POWERFUL LEARNING
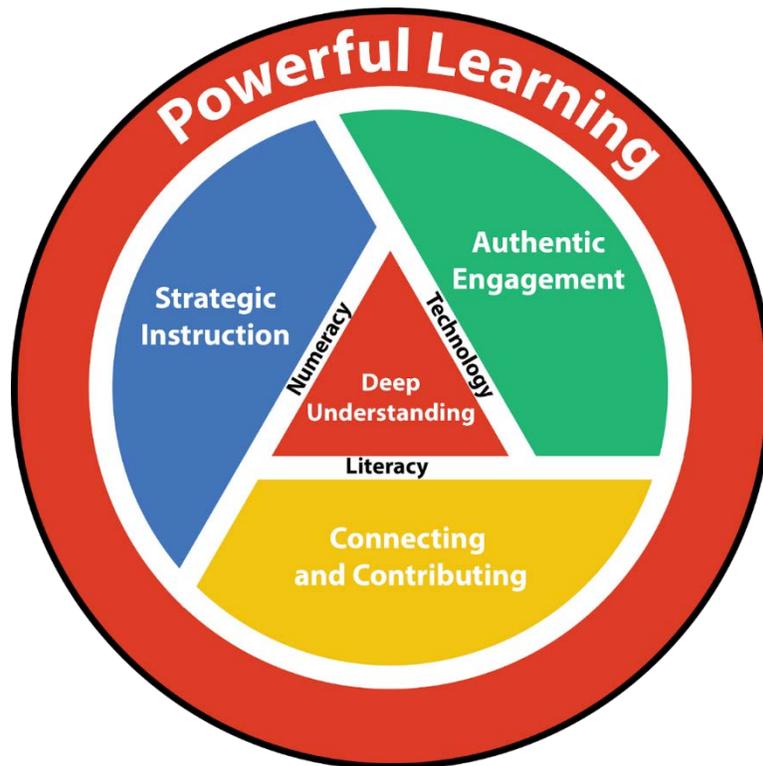
POWERFUL LEARNING

Excited, empowered and eager to learn. Golden Hills aims to foster confident, creative and compassionate learners who make a difference in the world. This is what inspires teachers to create the best possible learning experiences for their students.

Powerful Learning is the design and implementation of learning experiences that foster **Deep Understanding** while developing core competencies designed to prepare students for future challenges. It incorporates lesson design, implementation, and assessment using strategic instruction.

Powerful Learning leads students towards a deep understanding when they are inspired with a sense of "awe and wonder," inspired to see and hear others' perspectives, insights and questions, and make new connections. It occurs when learners are immersed in a culture of thinking and when the development of understanding is the primary goal of learning. This requires a growth mindset and habits of mind such as open-mindedness and persistence, as well as a thinking disposition, including critical and creative thinking.

Powerful Learning encompasses the core competencies of creativity, communication, citizenship, critical thinking, and connecting and collaborating. Extracting information and solving complex problems is no longer enough. We need our students, the future leaders of tomorrow, to be able to raise questions, hold multiple ideas in their mind and be flexible. We need adaptive thinkers who see situations from multiple perspectives. To do this, our classrooms need to intentionally design learning and encourage students to be creative, critical thinkers and collaborative, compassionate learners. **Powerful Learning** incorporates the meaningful use of technology as a learning tool to access information, innovate and communicate.

What does Powerful Learning look like?	Students engage in creative endeavors and challenges
	Students form judgments, and make evidence-based decisions (critical thinking)
	Questions and inquiry are greatly valued
	Students ask questions and reflect on their learning
	A variety of strategies and purposeful tasks are employed
	Explicit connections are made to the real-world
	Collaboration is encouraged
	Assessment is embedded, transparent, and authentic
	Students are supported at appropriate levels and in the different ways they learn*

*Adapted from "Deep Learning" Fullan et. al. pg. 79

Powerful Learning incorporates the design and implementation of authentic, rigorous units of study based upon the curriculum, the integration of strategic instruction, as well as a focus on creating engaging learning environments and learning connections. It is the integration of all of these dimensions that supports deep understanding of curricular objectives and enables students to acquire a disposition for all learning, now and in their future.

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What is the goal of Powerful Learning?

The ultimate goal of **Powerful Learning** is to design learning experiences that will enable our students to develop a **Deep Understanding** and for our students to grow, discover and change –change their thinking, change themselves, and help change the world.

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DEEPUNDERSTANDING

Deep Understanding *occurs when learners are immersed in a culture of thinking and when the development of "understanding" is the primary goal of learning.* Designing tasks that allow for choice, creativity and challenge in the context of collaboration helps learners to achieve deep understanding. As well, it includes exploring a topic from many angles, building connections, challenging long-held assumptions, looking for applications, and producing what is for the learner a novel outcome (Ritchhart). To achieve deep understanding learners are engaged in the actions of applying, performing, adapting, and transferring.

Powerful Learning recognizes the importance of *a balance between surface, deep and transfer learning or in other words a balance between teaching for knowledge and teaching for understanding.* As defined by Hattie and colleagues, surface learning involves the initial learning of concepts and skills to develop conceptual understanding and initial consolidation of ideas. Surface learning is not shallow learning and it is not about the rote memorization of skills. Deep learning gives students further opportunity to consolidate understanding and make deeper connections among ideas. As well, it allows for the transfer and application of knowledge, skills or strategies to a new task or situation.

How do we get to Deep Understanding?	1. Learning that involves surface, deep and the transfer of ideas.
	2. Learning that sticks
	3. Learning that is built on innovation relative to key problems and issues
	4. Learning that engages the world to change the world
	5. Learning that creates citizens of tomorrow today*

*Adapted from pg. 160 Fullan, Quinn & McEachen, 2018

Deep Understanding occurs in a thinking classroom where students are provided powerful and purposeful tasks. It is achieved when students actively and intentionally construct their understanding of concepts and are able to make connections between ideas and concepts. In other words, "students put knowledge into use and assimilate or own the ideas if they are to understand them" (pg. 83, Gini-Newman and Case 2016). Students are provided "regular opportunities to reflect upon and explain how new learning deepens their understanding of a big idea and students are encouraged to draw conclusions or reason based upon criteria about possible answers to an inquiry question" (pg. 89, Creating Thinking Classrooms- Garfield Gini-Newman and Roland Case).

Powerful Learning invites students to construct a deep understanding by extending ideas, making connections, inferring and by focusing on big ideas or central concepts. The intention of Powerful Learning is to help students acquire the thinking skills necessary to pose and solve problems, make decisions, form judgments and engage in creative endeavors. When students are able to do this, they are able to use or apply the learning in new and innovative ways. Reasoning with evidence is instrumental in developing a "thinking disposition". As well, consideration is given to creating a safe learning environment where unusual ideas are supported, students are provided voice and choice, novelty is incorporated and constructive feedback is provided. These are the basic conditions of a Powerful Learning environment as outlined by Drapeau. (Drapeau, 2011, p 30, as cited in Drapeau, 2014).

In order to foster powerful thinking and flexible creative problem solving, Golden Hills teachers share a sense of collective efficacy with a shared language and pedagogy that focuses on student learning. When implementing Powerful Learning, teachers believe that success and failure in student learning is impacted by their instruction and that changes they make can increase student learning. During the Golden Hills Collaborative Days teachers reflect and solve problems of practice together. Evidence of impact on learning is collected to inform next steps. It is through this reflective practice and the focus on improved student learning that Powerful Learning continues to grow in Golden Hills.

Core competencies are at the heart of Deep Understanding and are woven throughout all areas of Powerful Learning. Competencies are sets of intellectual, personal, and social and emotional proficiencies that all students need to develop in order to engage in deep learning and life-long learning. The Powerful Learning competencies are consistent with the Alberta Learning competencies as outlined below (in purple): see appendix for AB Competencies or
 https://education.alberta.ca/media/3272998/competency-indicators-september-30-2016.pdf

Powerful Learning Core Competencies	
Creativity	From imagination to innovation (Creativity and Innovation)
Communication	Purposeful and powerful in multiple ways (includes Managing Information)
Citizenship	Actively and compassionately engaged citizens working to make a difference in our classrooms, communities and the world (Cultural/Global Citizenship)
Critical Thinking	Making informed judgements through investigations, analysis, questions, and reflections (includes Problem Solving)
Connecting and Collaborating	Empowering relationships and creating together (Personal Growth and Well-Being)

POWERFUL LEARNING SNAPSHOT

Powerful Learning

Powerful Learning is the design of learning experiences that facilitate deep student understanding. This design is clustered around three drivers: **Strategic Instruction**, **Authentic Engagement** and **Connecting and Contributing**. In order to ensure the development of deep understanding of the curriculum essentials, elements of **Powerful Learning** are woven throughout each driver. These essentials are foundational to the planning of lessons and instruction in Golden Hills, and are necessary to achieve Deep Understanding.

Strategic Instruction Driver

The first driver, **Strategic Instruction**, incorporates high yield, evidence based strategies and practices designed to improve student learning. This component includes Assessment for Learning strategies, as well as strategies designed to foster thinking.

Authentic Engagement Driver

The second driver, **Authentic Engagement**, defines how to set up the culture and environment to foster **Powerful Learning.** It includes how to create a sense of belonging and well-being, the role of a growth mindset and how to build a culture of thinking in our classrooms.

Connecting and Contributing Driver

The third driver, **Connecting and Contributing**, describes the connections with oneself between students and teachers, students and students, students and their parents, local and global communities. Relationships are the foundation of these connections as students extend their learning beyond the classroom.

Foundational Frameworks

Literacy

Golden Hills **Literacy** Foundational Framework is intended to ensure that basic literacy skills and knowledge are acquired from which students can move to complex levels of thinking and application. This foundational framework supports **Powerful Learning** and provides common practice guidelines for all classrooms. It is research driven and outlines key assumptions/ philosophies, high yield strategies and practices, and assessment approaches foundational to literacy learning. (Refer to appendix for copy).

Numeracy

Golden Hills **Numeracy** Foundational Framework is intended to ensure that basic numeracy skills and knowledge are acquired from which students can move to complex levels of thinking and application. This foundational framework supports **Powerful Learning** and provides common practice guidelines for all classrooms. It is research driven and describes the key assumptions/ philosophies, high yield strategies and practices, and assessment approaches foundational to numeracy learning. (Refer to appendix for copy).

