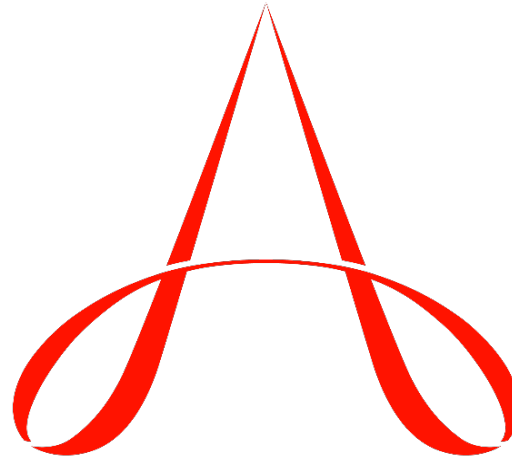




# Pediatric Hematology-Oncology Milestones

The Accreditation Council for Graduate Medical Education



**A C G M E**

Implementation Date: July 2023

Second Revision: April 2023

First Revision: January 2014

# Pediatric Hematology-Oncology Milestones

The Milestones are designed only for use in evaluation of fellows in the context of their participation in ACGME-accredited residency or fellowship programs. The Milestones provide a framework for the assessment of the development of the fellow in key dimensions of the elements of physician competency in a specialty or subspecialty. They neither represent the entirety of the dimensions of the six domains of physician competency, nor are they designed to be relevant in any other context.

## **Pediatric Hematology-Oncology Milestones Work Group**

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American Board of Pediatrics

American Society of Pediatric Hematology/Oncology

Association of Pediatric Program Directors

Council of Pediatric Subspecialties

ACGME Review Committee for Pediatrics

## Understanding Milestone Levels and Reporting

This document presents the Milestones, which programs use in a semi-annual review of fellow performance, and then report to the ACGME. Milestones are knowledge, skills, attitudes, and other attributes for each of the ACGME Competencies organized in a developmental framework. The narrative descriptions are targets for fellows' performance throughout their educational program.

Milestones are arranged into levels. Tracking from Level 1 to Level 5 is synonymous with moving from novice to expert fellow in the specialty or subspecialty. For each reporting period, the Clinical Competency Committee will review the completed evaluations to select the milestone levels that best describe each learner's current performance, abilities, and attributes for each subcompetency.

These levels *do not* correspond with post-graduate year of education. Depending on previous experience, a junior fellow may achieve higher levels early in the educational program just as a senior fellow may be at a lower level later in the educational program. There is no predetermined timing for a fellow to attain any particular level. Fellows may also regress in achievement of their milestones. This may happen for many reasons, such as over scoring in a previous review, a disjointed experience in a particular procedure, or a significant act by the fellow.

Selection of a level implies the fellow substantially demonstrates the milestones in that level, as well as those in lower levels (see the diagram on page vi).

## Additional Notes

Level 4 is designed as a graduation *goal* but *does not* represent a graduation *requirement*. Making decisions about readiness for graduation and unsupervised practice is the purview of the program director. Furthermore, Milestones 2.0 include revisions and changes that preclude using Milestones as a sole assessment in high-stakes decisions (i.e., determination of eligibility for certification or credentialing). Level 5 is designed to represent an expert fellow whose achievements in a subcompetency are greater than the expectation. Milestones are primarily designed for formative, developmental purposes to support continuous quality improvement for individual learners, education programs, and the specialty. The ACGME and its partners will continue to evaluate and perform research on the Milestones to assess their impact and value.

Examples are provided for some milestones within this document. Please note: the examples are not the required element or outcome; they are provided as a way to share the intent of the element.

A Supplemental Guide is also available to provide the intent of each subcompetency, examples for each level, assessment methods or tools, and other available resources. The Supplemental Guide, like examples contained within the Milestones, is designed only to assist the program director and Clinical Competency Committee, and is not meant to demonstrate any required element or outcome.

Supplemental Guides and other resources are available on the Milestones page of each specialty section of the ACGME website. On [www.acgme.org](http://www.acgme.org), choose the applicable specialty under the “Specialties” menu, then select the “Milestones” link in the lower navigation bar.

The diagram below presents an example set of milestones for one sub-competency in the same format as the ACGME Report Worksheet. For each reporting period, a fellow's performance on the milestones for each sub-competency will be indicated by selecting the level of milestones that best describes that fellow's performance in relation to those milestones.

