float on back
☐ Submerge and control breathing, such as blowing bubbles or holding their breath
☐ Turn around to face different directions or turn over from front to back
☐ Paddle on the front
☐ Paddle on the back
☐ Exit the water

7. As a parent/caregiver, how comfortable are you helping your child learn these skills? Select one.
☐ Very comfortable
☐ Somewhat comfortable
☐ Somewhat uncomfortable
☐ Very uncomfortable

8. As a parent/caregiver, what do you expect to learn during this set of swim lessons? Select all that apply.
☐ How to properly supervise and maintain safe behavior around water
☐ Learn basic water safety information
☐ How and when to use holding and support techniques for my young child
☐ How to determine child’s readiness to try basic skills and support their learning
☐ How to select, properly fit and use a life jacket
☐ How to perform basic water rescue skills, such as reaching and throwing assists

9. At the end of this session, which of the following skills do you expect that your child will be able to do the following skills without support or assistance from an adult or a flotation device? Select all that apply.
☐ Enter the water
☐ Float on front
☐ Float on back
☐ Submerge and control breathing, such as blowing bubbles or holding their breath
☐ Turn around to face different directions or turn over from front to back
☐ Paddle on the front
☐ Paddle on the back
☐ Exit the water

Thank you for your participation in this research study!
Pre-Participation Parent Survey – Preschool Aquatics

Preschool Aquatics Pre-Participation Survey

Child’s Name: ________________________________

Date of Birth: ________________________________

Gender: Please circle.

Male  Female  Non-binary

Transgender  Other  Prefer not to answer

1. How would you rate your swimming ability? Please check one.
   □ Non-Swimmer
   □ Beginner swimmer
   □ Intermediate swimmer (comfortable and/or safe in deep water)
   □ Advanced swimmer (can swim multiple strokes efficiently)

2. How would you rate your child’s swimming ability? Check one.
   □ Non-Swimmer
   □ Beginner swimmer
   □ Intermediate swimmer
   □ Advanced swimmer

3. Has your child ever participated in group swim lessons before this session? Check one and enter the number.
   □ Yes  If yes, how many classes (in other words, how many days)?
   □ No

4. Has your child ever participated in private swim lessons? Check one and enter the number.
   □ Yes  If yes, how many classes? _______________
   □ No

5. What types of bodies of water does your child have easy and regular access to and experience with? Check all that apply.
   □ Residential pool
   □ Inflatable/Portable pool
   □ Neighborhood pool
   □ Splashpad
   □ Waterpark
   □ Pond or Lake
   □ Ocean

6. Check which skills your child can perform in the water without support or assistance from an adult or a flotation device. Check all that apply.
   □ Enter the water
   □ Float on front
   □ Float on back
   □ Submerge and control breathing, such as blowing bubbles or holding their breath
   □ Turn around to face different directions or turn over from front to back
   □ Paddle on the front
   □ Paddle on the back
   □ Exit the water

7. As a parent/caregiver, how comfortable are you helping your child learn these skills? Check one.
   □ Very comfortable
   □ Somewhat comfortable
   □ Somewhat uncomfortable
   □ Very uncomfortable

8. As a parent/caregiver, what do you expect to learn while your child is participating in this set of swim lessons? Check all that apply.
   □ How to properly supervise and maintain safe behavior around water
   □ Learn basic water safety information
   □ How and when to use holding and support techniques for my young child
   □ How to determine child’s readiness to try basic skills and support their learning
   □ How to select, properly fit and use a life jacket
   □ How to perform basic water rescue skills, such as reaching and throwing assists

9. At the end of this session, which of the following skills do you expect that your child will be able to do without support or assistance from an adult or a flotation device? Check all that apply.
   □ Enter the water
   □ Float on front
   □ Float on back
   □ Submerge and control breathing, such as blowing bubbles or holding their breath
   □ Turn around to face different directions or turn over from front to back
   □ Paddle on the front
   □ Paddle on the back
   □ Exit the water

10. What water safety information do you expect your child to learn during this set of swim lessons? Check all that apply.
    □ Staying safe around aquatic environments
    □ How to recognize the lifeguards
    □ When and how to wear life jackets
    □ How to recognize an emergency and call for help
    □ Sun safety

Thank you for your participation in this research study!
Water Competence Assessment Form

Child #: _________  Class (circle):  PCA  PSA  Curriculum (circle):  A  B

Water Entry Component Sequence (WE)
1. No voluntary entry demonstrated
2. Caregiver- or flotation-supported feet-first entry
3. Unassisted voluntary feet-first entry

Water Exit Component Sequence (WX)
1. No voluntary exit demonstrated
2. Caregiver-supported exit to pool side
3. Flotation-supported or caregiver-assisted exit to pool side
4. Independent exit to pool side
5. Independent exit to pool side and exit from pool (over side, up stairs or ramp or ladder)

Breath Control Component Sequence (BC)
1. Reflexive breath holding when face is voluntarily submerged
2. Allowing water voluntarily in and/or around mouth resulting in spitting or spouting
3. Voluntary partial facial submersion (mouth and/or nose)
4. Voluntary full head submersion
5. Repeated voluntary submersion/breath-holding in water
6. Extended voluntary breath holding and/or repeated rhythmic breathing with water safety skills