Technology

Golden Hills **Technology** Foundational Framework provides guidance for the meaningful use of technology in Golden Hills. **Powerful Learning** utilizes technology as a learning tool in order for students to be able to communicate research and create deeper understandings and new learning. Students work to discover and master content knowledge in addition to being able to create, extend, innovate and apply this content knowledge though the meaningful use of technology. The intention is that technology integration does more that simply extend existing practices in the classroom. (Refer to appendix for copy).

DESIGNING LEARNING

When designing **Powerful Learning** experiences, teachers utilize high impact strategies with an intentional sequence of learning activities. These activities start with learning outcomes and aligns with essential questions and big ideas. Assessment for Learning approaches and strategies are embedded along with consideration for modifications and adaptations to meet the diverse needs of learners. Purposeful, ongoing assessment ensures that students achieve a Deep Understanding of the core learning goals/skills and is imperative to student success. In order to do this, the concepts and big ideas are identified and made explicit. This type of intentional design allows teachers to consider the scope of student needs in their classroom and therefore allow for multiple entry points so that all students can participate in the experience. Core competencies such as: collaboration, communication, and critical thinking are integrated when designing units. Design frameworks such as "Understanding by Design- UBD" (Wiggins & McTighe, 2005) or the "Cascading Curriculum" principles (TC2), have informed the **Powerful Learning** template that will guide teachers in designing lessons.

Planning for **Powerful Learning** occurs through several phases, beginning with teachers identifying the conceptual understandings of the curriculum outcomes. Key concepts of each discipline focus the learning and lead students to a Deep Understanding that can transfer across situations. Teachers identify what is important for students to know, understand and be able to do, while incorporating **Powerful Learning** strategies. This type of design involves the purposeful articulation of what the teacher and student work will look like, as well as what will be collected as evidence of learning. Deciding how students demonstrate a Deep Understanding requires being able to plan for multiple ways of representing and expressing ideas. As well, teachers plan for various ways that students can enter into the learning/ work due to learning differences. Inquiries and tasks are developed that require student collaboration to achieve Deep Understanding. In the design of **Powerful Learning**, every attempt is made by teachers to consider what the discipline calls for (i.e. in mathematics we consider how to help students to learn how to think like a mathematician). Consideration is also given to Golden Hills Foundational Frameworks (Literacy, Numeracy and Technology) as well as strategies and considerations identified in the "drivers" of **Powerful Learning**.

Concept-Based unit and lesson planning provides a structure that helps teachers identify the conceptual lens to help students understanding the generalizations and conceptual understandings of the curriculum (Erickson, Lynn, et.al. 2017). This type of design involves the purposeful development of what the teacher and student work will look like as well as what will be collected as evidence of learning. Deciding how students can demonstrate a deep understanding, requires being able to plan for multiple ways of representing and expressing ideas. Inquiries and tasks are developed that require student collaboration to achieve deep understanding. In the design of learning, every attempt is made by teachers to consider what the

discipline calls for (i.e. in mathematics we consider how to help students to learn how to think like a mathematician).

Alberta Learning is in the process of developing curriculum, beginning with grades K-4, although drafts have been released. In the curriculum, key concepts and conceptual ideas of each discipline are the "drivers" for learning, which lead students to a deeper understanding that transfer across different situations. Alberta Learning has utilized a "Concept-Based Curriculum design" intended to provide teachers with clear targets. Lesson design requires teachers to integrate concepts, knowledge and skills giving relevance and purpose to the factual study. The intention of the curriculum is to help students retain factual information through the use of a conceptual lens. Concept-Based Unit design steps can be used for planning as outlined in Erickson et.al. 2017 (Concept-Based Curriculum and Instruction: for the Thinking Classroom).

Designing Learning Unit Template

Powerful Learning Lesson Design Template

Considerations for Designing Powerful Lessons

Considerations for Designing Powerful Lessons

General

✔ Have I budgeted **time** appropriately for my lesson?

✔ What ways can I make this lesson **cross-curricular?**

✔ How can I connect this lesson to the real world?

    o **authentic** audience, **authentic** task etc

✔ How can I make this concept **transfer** across disciplines?

✔ How can I help my students **connect, locally and globally**, about this topic?

✔ How will **assessment** be utilized throughout the lesson? (see Lesson Closure for considerations)

    o Triangulation of data (observation, conversation, product)

Lesson Introduction
Setting the stage for learning

✔ What curricular **outcomes** am I addressing?

✔ Have I considered what **the powerful question(s)/big ideas** are?

✔ What **core competencies** am I addressing?

✔ Do I have a **hook/launch** that invites students to learn?

✔ How is this **lesson connected** to previous lessons? How is connected to future lessons?

✔ How have I activated **prior knowledge**?

Lesson Body
Learning experience(s) that allow all learners to contribute to and construct understanding

✔ What **resources** will be required for this lesson?

✔ How have I allowed for **student choice** in my lesson?

    o **multiple entry points**, methods, and ways of representing their learning

✔ How have I considered the **needs** of all my learners?

    o appropriately **adapt** any instruction/assessment

    o effectively **scaffolded** the learning for my students

✔ What **strategic instructional tools** am I using in this lesson?

    o consider students **level of experience** with the tool

✔ How have I incorporated effective **questioning** to enhance learning?

✔ In what ways have I utilized a **variety** of teaching methods?

Lesson Closure
Opportunities for authentic sharing/reflection

✔ What ongoing **formative assessments** have I embedded?

    o How will I know my students know?

- o   How will I know that my students understand the purpose and importance of this lesson to their learning?
- ✓   Where have I built in time for **feedback**?
  - o   Is there time for students to utilize feedback?
- ✓   What do I need to do to help **students demonstrate** that they have achieved the outcome?
- ✓   What is my **summative assessment** for the outcome?
  - o   What will I accept as evidence of learning/development?

Lesson Reflection
Meaningful teacher reflection on learning experience and assessment

- ✓   What went well? Why?
- ✓   In what ways would I change this lesson to be more effective, and to increase student learning?
- ✓   What might you do differently next time?
- ✓   Were the strategies and resources used effective in reaching your goals?
- ✓   How does this lesson inform my next steps in the learning process?
- ✓   What impact did your lesson have on your students? How did they feel?
- ✓   How did you use assessment for learning?
- ✓   Were you successful in reaching all students? How do you know?
- ✓   What accommodations did you make for diverse learners?
- ✓   When examining student work, do you think it met the learning outcomes? Is more instruction needed?
  - o   Is the evidence of learning meeting the learning outcomes?

STRATEGIC INSTRUCTION

Strategic Instruction is the implementation of high-impact, research-based instructional strategies and practices that improve student achievement. Teachers design learning experiences that utilize powerful strategies to achieve deep understanding. These strategies help students to understand curricular outcomes, develop core competencies, as well as organize, analyze and transfer new learning. **Strategic Instruction** enables students to effectively gain foundational skills, in order to become innovative thinkers, creators and doers. As part of **Strategic Instruction**, the design process is described along with sample planning templates. **Strategic Instruction** includes direct instruction which is defined as the use of straightforward, explicit teaching techniques, used to teach a specific skill or strategy.

Teaching is a highly complex activity that is continually evolving. Learning theory and brain research has increased the efficacy of teaching and instruction in helping students to know what the learning target is, understand the concepts in the outcome and utilize authentic assessments that informs students about their learning. **Strategic Instruction** draws upon powerful techniques to deepen learning and move the learning forward. Research continues to illuminate the most effective ways to support deep learning and understanding. As new research emerges, it will continue to inform future practice. The following strategies are known to have a "high impact" on learning based upon the research of numerous researchers including John Hattie. Golden Hills encourages the implementation of powerful strategies in all classrooms. It is important to note this list does not include all possible strategies that teachers can incorporate into the classroom.

ASSESSMENT PRACTICES

Assessment in Golden Hills is comprised of a balance between summative and formative measures and tools. Use of descriptive feedback, clear targets and exemplars are integral to the assessment process in Golden Hills. Grading occurs within the context of sound assessment practices in order to achieve accuracy in reporting student understanding of the curricular outcome. Assessments need to assess what they say they will measure in order to be valid and reliable. Evidence of students learning is collected through a variety of methods including conversations, observations and products. The summative grade is then assigned and communicated using grading practices that align with the "Golden Hills School Divisions Seven Principles of Assessment". These practices serve to establish, sustain and grow student learning and confidence as well as accurately communicate what the students knows, understands and is able to do.

Summative Assessment (Assessment of Learning)
Summative assessment is defined as assessment designed to collect information about learning to make judgments about student performance and achievement at the end of a period of instruction to be shared outside of the classroom (AAC).

Learning is an ongoing process and does not end because of a summative assessment. If your student has demonstrated that they have mastered the outcome then you can turn the summative assessment into a formative assessment based on the most recent evidence.

An assessment can be either summative or formative depending upon what you do with it. If the assessment is used to "sum up" or describe what the student knows or can do, then it is summative. If the assessment is used as part of learning and students incorporate the feedback to keep learning improve a task before marking, then it is formative.

Assessment as Learning

Assessment as Learning is the ongoing self-assessment by students in order to monitor their own learning. In Golden Hills we have included this idea within the AFL definition and within the metacognition section of this document.

Formative Assessment (Assessment for Learning)

Formative assessment that result in an ongoing exchange of information between students and teachers about student progress toward clearly specified learner outcomes. (AAC)

Formative assessment can be seen as a process that relies on several measures over time. It is viewed as a process rather than a singular event (Bennett, 2011). Information collected through the use of formative assessment is used to further student learning (Ayala, 2005). Teachers create instruction based on evidence gathered through formative uses of assessment. These formative interactions are designed to encourage thought on the student's part (Black & William, 2009). Teachers use information from these interactions in order to make decisions surrounding the curriculum and the direction of learning. They determine whether to move forward, how to move forward and where to encourage student focus. This view focuses on the process of developing and changing instruction to match student needs.