Systems-Based Practice 1: Patient Safety				
Level 1	Level 2	Level 3	Level 4	Level 5
Demonstrates knowledge of common patient safety events	Identifies system factors that lead to patient safety events	Participates in analysis of patient safety events (simulated or actual)	Conducts analysis of patient safety events and offers error prevention strategies (simulated or actual)	Actively engages teams and processes to modify systems to prevent patient safety events
Demonstrates knowledge of how to report patient safety events	Reports patient safety events through institutional reporting systems (simulated or actual)	Participates in disclosure of patient safety events to patients and patients' families (simulated or actual)	Discloses patient safety events to patients and patients' families (simulated or actual)	Role models or mentors others in the disclosure of patient safety events
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Comments:</b> <div style="float: right;">Not Yet Completed Level 1 <input type="checkbox"/></div>				

Selecting a response box in the middle of a level implies that milestones in that level and in lower levels have been substantially demonstrated.

Selecting a response box on the line in between levels indicates that milestones in lower levels have been substantially demonstrated as well as **some** milestones in the higher level(s).

Patient Care 1: History and Physical Examination				
Level 1	Level 2	Level 3	Level 4	Level 5
Gathers a disease-specific history, with prompting	Accesses data from multiple sources and collects disease-specific history, including psychosocial history, with guidance	Accesses and synthesizes data from multiple sources and collects disease-specific history, with guidance	Independently accesses and synthesizes data from multiple sources and collects disease-specific history	Role models gathering and synthesis of clinical information
Performs a physical examination standard for general pediatrics	Performs a disease-specific physical examination, with guidance	Completes a disease-specific physical examination	Consistently completes a disease-specific physical examination	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Comments:</b>				Not Yet Completed Level 1 <input type="checkbox"/> Not Yet Assessable <input type="checkbox"/>

Patient Care 2: Organize and Prioritize Patient Care				
Level 1	Level 2	Level 3	Level 4	Level 5
Organizes patient care responsibilities by focusing on individual (rather than multiple) patients	Organizes and prioritizes the simultaneous care of multiple patients, with guidance	Independently and efficiently prioritizes patient care based on level of acuity	Mobilizes resources to optimize patient care when volume and/or acuity approaches the capacity of the health care team	Serves as a role model and coach for patient care responsibilities
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Comments:</b> <div style="text-align: right;">                     Not Yet Completed Level 1 <input type="checkbox"/>                      Not Yet Assessable <input type="checkbox"/> </div>				

Patient Care 3: Clinical Reasoning				
Level 1	Level 2	Level 3	Level 4	Level 5
Organizes and summarizes information obtained from the initial evaluation to develop a broad differential diagnosis, with guidance	Integrates information to develop a broad differential diagnosis for routine hematology-oncology presentations  Identifies clinical reasoning errors, with guidance	Develops a thorough and prioritized differential diagnosis for routine hematology-oncology presentations  Retrospectively applies clinical reasoning principles to identify errors	Develops a thorough and prioritized differential diagnosis for complex hematology-oncology presentations  Continually re-appraises own clinical reasoning to improve patient care in real time	Coaches others to develop prioritized differential diagnoses in complex hematology-oncology presentations  Models how to recognize errors and reflect upon one's own clinical reasoning
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Comments:</b> <div style="text-align: right;">                     Not Yet Completed Level 1 <input type="checkbox"/>                      Not Yet Assessable <input type="checkbox"/> </div>				

Patient Care 4: Patient Management				
Level 1	Level 2	Level 3	Level 4	Level 5
Participates in the creation of management plans	<p>Develops management plans for routine diagnoses, with guidance</p> <p>Adjusts management plans according to guidelines, toxicities, patient preferences, and goals, with guidance</p>	<p>Develops and implements management plans for routine diagnoses</p> <p>Adjusts management plans according to guidelines, toxicities, patient preferences, and goals in routine circumstances</p>	<p>Develops and implements management plans for complex diagnoses</p> <p>Adjusts management plans according to guidelines, toxicities, patient preferences, and goals in complex circumstances</p>	Serves as a role model and coach for development and adjustment of management plans for complex diagnoses
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p><b>Comments:</b></p> <p style="text-align: right;">Not Yet Completed Level 1 <input type="checkbox"/></p> <p style="text-align: right;">Not Yet Assessable <input type="checkbox"/></p>				

