# Approaches to Learning

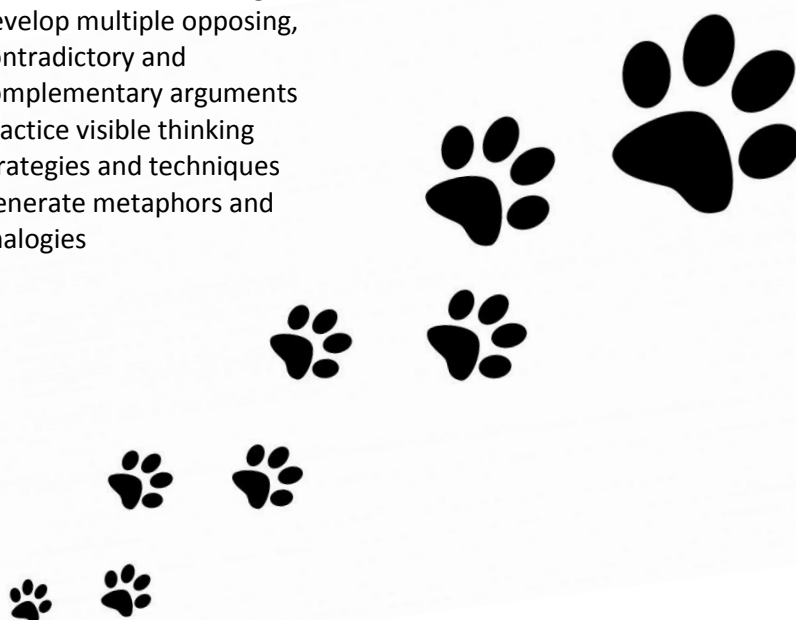## Thinking

### Critical Thinking Skills

- Practice observing carefully in order to recognize problems
- Gather and organize relevant information to formulate an argument
- Recognize unstated assumptions and bias
- Interpret data
- Evaluate evidence and arguments
- Recognize and evaluate propositions
- Draw reasonable conclusions and generalizations
- Test generalizations and conclusions
- Revise understanding based on new information and evidence
- Evaluate and manage risk
- Formulate factual, topical, conceptual and debatable questions
- Consider ideas from multiple perspectives
- Develop contrary or opposing arguments
- Analyze complex concepts and projects into their constituent parts and synthesize them to create new understanding
- Propose and evaluate a variety of solutions
- Identify obstacles and challenges
- Use models and simulations to explore complex systems and issues
- Identify trends and forecast possibilities
- Troubleshoot systems and applications

### Creative Thinking Skills

- Use brainstorming and visual diagrams to generate new ideas and inquiries
- Consider multiple alternatives, including those that might be unlikely or impossible
- Create novel solutions to authentic problems
- Make unexpected or unusual connections between objects and/or ideas
- Design improvements to existing machines, media and technologies
- Design new machines, media and technologies
- Make guesses, ask "what if" questions and generate testable hypotheses
- Apply existing knowledge to generate new ideas, products or processes
- Create original works and ideas; use existing works and ideas in new ways
- Practice flexible thinking— develop multiple opposing, contradictory and complementary arguments
- Practice visible thinking strategies and techniques
- Generate metaphors and analogies

### Transfer Skills

- Use effective learning strategies in subject groups and disciplines
- Apply skills and knowledge in unfamiliar situations
- Inquire in different contexts to gain a different perspective
- Compare conceptual understanding across multiple subject groups and disciplines
- Make connections between subject groups and disciplines
- Combine knowledge, understanding and skills to create products or solutions
- Transfer current knowledge to learning of new technologies
- Change the context of an inquiry to gain different perspectives

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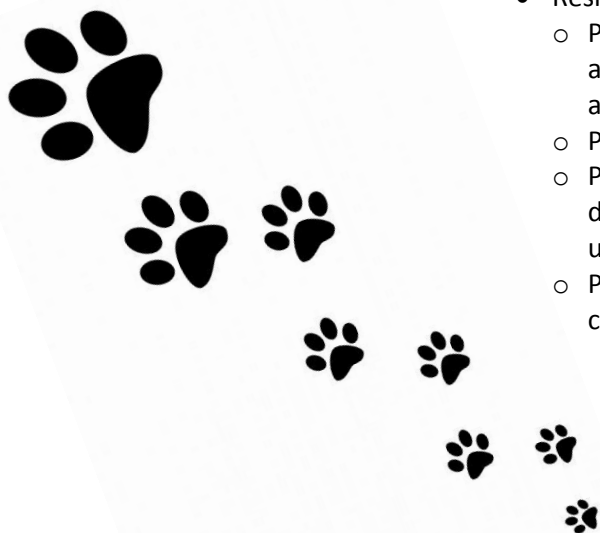
## Self-management

### Organization Skills

- Plan short- and long-term assignments; meet deadlines
- Create plans to prepare for summative assessments (examinations and performances)
- Keep and use a weekly planner for assignments
- Set goals that are challenging and realistic
- Plan strategies and take action to achieve personal and academic goals
- Bring necessary equipment and supplies to class
- Keep an organized and logical system of information files/notebooks
- Use appropriate strategies for organizing complex information
- Understand and use sensory learning preferences (learning styles)
- Select and use technology effectively and productively

### Affective Skills

- Mindful awareness
  - Practice focus and concentration
  - Practice strategies to develop mental focus
  - Practice strategies to overcome distractions
  - Practice being aware of body–mind connections
- Perseverance
  - Demonstrate persistence and perseverance
  - Practice delaying gratification
- Emotional management
  - Practice strategies to overcome impulsiveness and anger
  - Practice strategies to prevent and eliminate bullying
  - Practice strategies to reduce stress and anxiety
- Self-motivation
  - Practice analyzing and attributing causes for failure
  - Practice managing self-talk
  - Practice positive thinking
- Resilience
  - Practice "bouncing back" after adversity, mistakes and failures
  - Practice "failing well"
  - Practice dealing with disappointment and unmet expectations
  - Practice dealing with change