Golden Hills has focused on improving student learning through developing teacher practice in attending to ongoing "minute-by-minute and day-to-day formative assessment" (William, 2011, p. 27). Formative assessment "encompasses all those activities undertaken by teachers and /or students, which provide information to be used as feedback to modify the teaching and learning activities in which they are engaged" as cited in William, 2011. William states "An assessment functions formatively to the extent that evidence about student achievement is elicited, interpreted, and used by teachers, learners, or their peers to make decisions about the next steps in instruction…" (William 2011, p. 43). In order for teacher and learners to determine next steps, it is imperative that teachers determine "where students are at in their learning, where they are going and how to get there". The AFL strategies implemented in Golden Hills help teachers to plan with clear goals linked to curriculum, as well as understand how to provide extensive descriptive feedback during the learning. Hattie (2009) identified in his meta-analysis research that "feedback" is ranked as having a high impact on student learning.

Golden Hills' achievement results have improved by integrating effective assessment for learning practices.

Golden Hills has identified the following key components of "Assessment for Learning" to be implemented during the instructional process to improve teaching and learning.

Assessment Rich Strategies	
Curriculum Essentials	- Prioritized curriculum - Planning with the end in mind (Enduring Understandings) - Specific and student friendly learning targets/sharing outcomes with students - Assessing to the outcomes
Effective Questioning	See 'Effective Questioning' in **Strategic Instruction** below
Effective Feedback	See 'Effective Feedback' section below
Exemplars	- Provides models of tasks at varying levels of achievement - Allows students to see where they are at in relation to the learning goal
Rubrics	- Communicates success criteria - Co-creating rubrics in student friendly language
Student Goal Setting	- SMART goals - Specific, Measurable, Achievable, Realistic, Time Framed - Making adjustments and monitoring to reach goal
Peer and Self-Assessment/ Feedback	- Students use rubrics, checklist and guides to focus self- reflections - Teachers model and teach the tools of how to self and peer assess
Differentiation	- Assessment for learning data (indicating student readiness, interest and learning profile) is used to guide the teacher in making early instructional adjustments to address student needs relative to essential goals at the beginning of a unit - Ongoing formative assessment data is used to inform instruction and helps to determine who is progressing, who is falling behind, and who is ready to move on - Teachers are clear at each stage of the learning process about what students

	- should know, understand and be able to do - Teachers differentiate curriculum and instruction to meet the needs of different kinds of learners - Teachers continually work to understand where each student is relative to important goals, and uses what is learned about students to create opportunities that grow them from their current points of development, in ways that support their learning - Students understand that assessment helps the teacher understand the students' next steps, their interests, and their approaches to learning
Triangulation of Data	- Data is gathered and provides evidence of where the student is at in relation to the learning outcome. This might be in the form of a product, conversation or observation - Teachers and students gather evidence to inform student learning through a variety of sources - Teachers adjust their teaching in the moment to further student understanding and address misunderstandings
Additional Resources	- For additional formative assessment strategies and descriptions go to: - Tools for Formative Assessment – Techniques to Check for Understanding – Processing Activities – - http://www.levy.k12.fl.us/instruction/Instructional_Tools/60FormativeAssessment.pdf - Brookhart, S. (2010). Formative Assessment Strategies for Every Classroom (2nd ed.). Alexandria, VA: ASCD. - Dodge, J. (2009). 25 Quick Formative Assessments for a Differentiated Classroom. New York: Scholastic Inc. - Moss, C. & Brookhart, S. (2009). Advancing Formative Assessment in Every Classroom-A Guide for Instructional Leaders. Alexandria: ASCD. - William, D. & Leahy, S. (2015). Embedding Formative Assessment – Practical Techniques for K-12 Classrooms. West Palm Beach, FL: Learning Sciences International. - Effective Grading Practices: Davies, A. (2011). Making Classroom Assessment Work (3rd ed.). Courtenay, BC: Connections Publishing - O'Connor, K. (2012). Fifteen Fixes for Broken Grades – A Repair Kit (Canadian ed.). Toronto, ON: Pearson - O'Connor, K. (2018). How to Grade for Learning – Linking Grades to Standards (4th ed.). Thousand Oaks, CA: Corwin - Schimmer, T. (2016). Grading From the Inside Out – Bringing Accuracy to Student Assessment Through a Standards-Based Mindset. Bloomington, IN: Solution Tree Press. - Schimmer, T. (2012). Ten Things That Matter from Assessment to Grading. Toronto, ON: Pearson Canada Inc. - William, D. (2011). Embedded Formative Assessment. Bloomington: Solution Tree.

Effective Feedback (AFL)

Timely and concise feedback provides students with information about what they know or don't know and is used, by teachers, to direct further instruction. Teachers can use this feedback to help students bridge the gap between what they know and what they need to know (Ayala, 2005). As students use feedback, they become capable of building upon their own learning and develop enhanced metacognition and increased motivation (Brookhart, 2012). "When teachers seek, or at least open to, feedback from students as to what students know, what they understand, where they make errors, when they have misconceptions, when they are not engaged-then teaching and learning can be synchronized and powerful. Feedback to teachers helps make learning visible" (Visible Learning, 2009, p.173). The most effective feedback provides information to students about their tasks and how to do it more effectively (Hattie & Timberley, 2007).

Overview / Implementation

- Teachers give feedback that is focused, specific and descriptive
- Feedback is timely and limited in the amount of feedback at one time
- Facilitates the development of self-assessment
- Includes affirmations, noticing and naming good qualities in a student's work that enables the student to adjust what they are doing to improve learning by understanding specific next- steps

Differentiation

Teaching mindfully and with the intent to support the success of all learners moves us away from seeing and teaching students as a unit to responding to them as individuals. According to Carol Ann Tomlinson in "Differentiation and the Brain" (2011 p 9), differentiation is not a set of strategies, but a way of thinking about teaching and learning. Her model of effective differentiation stems from research on how people learn and how strong teachers teach. This learner centered model asserts that

a) differentiation is a teacher's response to learner needs and that

b) a teacher's belief about the capacity of each student to succeed with essential content affects everything in the classroom.

Key reasons to differentiate are that it improves students' access to learning, motivates them to learn and makes learning more efficient. Applying "differentiated instruction" can help address the needs of academically diverse learners in our increasingly diverse classrooms.

Overview/Implementation

Key Principles	- The work in a differentiated classroom is respectful of each student - What students are asked to learn is designed to support student understanding (not only recall) and reflects the teacher's belief that everyone is "smart" - The classroom is flexible; flexible grouping gives student access to a wide variety of learning opportunities and working arrangements. - Ongoing assessment is used to inform instruction - A positive environment is created to enable students to take risk of learning - Students and teachers are collaborators in learning
Basic Steps in Differentiation	- Planning Questions (KUD): - What do I want students to Know? - What do I want to students to Understand? - What do I want students to be able to Do? - Pre-assessment Questions: - Who already knows, understands the content/skills? - Who needs support to know/understand/do? - Differentiation Question: What can I do for the student so that he or she can make continuous progress and extend learning
Elements to Differentiate	Content What students will learn or how they will gain access to what they are asked to learn

	Process
	• Activities through which students make sense of or "come to own" essential content
	Product
	• How students demonstrate what they know, understand and can do after periods of learning
	Affect/Environment
	• Attention to students' physical and emotional needs
	By differentiating in these areas, student variance in terms of readiness (proximity to learning goals), interests (for particular ideas, topics or skills) and learning profile (preferences for approaches to or modes of learning) can be accounted for. As a result, the likelihood of academic success and maximum student achievement can be reached.

Instructional and Management Strategies	Teachers can reach out differently to students while keeping all students focused on essential outcomes.

Content

- Compacting, learning contracts
- Whole-to-part and part-to-whole approaches
- Using a variety of reading-buddy arrangements
- Using texts or novels at varied reading levels
- Enrichment clusters
- Vary teacher delivery of information
- Flexible learning spaces
- Re-teaching or exempting students who already demonstrate mastery

Process

- Auditory, visual, kinesthetic modalities
- Digital materials, assistive technology, multi-level computer programs; internet-based mini-lessons, YouTube videos
- Open-ended activities
- Whole/small groupings; alone or with peers
- Cooperative learning (assigning roles to student strengths)
- Questioning, rewording
- Pacing, allowing for student processing
- Interest centers, tiered activities
- Preferred multiple intelligence options
- Activity/extension menus
- Different amounts of teacher scaffolding

Product

- Quantity, time allotment is varied
- Student choice in showing mastery
- Multi-modal assessing
- Adjust for gender/culture/language differences
- Tier/task products
- Allow students to help design products around essential learning goals
- Provide product assignments at varying degrees of difficulty to match student readiness

FOSTERING THINKING

Powerful Learning classrooms are places where thinking is valued, visible and actively promoted as part of the daily routine. Thinking is part of the lessons that are designed, the questions that are asked, and the connections that are made outside the classroom. Thinking is intentionally woven throughout the learning experience. In other words, learning is a consequence of thinking and the primary goal is the advancement of thinking.

Critical Thinking

Critical thinking engages students in exploring provocative questions or challenges and encourages students to investigate, reflect, create and share their understandings. When someone is thinking critically they are assessing or judging the merits of potential options based on a set of relevant criteria. In order to foster critical thinking, students need opportunities to build upon their prior knowledge, communicate with peers, develop knowledge and skills to analyze information and draw their own conclusions in an engaged classroom.

Golden Hills has recognized the importance of infusing critical thinking into our classrooms. Students are invited to think critically or reason using a set of criteria. When students are offered a critical challenge and encouraged to engage in critical inquiry, increased engagement and deeper learning can be achieved. Garfield encourages "teachers to activate learning about a topic by involving students in shaping questions to guide their study, giving them ownership over the direction of these investigations and requiring that students critically analyze and not merely retrieve information." (Gini-Newman & Gini-Newman, p. 35). In this way, according to Garfield, a shift occurs from covering curriculum to students uncovering the curriculum". The content of the curriculum is "problematized" which then leads to an investigation and discovery connected to the real world. Through this type of investigation students draw conclusions, make decisions and solve problems.