Patient Care 5: Competence in Procedures				
Level 1	Level 2	Level 3	Level 4	Level 5
Performs required procedures, with hands-on guidance	Performs required procedures, with verbal guidance	Performs required procedures in routine situations	Performs required procedures in complex situations	Serves as a role model and coach for performing required procedures and managing complications
Discusses indications and potential procedural complications	Recognizes complications	Manages complications, with guidance	Anticipates and manages complications	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Comments:</b>				Not Yet Completed Level 1 <input type="checkbox"/> Not Yet Assessable <input type="checkbox"/>

Medical Knowledge 1: Oncology				
Level 1	Level 2	Level 3	Level 4	Level 5
Demonstrates basic knowledge of specialty disorders	Applies basic knowledge of specialty disorders to routine patient presentations	Demonstrates expanded knowledge of specialty disorders and applies to routine patient presentations	Applies expanded knowledge of specialty disorders to complex patient presentations	Serves as a role model, drawing from a breadth of medical knowledge that spans the continuum of routine to complex patient presentations
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Comments:</b> <div style="text-align: right;">                     Not Yet Completed Level 1 <input type="checkbox"/>                      Not Yet Assessable <input type="checkbox"/> </div>				

Medical Knowledge 2: Hematology				
Level 1	Level 2	Level 3	Level 4	Level 5
Demonstrates basic knowledge of specialty disorders	Applies basic knowledge of specialty disorders to routine patient presentations	Demonstrates expanded knowledge of specialty disorders and applies to routine patient presentations	Applies expanded knowledge of specialty disorders to complex patient presentations	Serves as a role model, drawing from a breadth of medical knowledge that spans the continuum of routine to complex patient presentations
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Comments:</b> <div style="text-align: right;">                     Not Yet Completed Level 1 <input type="checkbox"/>                      Not Yet Assessable <input type="checkbox"/> </div>				

Medical Knowledge 3: Bone Marrow Transplant/Cellular Therapy				
Level 1	Level 2	Level 3	Level 4	Level 5
Demonstrates basic knowledge of specialty disorders	Applies basic knowledge of specialty disorders to routine patient presentations	Demonstrates expanded knowledge of specialty disorders and applies to routine patient presentations	Applies expanded knowledge of specialty disorders to complex patient presentations	Serves as a role model, drawing from a breadth of medical knowledge that spans the continuum of routine to complex patient presentations
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Comments:</b> <div style="text-align: right;">                     Not Yet Completed Level 1 <input type="checkbox"/>                      Not Yet Assessable <input type="checkbox"/> </div>				



Systems-Based Practice 1: Patient Safety				
Level 1	Level 2	Level 3	Level 4	Level 5
Demonstrates knowledge of common patient safety events	Identifies system factors that lead to patient safety events	Participates in analysis of patient safety events (simulated or actual)	Conducts analysis of patient safety events and offers error prevention strategies (simulated or actual)	Actively engages teams and processes to modify systems to prevent patient safety events
Demonstrates knowledge of how to report patient safety events	Reports patient safety events through institutional reporting systems (simulated or actual)	Participates in disclosure of patient safety events to patients and families (simulated or actual)	Discloses patient safety events to patients and families (simulated or actual)	Role models or mentors others in the disclosure of patient safety events
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Comments:</b> <div style="text-align: right;">Not Yet Completed Level 1 <input type="checkbox"/></div>				

Systems-Based Practice 2: Quality Improvement				
Level 1	Level 2	Level 3	Level 4	Level 5
Demonstrates knowledge of basic quality improvement methodologies and metrics	Describes local quality improvement initiatives (e.g., community vaccination rate, infection rate, smoking cessation)	Participates in local quality improvement initiatives	Demonstrates the skills required to identify, develop, implement, and analyze a quality improvement project	Creates, implements, and assesses quality improvement initiatives at the institutional or community level
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Comments:</b> <div style="text-align: right;">Not Yet Completed Level 1 <input type="checkbox"/></div>				

Systems-Based Practice 3: System Navigation for Patient Centered Care – Coordination of Care				
Level 1	Level 2	Level 3	Level 4	Level 5
Lists the various interprofessional individuals involved in the patient's care coordination	Coordinates care of patients in routine clinical situations, incorporating interprofessional teams with consideration of patient and family needs	Coordinates care of patients in complex clinical situations, effectively utilizing the roles of interprofessional teams, and incorporating patient and family needs and goals	Coordinates interprofessional, patient-centered care among different disciplines and specialties, actively assisting families in navigating the health care system	Coaches others in interprofessional, patient-centered care coordination
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Comments:</b> <div style="text-align: right;">Not Yet Completed Level 1 <input type="checkbox"/></div>				