### Reflection Skills

- Develop new skills, techniques and strategies for effective learning
- Identify strengths and weaknesses of personal learning strategies (self-assessment)
- Demonstrate flexibility in the selection and use of learning strategies
- Try new ATL skills and evaluate their effectiveness
- Consider content
  - What did I learn about today?
  - What don't I yet understand?
  - What questions do I have now?
- Consider ATL skills development
  - What can I already do?
  - How can I share my skills to help peers who need more practice?
  - What will I work on next?
- Consider personal learning strategies
  - What can I do to become a more efficient and effective learner?
  - How can I become more flexible in my choice of learning strategies?
  - What factors are important for helping me learn well?
- Focus on the process of creating by imitating the work of others
- Consider ethical, cultural and environmental implications
- Keep a journal to record reflections
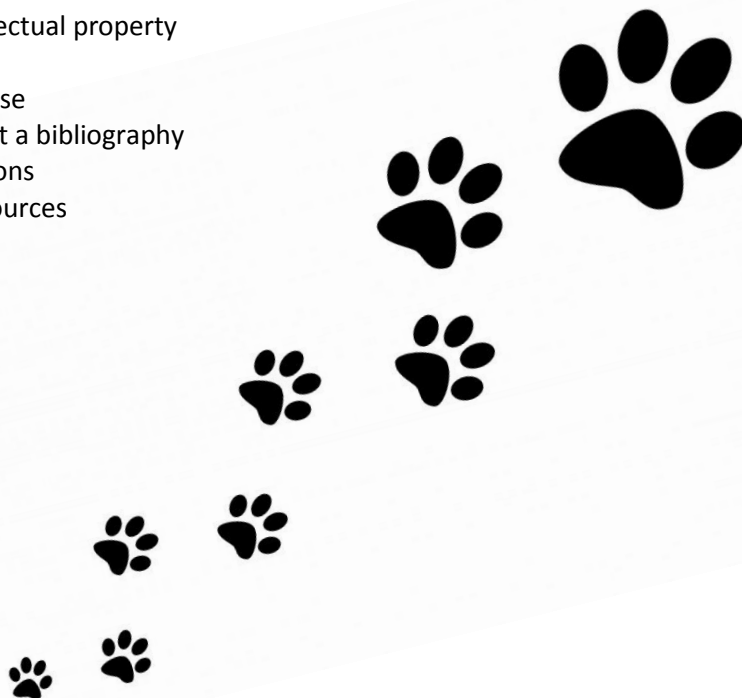
# Approaches to Learning

## Research

**Information Literacy Skills**

- Collect, record and verify data
- Access information to be informed and inform others
- Make connections between various sources of information
- Understand the benefits and limitations of personal sensory learning preferences when accessing, processing and recalling information
- Use memory techniques to develop long-term memory
- Present information in a variety of formats and platforms
- Collect and analyze data to identify solutions and make informed decisions
- Process data and report results
- Evaluate and select information sources and digital tools based on their appropriateness to specific tasks
- Understand and use technology systems
- Use critical-literacy skills to analyze and interpret media communications
- Understand and implement intellectual property rights
- Create references and citations, use footnotes/endnotes and construct a bibliography according to recognized conventions
- Identify primary and secondary sources

**Media Literacy Skills**

- Locate, organize, analyze, evaluate, synthesize and ethically use information from a variety of sources and media (including digital social media and online networks)
- Demonstrate awareness of media interpretations of events and ideas (including digital social media)
- Make informed choices about personal viewing experiences
- Understand the impact of media representations and modes of presentation
- Seek a range of perspectives from multiple and varied sources
- Communicate information and ideas effectively to multiple audiences using a variety of media and formats
- Compare, contrast and draw connections among (multi)media resources

# Approaches to Learning

## Social

<span style="color:red">**Collaboration Skills**</span>
- Use social media networks appropriately to build and develop relationships
- Practice empathy
- Delegate and share responsibility for decision-making
- Help others to succeed
- Take responsibility for one's own actions
- Manage and resolve conflict, and work collaboratively in teams
- Build consensus
- Make fair and equitable decisions
- Listen actively to other perspectives and ideas
- Negotiate effectively
- Encourage others to contribute
- Exercise leadership and take on a variety of roles within groups
- Give and receive meaningful feedback
- Advocate for one's own rights and needs

## Communication

<span style="color:red">**Communication Skills**</span>
**Through Interaction:**
- Give and receive meaningful feedback
- Use intercultural understanding to interpret communication
- Use a variety of speaking techniques to communicate with a variety of audiences
- Use appropriate forms of writing for different purposes and audiences
- Use a variety of media to communicate with a range of audiences
- Interpret and use effectively modes of non-verbal communication
- Negotiate ideas and knowledge with peers and teachers
- Participate in, and contribute to, digital social media networks
- Collaborate with peers and experts using a variety of digital environments and media
- Share ideas with multiple audiences using a variety of digital environments and media

**Through Language:**
- Read critically and for comprehension
- Read a variety of sources for information and for pleasure
- Make inferences and draw conclusions
- Use and interpret a range of discipline-specific terms and symbols
- Write for different purposes
- Understand and use mathematical notation
- Paraphrase accurately and concisely
- Preview and skim texts to build understanding
- Take effective notes in class
- Make effective summary notes for studying
- Use a variety of organizers for academic writing tasks
- Find information for disciplinary and interdisciplinary inquiries, using a variety of media
- Organize and depict information logically
- Structure information in summaries, essays and reports