Overview / Implementation

Developing Intellectual Tools	• Background Knowledge → relevant background knowledge and information about a topic that is required for thoughtful reflection. It is the "content" that we need to be able to think critically • Criteria for Judgment → appropriate criteria used for judging the merit and reasonableness of the choices in a thinking challenge • Critical Thinking Vocabulary → refers to concepts that address distinctions underlying being able to think critically such as conclusion, correlation, justify, relevant, evidence and proof

	- Thinking Strategies → the knowledge and use of appropriate procedures and processes when thinking through a challenge. There are many strategies that can guide students through challenges that they encounter - Habits of Mind → values and attitudes or dispositions of a careful and conscientious thinker such as persistence, open mindedness, fair mindedness and tolerance to ambiguity (Case, 2005)
Effective Questioning	- See 'Effective Questioning' in Instructional Tools section

Encouraging Creativity and Innovation

Designing **Powerful Learning** incorporates opportunities for students to develop creativity in their classrooms. Creativity is a core competency defined by Alberta Learning as the ability to apply creative thought processes to create something of value. Moving away from scripted lessons to asking questions that encourage critical and creative thinking helps our students to think in both divergent and convergent ways, analyzing and evaluating as they learn. Drapeau states that both divergent and convergent thinking are necessary for creativity. (Drapeau, 2014) "A student uses divergent thinking to generate different solutions to a problem or challenge and then uses convergent thinking to decide which one will provide the best results". (Drapeau, 2014)

Peter Gamwell (2018) talks about three imperatives that foster creativity. These imperatives include recognizing there is a seed of brilliance in everyone, adopting a strength-based approach and creating a culture of belonging.

"The creative process includes elaborating on the initial ideas, testing, and refining them and even rejecting them." (Drapeau, 2011, As cited in Drapeau, 2014, p 2) This results in innovation which is one of the core competencies is defined by Alberta Learning as the capacity to create and apply new knowledge to create new products or solve complex problems. The importance of fostering creativity is recognized and the role teachers have in setting this up is also understood.

Overview / Implementation

Creativity	- Ron Ritchhart states that the dispositions of open-mindedness and curiosity are components of creative thinking (2002, p. 28) - Encourage open-mindedness in order to foster creativity. "It depends upon the ability to reflect critically on new information, consider and "play" with various point of view, looking for patterns and connections between elements" (Erickson et. al , 2017, p 18) - Model and build curiosity - Creativity is the personal construction of meaning that employs imagination and playful tinkering with ideas

Metacognition	
Metacognition awareness is the ability to notice one's own thinking. This involves both awareness and understanding of one's own thought process, in other words "Thinking About Thinking". It is the ability to monitor, evaluate, and plan for one's own learning. (Flavell 1097, as cited in Fisher et.al. 2018 pg. 115). Research shows that metacognition can be taught in order to help students improve their own learning.	
Strategy	**Overview / Implementation**
Metacognition	- Explicitly teach students what metacognition means - Use teacher questions that focus students on their own thinking and learning - Share the goals of learning activities in advance, and guide students to plan strategies and monitor their progress toward achieving those goals - Model your own use of metacognition by thinking out loud. When reading aloud, make-and correct-mistakes and show how you use context to establish the meaning of unfamiliar words. Predict what might happen in a science experiment. Talk through the steps of solving a math problem - Add steps to encourage self-reflection, goal-setting and self-assessment into lessons and learning [1] - Plan–Do–Review: A metacognitive approach to problem solving involves three main steps: - identify possible solutions and plan how to implement the most likely one - implement the solution - assess its effectiveness and make adjustments if necessary [2] [1] Lovett, M. C. (2008). Teaching metacognition [PowerPoint presentation]. Retrieved fromhttp://net.educause.edu/upload/presentations/ELI081/FS03/Metacognition-ELI.pdf [2]http://www.ascd.org/publications/educational-leadership/oct14/vol72/num02/%C2%A3The-Boss-of-My-Brain%C2%A3.aspx

INSTRUCTIONAL TOOLS

The Instructional Tools section describes a variety of high yield, evidenced based strategies and practices that are utilized when designing **Powerful Learning** experiences for students. These strategies help to make the learning relevant and support students as they extend and apply knowledge. Through using these tools, students can become more efficient and flexible in using what they have learned.

Intentional/Explicit Teaching of Academic Vocabulary

Marzano and Pickering (2005) reported that when students have general knowledge of the terms that are important to content taught in school, achievement is significantly improved. One of the most crucial advantages that teachers can provide, particularly for students who do not come from academically advantaged backgrounds, is systematic instruction in important academic terms.

Strategy	Overview / Implementation
Academic Vocabulary	Explicitly teaching academic vocabulary involves 6 basic steps. Attending to all steps ensures best results. 1. Introduction: Provide a description, explanation and or examples of the new term. 2. Restate: Students explain or describe the term in their own words. An academic notebook is suggested to keep track of the terms. 3. Draw & Self Assess: Students draw a picture, symbol or graphic to represent the meaning of the term. Students self-assess their level of understanding of the term. 4. Activities: Provide activities to engage students as they work to remember the terms. Ex: antonyms/synonyms, compare/contrast, morphology. 5. Talk: Discussing the terms with a peer allows for misunderstandings to present themselves and knowledge to deepen. 6. Games: An engaging way to learn the terms. Frequent use of the terms helps transfer the terms into long memory.

Cues and Organizers

The use of cues and organizers provide students with a conceptual framework to hook new learning on to and they enhance student's ability to retrieve, use and organize what they already know about a topic. The use of a variety of graphic organizers throughout the learning provides opportunities for students to extend and apply knowledge.

Advance organizers are stories, pictures and other introductory materials or tasks that set the stage for learning (Dean, Hubbell, Pitler & Stone, 2012).

Post organizers are tasks completed at the end of learning that summarizes or captures the key ideas.

Overview / Implementation

Graphic Organizers	Examples of effective graphic organizers include: • Concept Mapping • Web • Cycle • Venn Diagram • Timeline • RAN/KWL • 5 Ws and 1 H • Story Map • Plot Diagram • Storyboard

Identify Similarities and Differences

The set of instructional strategies that cluster around identifying similarities and differences involve students in comparisons, classifications, metaphors and analogies. These strategies help students move from existing knowledge to new knowledge, concrete to abstract and separate to connected ideas. Twelve studies were reviewed in a meta-analysis, 2010, conducted by McREL researchers. The effect size of these strategies was .66 which is equivalent to a 25 percentile point gain (Dean, Hubbell, Pitler & Stone, 2012). This indicates that students benefit from the explicit instruction in processes which use similarities and differences.

Strategy	Overview / Implementation
Comparing	Students will look at two or more elements and look for similarities and differences between them. A great graphic organizer for this is a Venn Diagram.
Classifying	The process of organizing things into groups and labeling them according to their similarities.
Metaphors	The process of identifying a general or basic pattern in a specific topic and then finding another topic that appears to be quite different but has the same general pattern. It provides an anchor for new abstract learning through the intentional teaching of metaphors to focus on how items are similar on an abstract level.
Analogies	The process of identifying relationships between pairs of concepts and pairs of relationships. It guides us to see relationships between things that seem dissimilar on the surface. Ex) A is to B as C is to D. 1. Identify how the two items in the first pair are related 2. State the relationship in a general way 3. Identify another pair of items that share a similar relationship Resource: Page 90 of The Highly Engaged Classroom Resource: The Sourcebook for Teaching Science provides an online guide for how to teach science through the use of analogies. http://www.csun.edu/~vceed002/ref/analogy/analogy.htm

Nonlinguistic Representation

Nonlinguistic representations have been found to provide students with useful tools that merge knowledge presented in the classroom with ways of understanding and remembering knowledge (Jewitt, 2008). Nonlinguistic representation strategies are ones which help students represent understanding and elaborate on that knowledge using mental images or imagery. Nonlinguistic representations involve imagery, creating pictures and engaging in kinesthetic activity. Research has found this to be a powerful strategy because it taps into a student's natural tendency for visual image processing. This strategy helps students to construct meaning of relevant content and skills and have a better capacity to recall it later (Medina, 2008). Studies in Beesley and Apthorp's, 2010, analysis indicated that the impact of using nonlinguistic representations can multiply when teachers and students use the strategy in combinations with other strategies.

Strategy	Overview / Implementation
Physical Models	Hands on tasks to create concrete representations of knowledge.
Mental Imagery	Students are asked to create a mental picture of the information to help them make sense of what they are learning to and to help store it in long term memory. Incorporate sounds, smells, tastes and visual details as part of the overall mental picture.
Creating Pictures	Students draw or color pictures that represent knowledge. Using pictures helps students to represent their learning in personalized ways. An example could be "draw what it means to you."
Kinesthetic Activity	Students engage in physical movement associated with specific knowledge to generate understanding of content/skills. When students move they create more neural networks in the brain and learning is enhanced. Examples: • Role Play • Acting out vocabulary words • Using your body or hand movements to illustrate concepts • Card sorts (First Steps) • Use bodies to demonstrate understanding of motions of objects (ie. Planets orbiting the sun). As students make the motions and talk about what they are doing, they encode information in their memory in multiple ways and help to increase understanding.

Generating and Testing Hypotheses

Generating and testing hypotheses deepens student knowledge because it requires the use of critical thinking skills when analyzing and evaluating. Problem solving, experimental inquiry and investigation are incorporated to generate and test a hypothesis. Generating and testing hypotheses applies knowledge through the use of two thinking processes. One of these processes is deduction which involves using general rules to make a prediction about a future event or action. Induction is the second thinking process, which involves making inferences based upon knowledge that the student already has. This involves drawing new conclusions or identifying rules based upon observations. This strategy enhances students understanding of and ability to use knowledge by engaging them in the mental process required for making and testing hypothesis.

Strategy	Overview / Implementation
Generating and Testing Hypotheses	Hypothesizing includes predicting, inferring, deducting and theorizing. By engaging them in mental processes that involve making and testing hypotheses, students' understanding and ability to use knowledge is enhanced. This moves them beyond "right answer learning." Classroom Practices: 1. Engage students in a variety of structured tasks for generating and testing hypothesis. These tasks include: • Systems Analysis: Analyzing parts of a system and the manner in which they interact. • Problem solving: Problem solving involves overcoming constraints or limiting conditions that are in the way of achieving goals. • Experimental inquiry: The process of generating and testing explanations of observations. • Investigation: The process of identifying and resolving issues regarding past events about which there are confusions or contradictions. 2. Ask students to explain their hypotheses and their conclusions helps students deepen their understanding of the principles they are applying.

Summarizing and Note-Taking

Summarizing and note-taking are essential elements of learning. Summarizing is the process of distilling information down into its most essential points to increase understanding, memorizing, and learning what is relevant. Note-taking is the process of capturing key ideas through writing, drawing, etc. These are essential strategies because they involve higher-order thinking skills. Note-taking strategies are not intuitive which means that students benefit from explicit instruction in note-taking, particularly those that are guided by the teacher and are structured.