Systems-Based Practice 4: System Navigation for Patient-Centered Care – Transitions in Care				
Level 1	Level 2	Level 3	Level 4	Level 5
Uses a standard template for transitions of care/hand-offs	Adapts a standard template, recognizing key elements for safe and effective transitions of care/hand-offs in routine clinical situations	Performs safe and effective transitions of care/hand-offs in complex clinical situations, and ensures closed-loop communication	Performs and advocates for safe and effective transitions of care/hand-offs within and across health care delivery systems, including transitions to adult care	Coaches others in improving transitions of care within and across health care delivery systems to optimize patient outcomes
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Comments:</b> <div style="text-align: right;">Not Yet Completed Level 1 <input type="checkbox"/></div>				

Systems-Based Practice 5: Population and Community Health				
Level 1	Level 2	Level 3	Level 4	Level 5
Demonstrates awareness of population and community health needs	Identifies specific population and community health needs; identifies local resources	Uses local resources effectively to meet the needs of a patient population and community	Adapts practice to provide for the needs of of a specific population	Advocates at the local, regional, or national level for populations and communities with health care needs
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Comments:</b> <div style="text-align: right;">Not Yet Completed Level 1 <input type="checkbox"/></div>				

Systems-Based Practice 6: Physician Role in Health Care Systems				
Level 1	Level 2	Level 3	Level 4	Level 5
Engages with patients and other providers in discussions about cost-conscious care and key components of the health care delivery system	Identifies the relationships between the delivery system and cost-conscious care and the impact on the patient care	Discusses the need for changes in clinical approaches based on evidence, outcomes, and cost-effectiveness to improve care for patients and families	Advocates for the promotion of safe, quality, and high-value care	Coaches others to promote safe, quality, and high-value care across health care systems
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Comments:</b>				Not Yet Completed Level 1 <input type="checkbox"/>

Practice-Based Learning and Improvement 1: Evidence-Based and Informed Practice				
Level 1	Level 2	Level 3	Level 4	Level 5
Develops an answerable clinical question and demonstrates how to access available evidence, with guidance	Independently articulates clinical question and accesses available evidence	Locates and applies the evidence, integrated with patient preference, to the care of patients	Critically appraises and applies evidence, even in the face of uncertainty and conflicting evidence to guide care tailored to the individual patient	Coaches others to critically appraise and apply evidence for complex patients
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Comments:</b> <div style="text-align: right;">Not Yet Completed Level 1 <input type="checkbox"/></div>				

Practice-Based Learning and Improvement 2: Reflective Practice and Commitment to Personal Growth				
Level 1	Level 2	Level 3	Level 4	Level 5
Participates in feedback sessions	Demonstrates openness to feedback and performance data	Seeks and incorporates feedback and performance data episodically	Seeks and incorporates feedback and performance data consistently	Role models and coaches others in seeking and incorporating feedback and performance data
Develops personal and professional goals, with assistance	Designs a learning plan based on established goals, feedback, and performance data, with assistance	Designs and implements a learning plan by analyzing and reflecting on the factors which contribute to gap(s) between performance expectations and actual performance	Adapts a learning plan using long-term professional goals, self-reflection, and performance data to measure its effectiveness	Demonstrates continuous self-reflection and coaching of others on reflective practice
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Comments:</b> <div style="text-align: right;">Not Yet Completed Level 1 <input type="checkbox"/></div>				

Professionalism 1: Professional Behavior				
Level 1	Level 2	Level 3	Level 4	Level 5
Identifies expected professional behaviors and potential triggers for lapses	Demonstrates professional behavior with occasional lapses	Maintains professional behavior in increasingly complex or stressful situations	Recognizes situations that may trigger professionalism lapses and intervenes to prevent lapses in self and others	Models professional behavior and coaches others when their behavior fails to meet professional expectations
Identifies the value and role of pediatric hematology oncology as a vocation/career	Demonstrates accountability for patient care as a pediatric hematologist/oncologist, with guidance	Fully engages in patient care and holds oneself accountable	Exhibits a sense of duty to patient care and professional responsibilities	Extends the role of the pediatric hematologist/oncologist beyond the care of patients by engaging with the community, specialty, and medical profession as a whole
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Comments:</b> <div style="text-align: right;">Not Yet Completed Level 1 <input type="checkbox"/></div>				