Bach (Supine) Buoyancy/Flotation Component Sequence (BF)
1. No back flotation demonstrated
2. Back flotation with caregiver/instructor support
3. Back flotation with instructional flotation device support
4. Momentary (1-3 sec.) voluntary back flotation
5. Independent (>3 sec.) voluntary back flotation

Change in Body Orientation (turning around while vertical) Component Sequence (CBO)
1. No change in body orientation demonstrated
2. Caregiver/instructor-supported body orientation change (turning around)
3. Body orientation change (turning around) while supported by flotation device
4. Independent voluntary body orientation change (turning around)

Aquatic Readiness and Water Competence Assessment Profile

<table>
<thead>
<tr>
<th>Component + # of levels</th>
<th>WE (3)</th>
<th>WX (5)</th>
<th>BC (6)</th>
<th>BF (5)</th>
<th>CBO (4)</th>
</tr>
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<tbody>
<tr>
<td>Pre- Level # achieved</td>
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<tr>
<td>Post- Level # achieved</td>
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<tr>
<td>Change in levels (+ or -)</td>
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</table>
Parent and Child Aquatics Demographic Information

Do you consider yourself to be part of the Latinx population (Hispanic/Latino/a/Latino of descent)?
- Yes
- No
- Prefer not to answer

Do you consider your child that participated in these swim lessons to be part of the Latinx population?
- Yes
- No
- Prefer not to answer

What race/ethnicity do you consider yourself?
- White (or European-American)
- Black (or African-American)
- Native American or Alaska Native
- Asian-American or Pacific Islander
- Other (please indicate here) ____________________________________________________________________
- Prefer not to answer

What race/ethnicity do you consider your child?
- White (or European-American)
- Black (or African-American)
- Native American or Alaska Native
- Asian-American or Pacific Islander
- Other (please indicate here) ____________________________________________________________________
- Prefer not to answer

Which of the following includes your TOTAL household annual income before taxes in 2019?
- No income in 2019
- Less than $15,000
- $15,000 - $24,999
- $25,000 - $34,999
- $35,000 - $44,999
- $45,000 - $54,999
- $55,000 - $74,999
- $75,000 - $99,999
- $100,000 or more
- Prefer not to answer

How many people are supported by your household income, including you, your significant other (if you have one), children under your care, and anyone else partially or fully supported by this income whether or not they live with you?

Please continue to the other side to complete this survey.
Preschool Aquatics Demographic Information

Do you consider yourself to be part of the Latinx population (Hispanic/Spanish/Latino descent)?
☐ Yes  ☐ No  ☐ Prefer not to answer

Do you consider your child that participated in these swim lessons to be part of the Latinx population?
☐ Yes  ☐ No  ☐ Prefer not to answer

What race/ethnicity do you consider yourself?
☐ White [or European-American]  ☐ Black [or African-American]  ☐ Native American or Alaska Native  ☐ Asian-American or Pacific Islander  ☐ Other (please indicate here)  ☐ Prefer not to answer

What race/ethnicity do you consider your child?
☐ White [or European-American]  ☐ Black [or African-American]  ☐ Native American or Alaska Native  ☐ Asian-American or Pacific Islander  ☐ Other (please indicate here)  ☐ Prefer not to answer

Which of the following includes your TOTAL household annual income before taxes in 2019:
☐ No income in 2019  ☐ Less than $15,000  ☐ $15,000 - $24,999  ☐ $25,000 - $34,999  ☐ $35,000 - $44,999  ☐ $45,000 - $54,999  ☐ $55,000 - $74,999  ☐ $75,000 - $99,000  ☐ $100,000 or more  ☐ Prefer not to answer

How many people are supported by your household income, including you, your significant other (if you have one), children under your care, and anyone else partially or fully supported by this income whether or not they live with you?

Please continue to the other side to complete this survey.

Preschool Aquatics Post-Participation Survey

Child’s Name: ________________________________

1. How many classes did your child attend during this set of lessons? Please circle.
   ☐ 1 – 4  ☐ 5 – 7  ☐ All 8 classes

2. After having completed this set of lessons, which skills can your child perform in the water without support or assistance from an adult or a flotation device? Select all that apply.
   □ Enter the water
   □ Float on front
   □ Float on back
   □ Submerge and control breathing, such as blowing bubbles or holding their breath
   □ Turn around to face different directions or turn over from front to back
   □ Paddle on the front
   □ Paddle on the back
   □ Exit the water

3. Which water safety information did your child learn during this set of swim lessons? Select all that apply.
   □ Staying safe around aquatic environments
   □ How to recognize the lifeguards
   □ When and how to wear life jackets
   □ How to recognize an emergency and call for help
   □ Sun safety
   □ My child didn’t learn any of these

4. Which of the following did you learn during this set of swim lessons? Select all that apply.
   □ How to properly supervise and maintain safe behavior around water
   □ Learn basic water safety information
   □ How and when to use holding and support techniques for my young child
   □ How to determine child’s readiness to try basic skills and support their learning
   □ How to select, properly fit and use a life jacket
   □ How to perform basic water rescue skills, such as reaching and throwing assists
   □ I didn’t learn any of these

5. How much progress did your child make compared with your expectations? Select one.
   □ Exceeded expectations
   □ Somewhat exceeded expectations
   □ Met expectations
   □ Somewhat failed to meet expectations
   □ Failed to meet to expectations

6. Do you plan to enroll your child in another session of swim lessons this summer? Select one.
   □ Yes  ☐ No

Thank you for your participation in this research study!
Thanks!