Strategy	Overview / Implementation

Summarizing Strategies	Rule based summarizing strategy
	● Take out material that is not important to understanding
	● Take out words that repeat information
	● Replace a list of things with one word that describes them
	● Find a topic sentence or create one
	
	Use summary frames
	● A series of questions designed to highlight the critical elements of a specific text pattern
	● There are six frames
	   ○ Narrative
	   ○ Topic-restriction-illustration
	   ○ Definition
	   ○ Argumentation
	   ○ Problem-solution
	   ○ Conversation
	
	Teach student reciprocal teaching
	● There are four roles
	   ○ Summarizer
	   ○ Questioner
	   ○ Clarifier
	   ○ Predictor

Note-Taking Strategies	Give students teacher prepared notes ● Show the organizational structure, model

	Teach a variety of note-taking formats
	- Webs, words, pictures, computer generated notes, outlines Provide opportunities for students to revise their notes and use them for review - Leave spaces in notes for revisions as learning takes place - Provide feedback during review to allow for growth in the skill development Narrow the margins of a document, like a story or article, to allow room for additions, corrections, thoughts, or questions.

Thinking Routines

Thinking routines as outlined by Ron Ritchhart, Mark Church and Karin Morrison (2011) in "Making Thinking Visible", strive to help students achieve deeper understanding through the use of thinking routines and effective questioning. To think or understand "deeply" means "there is a focus on developing understanding through more active and constructive processes" (Ritchhart et al. 2011, p. 7). When students develop a greater awareness of "how they think", they become independent learners capable of directing and managing their own thinking and learning. Ritchhart states that thinking routines act as tools for promoting thinking, as well as provide structures and patterns for thinking. Golden Hills teachers strive to build student understanding by making thinking visible in their classrooms. Routines for introducing learning, synthesizing and organizing ideas and digging deeper into ideas are outlined.

Overview / Implementation	
Thinking Moves	Ritchhart et.al describes key thinking moves that are involved in different kinds of thinking in order to understand. These include: • Observing closely and describing what is there • Building explanations and interpretations • Reasoning with evidence • Making connections • Considering different viewpoints and perspectives • Wondering and asking questions • Uncovering complexity and going below the surface of things
Ways to Make Thinking Visible	Ritchhart et al. (2011) has identified three ways to make thinking more visible. "Through questions, teachers can model their interest in the ideas being explored; help students to construct understand and facilitate the illumination of students' own thinking to themselves". (Ritchhart, Church & Morrison, 2011, p. 31)
Thinking Routines	Three clusters of thinking routines make thinking visible according to Ritchhart et al. (2011). Ritchhart defines thinking routines as any procedure, process or pattern of action this is used repeatedly to manage and facilitate the accomplishment of specific goals or task. 1. Routines for Introducing and Exploring Ideas (i.e. See-Think-Wonder, Chalk Talk) 2. Routines for Synthesizing and Organizing Ideas (i.e. Headlines, CSI: Color, Symbol, Image) 3. Routines for Digging Deeper into Ideas (i.e. What Makes you Say That, Step Inside)

Effective Questioning

Questioning has been found to be the second most dominant teaching method after teacher talk, with teachers spending 35-50% of teaching time posing questions (Hattie, 2009, p. 182). Questioning is a powerful strategy for teaching concepts, building comprehension and helping students to assume an inquiry stance towards learning. Asking questions to foster an inquisitive stance helps students to be open to new ideas. Most questions that teachers ask are questions they already know the answer to (guess what is in the teachers head types of questions) as cited in (Hattie, 2009. P. 182). The goal is to ask questions that encourage students to think. The importance of questions that will propel learning and build curiosity are highlighted in Ritchhart et.al's work (2011). A balance of the types of questions and the use of questions that will foster inquiry and critical creative thinking are encouraged in the implementation of **Powerful Learning**.

Overview / Implementation

Key Ideas	
	• Teachers plan the questions they ask to help students focus on the most important concepts and the criteria for success.
	• Teachers ask: Is the question worded in a clear, specific, and precise manner?
	• Teachers use powerful questions…ones that give you lots of information, are specific to the person or situation, are open-ended and usually not easy to answer
	• Teachers use provocative questions to prompt student reflection on their understanding.
	• Teachers have a clear purpose for asking questions. For example, is the goal of the question to tap into student's curiosities or interests at the beginning of the unit of study? This type of question is intended to hook them or stimulate motivation to learn. Quality questions are purposeful.
	• Activation questions can be used to prepare student to connect new learning to what they already know, provide information to build on existing knowledge and to identify misconceptions that will interfere with student learning.
	• Questions can be used to set the stage for learning (pg. 36 Walsh and Sattes 2017). The invitation to dive in/learn can occur through essential questions, hook questions, questions to activate prior conceptions and diagnostic questions.
	• Questions that are used to deepen understanding are correlational, extension, transfer and reflective questions. (pg. 41 Walsh and Sattes 2017)
	• Teachers ask questions that encourage students to reflect upon peers' ideas and to respond to them.

	- Teachers use appropriate wait time before getting student responses. Teachers pause after a question and after an initial response to continue thinking. - Teachers use structures to encourage student-to-student talk and provides opportunities for dialogue throughout the lesson - Teachers use a variety of ways to gather student responses (e.g., pulling names from a jar, students write down their responses, etc.)
Powerful Questioning and Talk	**Powerful Learning** is supported by powerful questioning and conversations. The "accountable talk" (Hattie, et. al.) strategy helps to build these skills. Conversational moves and prompts are modeled by the teacher and then integrated into student conversation. **Accountable Talk** **Affirm** Thanks for explaining that. That's a great point. I like the way you... **Agree** I agree with ___ because... I like what ___ said because... I agree with ___, but on the other hand... **Clarify** Could you explain that again? Say more about that. What do you mean when you say...? **Support** Where is that in the text? Could you give an example? Can you prove that? Another example of that is... **Summarize** So, what you're saying is... So far we have said... We already decided that... Let's recap... **Connect** That makes me think of... That reminds me of... I can relate to that because... **Disagree** I disagree because... Could it also be that...? That idea doesn't seem to fit with... **Piggyback** I have something to add to that. I want to go back to what ___ said... **Refer** I noticed ___ here in the text. In our notes, it says... I think the author is saying here that... **Inquire** What do you think? Why do you think that? Can I ask ___ a question about... How do you know that?

Move*	Examples
Press for clarification and explanation	• Could you describe what you mean? • Can you provide an example that supports your claim? • Can you tell me more about your thinking about…?
Require justification of proposals and challenges	• Where did you find that information? • How did you know that? • How does that support claim?
Recognize and challenge misconception	• I don't agree because… • Have you considered an alternative such as…? • I think that there is a misconception here, specifically…
Require evidence for claims and arguments	• Can you give me an example? • Where did you find that information? • How does this evidence support your claim?
Interpret and use each other's statements	• David suggested… • What I heard Marla say was… • I was thinking about Jackson's ideas and I think…

*Retrieved from the companion website for Visible Learning for Mathematics, Grades K-12: What Works Best to Optimize Student Learning by Hattie, et.al) 2017.

Levels of Questions

Address all three levels of questions:
1) Gather – collecting information, fact finding, recall
2) Process – comparing, analyzing
3) Apply – evaluate, judge, application

Constructive Questioning: (Ritchhart, Church & Morrison, 2011)
• Defined as questions that help to advance understanding. "These are questions that ask students to connect ideas, to make interpretations, to focus on big ideas and central concepts, to extend ideas and so on" (Ritchhart et.al, 2011, p. 33).
• Questions are asked to guide, direct and push forward student's understanding of important ideas

What are good questions?
• Help students make sense of concepts and deepen understanding
• Open-ended
• Thought provoking and intellectually engaging
• Empower students to unravel misconceptions

- Require students to make connections and generalizations
- Accessible to all students and will offer multiple entry points
- Leads students to "wonder"

How are good questions created?
- Consider the goal of the lesson
- Consider misconceptions
- Consider the connections you want to make between the lesson goals and other concepts
- Consider assessment

What are teacher's responsibilities?
- Model inquisitiveness allowing students to see teachers as open to new ideas, being persistent in searching for answers and demonstrating the ability to listen and collaborate.
- Understand the learning embedded in the question
- Present it clearly
- Set clear and reasonable expectations for the work
- Allow for individual approaches, methods or answers
- Add variety or more data to be accessible for all
- Use concrete materials
- Allow time
- Create a safe environment with routines and procedures in place
- Practice wait time
- Discuss answers focusing on student thinking

Critical Thinking Strategies

Oral Discussion Strategies

U-Shaped Discussion	Instead of an adversarial debate format, this strategy encourages students to see the merits of all sides and to recast binary options as positions along a continuum. Students endorse their position while listening to others to determine the most defensible stance.
4 Corners	Students are required to take a position by moving to the corner of the room labelled with their position and discussing the reason for their position with one student with the same and one student with a differing position.
Tag Debate	Similar to a traditional debate, but those in the 'speaker's chair' can be tagged out and another student can move in to add another argument to the conversation.

Perspective Taking Strategies

3-Step Interview	In groups of 3, students are assigned a perspective or role. They then each develop questions and interview the other roles. This requires that students frame powerful questions, listen and record important information, and respond to questions considering a particular perspective.
Redraw an Image	Students are asked to examine an image, determine the perspective from which it was created, and use evidence and inference to redraw how the image would appear differently from an alternate perspective.
Step into the Picture	In groups, students examine an image or text. Groups are invited to tell what happened in the time before or after this image – perhaps 3 minutes, or 3 days, or 3 years. This can be performed as a skit.

Making Judgement Strategies

Value Time Line	In addition to placing events in chronological order along a time line, students rate the significance or impact of events by placing them above or below the line.
Opportunities Challenges and Wonder	We often encounter things that seem to have merit, but also raise some concerns. To make a reasoned assessment, have students consider the Opportunities, challenges, and Interesting/Wonderings of an idea or proposal.
Ranking Ladder	Have students rank the most important or significant contribution to an issue, topic, or event. As learning progresses, have students revisit their ranking and revise it based on new evidence.