Professionalism 2: Ethical Principles				
Level 1	Level 2	Level 3	Level 4	Level 5
Demonstrates knowledge of the ethical principles underlying informed consent, surrogate decision making, advance directives, confidentiality, error disclosure, stewardship of limited resources, and related topics	Applies ethical principles in common situations	Analyzes complex situations using ethical principles to address conflict/controversy; seeks help when needed to manage and resolve complex ethical situations	Manages and seeks to resolve ethical dilemmas using appropriate resources (e.g., ethics consultations, literature review, risk management/legal consultation)	Called upon by others to consult in cases of complex ethical dilemmas; identifies and seeks to address system-level factors that induce or exacerbate
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Comments:</b> <div style="text-align: right;">Not Yet Completed Level 1 <input type="checkbox"/></div>				

Professionalism 3: Accountability/Conscientiousness				
Level 1	Level 2	Level 3	Level 4	Level 5
Performs tasks and responsibilities, with prompting	Performs tasks and responsibilities in a timely manner in routine situations	Performs tasks and responsibilities in a thorough and timely manner in complex or stressful situations	Coaches others to ensure tasks and responsibilities are completed in a thorough and timely manner in complex or stressful situations	Creates strategies to enhance others' ability to efficiently complete tasks and responsibilities
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Comments:</b> <div style="text-align: right;">Not Yet Completed Level 1 <input type="checkbox"/></div>				

Professionalism 4: Well-Being				
Level 1	Level 2	Level 3	Level 4	Level 5
Recognizes the importance of addressing personal and professional well-being	Describes institutional resources that are meant to promote well-being	Recognizes institutional and personal factors that impact well-being	Describes interactions between institutional and personal factors that impact well-being	Coaches and supports colleagues to optimize well-being at the team, program, or institutional level
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Comments:</b> <div style="text-align: right;">Not Yet Completed Level 1 <input type="checkbox"/></div>				

This subcompetency is not intended to evaluate a fellow's well-being, but to ensure each fellow has the fundamental knowledge of factors that impact well-being, the mechanisms by which those factors impact well-being, and available resources and tools to improve well-being.



Interpersonal and Communication Skills 2: Interprofessional and Team Communication				
Level 1	Level 2	Level 3	Level 4	Level 5
Respectfully requests a consultation, with guidance	Clearly and concisely requests consultation by communicating patient information	Formulates a specific question for consultation and tailors communication strategy	Coordinates consultant recommendations to optimize patient care	Maintains a collaborative relationship with referring providers that maximizes adherence to practice recommendations
Identifies the members of the interprofessional team	Participates within the interprofessional team	Uses bi-directional communication within the interprofessional team	Facilitates interprofessional team communication	Coaches others in effective communication within the interprofessional team
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Comments:</b> <div style="text-align: right;">Not Yet Completed Level 1 <input type="checkbox"/></div>				

Interpersonal and Communication Skills 3: Communication within Health Care Systems				
Level 1	Level 2	Level 3	Level 4	Level 5
Records accurate information in the patient record	Records accurate and timely information in the patient record	Concisely documents updated, prioritized, diagnostic and therapeutic reasoning in the patient record	Documents diagnostic and therapeutic reasoning, including anticipatory guidance	Models and coaches others in documenting diagnostic and therapeutic reasoning
Identifies the importance of and responds to multiple forms of communication (e.g., in-person, electronic health record (EHR), telephone, email)	Selects appropriate method of communication, with prompting	Aligns type of communication with message to be delivered (e.g., direct and indirect) based on urgency and complexity	Demonstrates exemplary written and verbal communication	Coaches others in written and verbal communication
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Comments:</b>				Not Yet Completed Level 1 <input type="checkbox"/>

Interpersonal and Communication Skills 4: Complex Communication Around Serious Illness/Difficult Conversations				
Level 1	Level 2	Level 3	Level 4	Level 5
Recognizes when a topic may be challenging when communicating with patients and their families	Assesses patients' and patients' families' situational awareness and identifies preferences for receiving challenging information	Communicates challenging information and attends to emotional responses of patients and patients' families	Anticipates needs of patients and their families and tailors communication according to the situation, emotional response, and medical uncertainty	Coaches others in the communication of challenging information
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Comments:</b> <div style="text-align: right;">Not Yet Completed Level 1 <input type="checkbox"/></div>				