Fulcrum	Use a balance scale to have students display which of two options has a greater impact, better represents, or which direction an event had on an outcome.
Dashboard	Have students display their position on an issue or topic by selecting where they fall on the dashboard continuum. Students are given time to reflect and readjust their dial as learning progresses.
Pie Chart	When given a number of factors, students create a pie graph containing each factor and the size of each slice (Factor) represents the degree to which each factor contributes to an event or issue.
Generating Ideas Strategies	
Five Senses	Students make an abstract concept or idea more real by brainstorming connections to your five senses.
Create a Powerful Headline or Question	In this strategy, you are required to use your creativity to summarize the main ideas or find out more about a source.
Placemat	Students work collaboratively to weigh options and come to a consensus. Often used to summarize large amounts of information or give everyone a chance to share their ideas.

AUTHENTICENGAGEMENT

Authentic Engagement is fostered when teachers design learning experiences that will intellectually engage students. The **Authentic Engagement** driver for **Powerful Learning** explores how to create a culture of learning, how to create a safe, welcoming and caring environment and how to set up the physical and virtual learning spaces to maximize engagement. A thinking disposition or learning mindset is central to creating an engaging learning experience. An emphasis is placed on creating a culture where high expectations are combined with challenging tasks, and where students are provided with the necessary supports to ensure their success. In other words, **Authentic Engagement** occurs in a culture that embraces academic challenge and values hard work built on relationships, sense of belonging and trust.

CULTURE OF LEARNING

Learning Environments to Foster Intellectual Student Engagement
Student engagement has long been at the core of effective schooling. The type of engagement that is being fostered in Golden Hills is "Intellectual Engagement." Engagement refers to the degree of motivation, attention, curiosity, interest, effort, enthusiasm, participation and involvement that students show when they are learning. According to Marzano et. al (2011) four topics that constitute the model of attention and engagement are: emotions, interest, perceived importance and perceptions of efficacy. Student engagement involves providing students with opportunities to experience interactive learning/cooperative learning in a supportive environment. Engagement is understood in Golden Hills as a focus on framing learning using relevant and powerful questions, meaningful challenges and authentic applications that extend beyond the classroom, and when possible have global connections.

Authentic Tasks

The importance of providing authentic tasks and inquiries is highlighted in **Powerful Learning** and task design considers what is meaningful and relevant for students. Efforts are made to provide authentic tasks defined as "tasks and inquiries that have personal meaning to students, reflect real life work, has students create and contribute to the world's knowledge and demands a variety of roles and perspectives" (Galileo definition).

When learning moves beyond the classroom, students are engaged in being able to "observe, interact, collaborate and create with experts" in the community. "Inquiries and tasks are developed that require student collaboration to acquire and use competencies expected from high performance work environments: teamwork, problem posing, problem solving, communication, decision making and project management" (Galileo). In the design of learning, every attempt is made by teachers to consider what the discipline calls for (i.e. in mathematics we consider how to help students to learn how to think like a mathematician). Golden Hills teachers also make every attempt to provide students with worthwhile work.

Thinking Culture

Learning experiences are designed to build a thinking culture in our classrooms and among teachers. These learning opportunities move students "beyond facts and basic skills to see the patterns and connections to related concepts, principles and generalizations" (Erickson et. al, 2017 pg. 15). "When students can understand the deeper, transferable significance of their learning, the thinking is integrated at the conceptual level" (Erikson et,.al pg 15). Students challenge themselves to think both creatively and critically as they make connections between, and among, ideas and situations they encounter. Explicit modeling of thinking occurs as teachers ask questions and also model how to analyze and problem solve.

Ritchhart et. al describes the "shapers" of cultures of thinking beginning with having a sense of purpose for the learning. Development of commitment occurs when there is a clear defined sense of purpose along with "challenge and connection" to the learning. The key forces that shape culture according to Ritchhart include "expectations, language, time, modeling, opportunities, routines, interactions and environment."

Engaged Learning Environments: What does it look like?	- Learning is not constrained by time and you lose track of time and space when learning - Lessons are fluid and continually evolving - An atmosphere of self-worth, understanding and respect exists - Meaningful conversation flows between students and teachers; collaboration is fostered - Responsibility replaces accountability - All voices are heard and valued - Continually ask "why?" and "why not?" - Everyone is a learner - There is excitement in academic challenge

Adapted from Pg. 157 (Engagement by Design, Fisher, et.al. 2018)

SAFE, CARING, AND WELCOMING ENVIRONEMENT

Powerful Learning begins with a safe, caring and welcoming environment where learning grows out of a culture of care and empathy. Maslow's hierarchy of human needs (1943) recognizes that the basic needs of safety, security, a sense of belonging and love must first be met. Readiness to learn is established once these basic needs are addressed. Brain research has found that stress and negative classroom experiences impair learning and that emotion takes over cognition. When a learner feels threatened, brain function is reduced. As stated by Sousa and Tomlinson, 2017, "the brain is quick to tune in to threat and slow to forget it".

The importance of creating a safe learning environment is legislated in the Alberta Education School Act through Bill 10: "In order for children and youth to be successful in school it is important that the learning environment provides a sense of belonging, acceptance and safety (emotional, psychological and physical) to support success. Alberta Education, through the School Act, is focused on ensuring that schools are caring, respectful, safe, orderly, positive, productive and free from the fear of physical and emotional harm."

(Bill 10, Alberta Education, 2015)

The Safe, Caring and Welcoming Environment: What does it look like?	• Time is spent listening first • Frequent questions are asked in order to understand and curiosity is nurtured • Meaning and purpose is evident as learners focus on significant issues and ideas • Classrooms are filled with dialogue instead of monologues • Students have voice in what and how they learn, and how they show what they learn • Teachers and students look for the problem behind misbehavior rather than seeing the child as the problem, and then find solutions rather than punishment • Teachers connect before they redirect behavior • Empathetic and nurturing tones are heard • Efforts are made to interpret the meaning behind behavior, the lagging skill or the unsolved problem • Instead of trying to control behavior, adults co-regulate with the student • Misbehavior is seen as an opportunity to teach the student more adaptive coping

	• Students are acknowledged in a non-judgmental manner • Learning is invited and flexibility and difference is embraced • Focus on assets rather than deficits • Built upon collaborative relationships • Teachers inspire a love of learning • Learners have the capacity to reach out to others with acceptance and trust
	List generated from article "The Empathetic School", Carol Ann Tomlinson and Michael Murphy, Educational Leadership, Vol. 75 No. 6 March 2018

ENVIROMENTS THAT SUPPORT LEARNING

Physical Learning Environment

The physical learning environment is *intentionally organized* to foster a deep understanding of curricular outcomes and create **Powerful Learning** Classrooms. The "knowledge transmission" historical view of learning was suited for a predominantly individual activity of absorbing and memorizing decontextualized and fragmented information transmitted mostly by the teacher. This notion of classrooms and learning resulted in traditional classroom layouts with desks in rows facing the front of the classroom. In contrast, a "knowledge construction" or "concept attainment" view of learning requires a physical environment conducive to students constructing their understanding, through authentic, realistic learning experiences that resemble real life situations, allowing for meaningful learning and problem solving. The physical environment in the classroom allows for cooperative and collaborative learning in small groups, with versatile and flexible arrangements of tables and desks. Creating an environment that is flexible helps students' transition seamlessly from one form of learning to another.

Students in the **Powerful Learning** classroom discover answers to questions and think through complex tasks by supporting an opinion or position with evidence, based upon criteria. This necessitates that a variety of materials, resources, technologies and books be available for students to explore and learn.

The physical environment of a classroom influences how students learn, how individuals interact and perform. Ritchhart, 2015, describes learning environments that fosters thinking "where learning is viewed as an active, collaborative endeavor that fosters the development of fluid intelligence- the ability to problem-solve, reason, and explore new ideas with others". The classroom environment communicates what is valued and expected.

With these ideas in mind, the physical layout in *the **Powerful Learning** classroom needs to allow for a variety of learning spaces within the classroom*. Ideally, small working tables, with locking wheels can encourage ease of rearranging depending upon the learning activity. Space for individual learning is provided along with several collaborative spaces. A variety of books, resources and technology tools provide students with choice and voice as they read to discover ideas. The learning journey is documented on the walls and space for a "Thought board" tracks thinking overtime. The development of students as thinkers and learners are enhanced when the learning is captured, recorded or documented in some form. Student learning is displayed to inspire, invite and inform and not merely decoration (Ritchhart, 2015, pg. 236). Bulletin boards, smartboards and white boards serve as learning spaces. Materials to simulate real world content such as science are organized in open displays and bins, depending upon the curricular outcomes being worked on. Manipulatives, models and art materials suited to a variety of subjects including math are available. Classroom libraries of literature comprised of both narrative and expository text are also available.

Learning environments that foster **Powerful Learning** are described in the article "Campfires in Cyberspace" written by David Thornburg (2004). David identifies learning spaces within a classroom as the campfire, the watering hole, the cave and life. The campfire represents when students come together to listen and learn from the elder in the group, who passes on wisdom through storytelling. The watering hole is the learning space for small group work including conversational. The watering hole is the space for focus lessons as well, a component of the Daily Five. The cave is the space for students to work on their own to reflect, study and learn individually. "Life" is referred to not as a learning space but a reminder to highlight the need for knowledge to be used and applied in the real world. These descriptors are consistent with spaces suited to creating a **Powerful Learning** classroom.

Virtual Learning Environments

The virtual learning environment extends the physical learning environment beyond the classroom enabling students to experience learning first hand in ways not otherwise possible. Utilizing technology in a meaningful way allows students to connect with others while exposing them to new ideas and experiences. Technology is harnessed as a tool to gather information, construct new understandings, document progression of concept attainment or extend learning through unique learner creations and innovations. Digital or virtual learning environments are limitless.

Technology used to facilitate the creation and communication of collaborative learning experiences enriches the learning environment. Galileo Learning Network identifies characteristics of strong inquiries and tasks to those that permit students to select appropriate technologies in order to create, contribute, connect and collaborate with others. Technology provides the opportunity to shift the emphasis of learning from content and skills to higher order tasks and thinking. Technology can also help Golden Hills teachers to meet the differentiated needs of learners, enabling all students to experience successful learning.

Two key questions should be considered when leveraging technology…

1. How can digital be leveraged so that learning can be facilitated, amplified, and accelerated while student-driven learning is cultivated?
2. What transformative learning opportunities does digital provide that cannot be met with traditional approaches? (Fullan et.al, p.81)

Effective Implementation and Integration of Technology

To facilitate the effective implementation and integration of technology into learning environments, the Florida Center for Instructional Technology (FCIT) created a [Technology Integration Matrix (TIM)](#) using five learning characteristics across five levels of technology integration. This matrix is meant to assist in assessment of technology use in lessons rather than rate a teacher or judge a task and includes video examples for each cell. These videos are also filtered into [subject](#) or [grade level](#). Golden Hills School Division encourages teachers to reach for the transformational level of technology integration in order to maximize learning opportunities.

Psychological Learning Environments

Powerful Learning conditions will not only affect the physical and virtual learning environments, but the psychological learning environment as well. "Neuroscience is showing us that a sense of belonging plays a huge role in learning and protection against stress" (New Pedagogies for Deep Learning). Furthermore, the brain thrives in a learning environment where being accepted and valued are inherent. Learning occurs when the brain feels safe and unthreatened. In order for students to achieve **Deep Understanding**, several psychological conditions need to be met.

Students need to feel:

1. Safe – emotionally, physically, mentally, and socially
2. Significant – students need to feel like they matter and that their voice is worth listening to
3. A Sense of Purpose – students need to know why they are here, why they matter, and how their thoughts and efforts can make a difference.*

*Adapted from "What We Know About Well-Being: Connections to Deep Learning," New Pedagogies for Deep Learning, 2019.

LEARNING MINDSETS

The attitudes that students bring to the learning experience are referred to as mindsets, dispositions and habits of mind. The mindsets that students bring to the classroom is also referred to in the literature as "dispositions".

Learning mindsets refers to the set of skills and attitudes demonstrated by students in school. The term mindset was first used by Stanford University Psychologist, Carol Dweck. The terms fixed and growth mindsets are defined by Carol with a fixed mindset referring to the idea that basic qualities such as intelligence or talent are fixed traits. Growth mindset is the understanding that abilities and intelligences can be developed through dedication and hard work. Students who embrace the belief that they can learn more or become smarter if they work hard and persevere, may learn more, learn it more quickly, and view challenges and failures as opportunities to improve their learning and skills. Carol Dweck's research emphasizes that growth mindset creates a love of learning and a resilience that is essential for great accomplishment and achievement.

Habits of Mind

"Habits of mind" are part of the typical or habitual way in which a person approaches a situation or task. Habits of mind may be defined in different ways, including disposition and thinking and learning strategies. The mindsets that students bring to the classroom is also refer to in the literature as "dispositions". A disposition is an enduring characteristic or trait that motivates behavior (pg. 19-20 Ritchhart, 2015).

Collaborative Skills

Inclusive	**Constructive**
Is willing to seek to include all participants	Is willing to take and give critical and productive feedback
Flexible	**Empathic**
Is willing to change tactics or approach and adjust behavior to the situation	Is able to empathize with those in diverse situations and context
Accommodating	**Consultative**
Is willing to compromise and adjust thinking and behavior to the situation	Is inclined to seek several sources of information, solicit expert opinion and confer with others

Respectful
Is willing to engage respectfully in discussion with others

Disposition

Takes Initiative
Is willing to explore options, is naturally a divergent thinker, and is a self-starter

Circumspect
Is tentative in one's belief until there is sufficient evidence or complexity to warrant a more definitive position

Self-Reflective
Is continually monitoring that one's beliefs and actions are well grounded

Humble
Knows one's place in a bigger picture – can laugh at his/herself. Is aware of one's own knowledge and recognizes no one should claim to know more than they know.

Open-Minded
Is open to alternative and opposing views

Learning Continuously
Is open to new learning and experiences, demonstrates intellectual curiosity, and is in a continuous learning mode

Independent-Minded
Manages social pressures and explores beyond popular beliefs

Intellectual Courage
Is willing to fairly assess ideas, beliefs, or viewpoints which others have not given serious consideration

Learning Continuously
Is open to new learning and experiences, demonstrates intellectual curiosity, and is in a continuous learning mode

Thinking About Our Thinking
Is able to reflect on and evaluate the quality of one's own thinking skills and strategies. Is aware of one's own actions and the effect of those actions on self, others and the environment.

Intellectual Integrity
Is true to one's own thinking and is consistent in the intellectual standards that apply

Thinking and Learning Strategies

Inquiring Mind (curious)
Is willing to go beyond face value, is inclined to inquire into matters and take up a challenge

Tolerant of Ambiguity
Is willing to live with ambiguity, has developed the capacity to go beyond black-or-white answers

Persistent and Perseverant
Is willing to persist by thinking through problems in a thorough and careful manner

Attentive to Detail
Is willing to engage in careful consideration to detail

Critically Minded
Is able to evaluate information to determine levels of importance and contribution

Fair-Minded
Is willing to establish criteria for assessing ideas toward generating productive advances in thinking and creating

Managing Impulsivity
Is able to consider alternatives and consequences of several possible actions prior to taking action

Taking Responsible Risks
Is able to view setbacks as interesting, challenging, and as a means to set goals for improvement. Draws on past knowledge and knows that all risks are not worth taking.

From http://www.designlearning.us/habits-of-mind

ENGAGING IN SUSTAINED INQUIRY

Through powerful questions and learning tasks, Golden Hills teachers ignite inquiry in a sustained manner and "hook" student interest and motivation to learn. Sustained inquiry engages students in bigger questions that do not have immediate answers, questions that lead to more enduring investigations. It also develops habits of critical and creative thinking in all areas of learning.

WAYS TO FOSTER ENGAGEMNT

Creating Curiosity and Connections	
Real World Application	When providing students with a goal that extends beyond the classroom students have a sense that what they are doing is important. **Authentic Engagement** occurs when the learner finds meaning and value in the work.
Posing Guiding Inquiry Questions	Guiding questions create a clear focus that connects students to socially significant material and learning. This leads to exciting conversations that bring together the students' lives, the course content, and the world in which they live as they consolidate concepts, vocabulary strategies and ideas.
Present Unusual Information	Unusual information creates a sense of curiosity and invites students to engage by filling in bits of information that may be missing. Novelty and variety fosters engagement.
Connecting to Students' Lives	Analogy problems are effective ways to connect to students' lives. Comparison tasks require students to relate new knowledge to topics of interest.
Clear and Modeled Expectations	The student knows what success looks like and it has been modeled for the student. The criterion for the work is clear and understood by the student.
Gaining the Student's Attention	If a teacher does not have a student's attention, there is little hope that the content being addressed will enter his or her working or permanent memory. Teachers can effectively use pacing and incorporating physical movement into lessons to help students feel energized; they can also demonstrate intensity and enthusiasm and use humor to help students feel stimulated.
Conducting Purposeful Research	When students are able to use what they have learned to effect change in their communities directly, they are much more likely to feel the work is important.
Sense of Audience	When an audience exists beyond the teacher, students have a sense of purpose and they tend to be more attentive when they know that someone is going to see their work.
Personal Relationships	Establishing personal relationships and fostering positive peer relationships in a fair and supportive classroom atmosphere can also be effective.

Attending to Student's Feelings	Notice how students are feeling and set up a safe space to learn. If students are low on energy or feeling bored, frustrated, or rejected by the teacher or their peers, it is likely that they are not focused on learning.
Thinking Critically	Cognitively complex tests that are perceived as important are engaging for students. Drawing conclusions supported with evidence invites students to think critically.

Student Ownership of Learning

Involving Students in Progress and Results	Tracking can reinforce efficacy and help students feel that they can do the required work. It also allows them to see growth over time.
Teaching Self-efficacy	Students should be directly involved in discussing self-efficacy and studying it first hand through correlating effort and preparation with achievement.
Involving Students in Planning and Monitoring	Develops self-efficacy as students chart their progress, on a specific learning goal, over time.
Provide Choice	Building choice into activities helps students perceive classroom activities as important. Choice can be provided through allowing students to choose tasks, choice of reporting formats, choice of learning goals and choice of behaviors.
Personal Response	The work or task allows for personal reaction and for the student to have their own thoughts. This would mean that there is more than one answer.
Self-reflection and Peer Reflection	Students use rubrics, checklists and guides to focus self-reflections Teachers model and teach the tools of how to self and peer assess.
Using Effective Feedback	Praising effort and aspects of a task are highly motivational and steer students toward the intended result.

Varying Teaching Strategies	
Games and Inconsequential Competition	Help maintain situational interest. Games should always have an academic focus. They provide opportunities to test understanding through friendly competition. For exercises, check out: marzanoreseach.com/classroom strategies.
Initiate Friendly Controversy	Controversy can trigger and maintain situational interest, especially when opposing views are expressed. Controversy should not be avoided. Friendly controversy should leave the students with some unanswered questions so they seek more information. Class votes on issues, a debate, a town hall meeting - which has students looking at various perspectives - the legal model and perspective analysis are opportunities to initiate friendly controversies around curriculum to create interest. Incorporating constructive controversies into instruction can result in students inventing more creative solutions to problems, becoming more original in their thinking, generating and utilizing more ideas and analyzing problems at a deeper level.
Vary Questioning	Asking questions engages a student's working memory, thus eliciting students' attention. To avoid other students from disengaging, several techniques are considered effective: call on students randomly, paired response, wait time, response chaining, choral response and simultaneous individual responses.
Involving Students in Monitoring	Teachers can effectively use pacing and incorporating physical movement into lessons to help students feel energized; they can also demonstrate intensity and enthusiasm and use humor to help students feel stimulated.
Choice	Building choice into activities helps students perceive classroom activities as important. Choice can be provided through allowing students to choose tasks, choice of reporting formats, choice of learning goals and choice of behaviors. 5 Ways Student Choice Impacts Learning 1. Choice improves student buy-in. 2. Choice puts the responsibility back in the students' hands. 3. Choice allows for flexibility. 4. Choice embraces current and new passions. 5. Choice leads to growth.

| Voice | Encouraging students to have voice in the learning process, is an important part of engagement. Fisher et. al, talks about listening more than trying to convince others to agree with their exiting perspectives, making an intentional and authentic effort to learn from what is heard when listening, and taking responsibility to lead with others in taking actions that will make the world a better place (Quaglia, 2016). |

CONNECTING &CONTRIBUTING

The **Connecting and Contributing** driver of **Powerful Learning** highlights the interconnectedness and relationships that students need in order to develop global competencies, enabling them to connect and contribute meaningfully. In **Powerful Learning**, teachers intentionally design learning experiences that will help students to better understand themselves and the world they live in. The interconnectedness of our changing world requires that students understand the complex dynamics of globalization and are able to form judgements and take action. As well, learning experiences need to acknowledge the interconnectivity of both cognitive and emotional development.

Powerful Learning recognizes the need for students to be able to practice positive, safe and healthy behaviors, to learn to contribute ethically and responsibly to their peer group, family, school and local and global community, and strive to possess core competencies, work habits and values as a foundation for meaningful employment and engaged citizenship (as cited in Greenberg et al, 2003.) **Powerful Learning** experiences engage students in issues and tasks of value to themselves and the world, while helping them to foster positive connections and contributions. Digital technologies have a significant role to play because they shape students outlook on the world, their interactions with each other and also their perceptions of themselves. It is important to meaningfully use technology to help students understand global issues and how they might be able to engage in tackling social, political, economic and environmental challenges. As well, students need to be taught how to meaningfully, effectively, and appropriate engage with technology and one another using digital means of communication.

Powerful Learning also recognizes the need for the **"well-being"** of all students. Academic development is one area to nurture, along with physical, social and emotional growth. It is essential that our classrooms are places where students feel they belong and where relationships are actively developed. Belonging and connectedness are of utmost importance in order for students to flourish. As well, there is a need for the teacher to model empathy and compassion, embracing differences and acceptance of all students. A focus on meaningful, effective communication helps teachers and students to actively listen to each other and to understand. Statements such as "tell me what you meant" rather than "use your words" implies a belief in the competency and capabilities of every child and a belief that every child can learn Clinton 2017 as cited in Fullan et.al, 2018.

 Learning and brain development is shaped by social-emotional conditions, as well as the cognitive experience that students are provided through choice and authentic powerful tasks.

Constant messaging occurs in classrooms that impact well-being and it is this messaging that needs to be intentionally crafted to nurture students. Careful consideration is needed to ensure that the best possible social-emotional conditions exist in classrooms in Golden Hills School Division.

TO DO: ADD CHART OF CONDITIONS ideal for social-emotional growth

Add summary from Clinton 2013 document

A **Personally Responsible Citizen** as defined by Westheimer, acts responsibly in the community, helps those in need, obeys laws and makes contributions to social causes. The basic assumption for a Personally Responsible citizen is to solve social problems and improve society, citizens must have good character, be honest and law-abiding members of the community.

The **Participatory Citizen** is someone who actively participates in the civic affairs and social life of the community at the local, provincial and national level. These individuals would organize community efforts to care for those in need or clean up their environment. They would know how government agencies work and help to organize i.e the food drive. To solve social problems, citizens must actively participate and take leadership positions within established systems and community structures.

The **Social Justice-Oriented Citizen** is someone who is able to examine social, political structure and explore strategies for change that address the root causes of problems. Citizens with this orientation know about social movements and how to effect systemic change. They seek out and address areas of injustice. To solve problems as a Social Justice-Oriented citizen, citizens must question and change established systems and structures when such systems reproduce patterns of injustice over time.

CONNECTING WITH ONESELF

Connecting and Contributing begins with students being able to connect with themselves, which includes self-awareness and self- regulation. Students who are self-aware utilize metacognitive strategies such as planning, monitoring and evaluating their thinking and learning experiences. **Powerful Learning** recognizes that being able to self-monitor is an essential skill for life and therefore needs to be incorporated into the learning experience. Students need to learn how to demonstrate social, emotional and behavioral responsibility and regulation. The development of self-regulation provides the foundation for higher metacognitive functioning, which enables students to respond to complex challenges.

CASEL 2008 identifies five core elements in social and emotional learning: self-awareness, self-management, social awareness, relationship skills, and responsible decision making.

Self-Awareness	Self-awareness is defined as the ability to accurately recognize one's emotions and thoughts and their influences on behavior. This includes accurately assessing one's strengths and limitations and possessing a well-grounded sense of confidence and optimism.
Self-Management	Self-management is defined as the ability to regulate ones' emotions, thoughts and behaviors effectively in different situations. This includes

	managing stress, controlling impulses, motivating oneself, and setting and working toward achieving personal and academic goals.
Social Awareness	Social awareness is defined as the ability to take the perspective of and empathize with others from diverse background and cultures, to understand social and ethical norms for behavior, and to recognize family, school and community resources and supports.
Relationship Skills	Relationship skills are the ability to establish and maintain healthy and rewarding relationships with diverse individuals and groups. This includes communicating clearly, listening actively, cooperating, resisting inappropriate social pressure, negotiating conflict constructively and seeking and offering help when needed
Responsible Decision Making	Responsible decision-making is defined as the ability to make responsible and constructive choices about personal behavior and social interaction based on consideration of ethical standards, safely concerns, social norms, the realistic evaluation of the consequences of various actions and the well-being of self and others.

Self-regulation is the ability for a student to adjust their level of alertness and how they display their emotions through their behavior to attain goals in socially adaptive ways (Bronson, 2001). The need for the intentional integration of instruction in self-regulation has become evident.

Ensuring that students experience "caring and connectedness" is particularly important in a **Powerful Learning** environment. The basic need of belonging is foundational in order for students to flourish and as such, requires intentional orchestration on the part of the teacher.

CONNECTING AND CONTRIBUTING WITH OTHERS

Connecting and Contributing through meaningful relationships is at the heart of **Powerful Learning**. Through the trust and respect fostered in the classroom, teachers and students assume positive intentions and seek to build and maintain relationships with others. Teachers work to establish solid partnerships with families, communities and with students. New and different perspectives are achieved with the collision of ideas that spark curiosity as well as learning and growing together.

Peer Connections

Peers connections are fostered in multiple ways in the classroom. Students are directly taught how to interact in socially skilled and respectful ways. There is a shared responsibility where students support the learning of peers and they understand the role others play in supporting their own learning. A sense of hope and optimism drives the learning and helps students move to increasingly complex tasks as they work together. To build peer connections, teachers intentionally teach perspective taking skills and ways to handle conflict. Learning to show empathy is important.

Effective communication is required for meaningful peer connections, as well as collaboration and interpersonal skills and personal, social and civic responsibility. Collaborative skills that might be taught in **a Powerful Learning** classroom include listening, reasoning together and building upon each other's ideas.

Ways to Facilitate Peer Connections	- Explicitly teaching how to effectively communicate and resolve conflict - Modelling - Accountable Talk strategy - Choosing groups randomly and allowing students to see the random process - Choosing groups based on common interests or passions - Defining clear roles or jobs for students - Reciprocal Teaching - Outlining clear expectations of collaboration

Student-Teacher Relationship

In **Powerful Learning**, the role of the teacher shifts from one of delivering content and the "holder" of knowledge to that of "orchestrator, designer and co-learner." Teachers are partners in the learning with the students. As teachers establish trust, honesty, respect and open communication, learning in a **Powerful Learning** classroom is accelerated. The teacher-student relationship involves developmentally appropriate interactions with the teacher in the role of as activator. "Teacher as activator plays a dynamic, interactive role with students to define meaningful learning goals, establish success criteria, and develop student skills in learning to learn so that they become reflective, metacognitive learners" (Fullan et.al.). Teachers help students make their thinking visible and use effective feedback to move learning forward. As well, teachers know their students well because of the daily investment in relationship building with their students. Students are valued, connected, feel a sense of belonging and are given choice and voice in worthwhile work.

The teacher-student relationship is divided into three components by researchers Fisher et.al. (2018).

- *Invitational*: The teacher creates a space that invites students into the learning.
- *Equitable*: The teacher provides all students with the opportunity to develop a meaningful relationship with each other and the teacher.
- *Advocacy*: The teacher advocates for all members of the classroom and creates a safe space to grow. (Fisher et. al. 2018 (pg 26),)

The importance of the teacher in the role as activator is supported through research in the meta-analysis of research studies conducted by Hattie (2012). Hattie found a much lower effect size for "Teacher as Facilitator"(.17) compared to "Teacher as Activator" (.60). Teacher as Activator research included the categories of reciprocal teaching, feedback, teacher-student self-verbalizations, meta-cognition, goal challenging, frequent checks on effects of teaching.

Ways to Foster Student-Teacher Relationships	- Greet each student every day or at the beginning of every class at the door - Smile at students in the hallway - Body language - Talk to students about what they are interested in and passionate about - Modelling

Parent Partnerships

Teachers form a partnership with parents and community that is built upon trust and transparency. It moves beyond the usual two-way communication during parent teacher conferences and events at school. Fullan et. al (2018) talks about a higher level of engagement from parents when student-led conferences and exhibitions of learning occur where students articulate what, how, and how well they are learning (pg. 71). In **Powerful Learning** it is understood that education is a shared responsibility of school, family and community. Therefore, strategies are put into place to ensure that parents are partners and feel welcome in the school and join in making decisions that impact their child's learning.

Ways to Build Parent Partnerships	- Student Led Conferences/Celebrations of Learning - Emails to Parents – both to highlight students' successes and let parents' know about concerns - Phone Calls to Parents – both to highlight students' successes and let parents' know about concerns - Bring in Parents as Experts in their field - Parent Advisory Council - Remind to communicate - Social Media to communicate - Daily Agendas - Digital or E-Portfolio platforms like FreshGrade or SeeSaw - Parent volunteers in the classroom or on field trips

CONNECTING AND CONTRIBUTING LOCALLY AND GLOBALLY

Connecting and Contributing locally and globally requires knowledge, skills, values and attitudes that enable students to achieve a more inclusive, just and peaceful world. This moves learning beyond the classroom and into local and global communities. When students are making local and global connections they are able to observe, interact, collaborate and create with experts across the world. Social media and communication technologies create endless opportunities for collaboration and shared learning. This interconnectedness provides opportunities for ongoing local and global connections and contributions by our students.

Connecting and Contributing locally and globally necessitates that students develop the skills of citizenship and social responsibility. Golden Hills recognizes the central role schools play in helping students to think and act in ways that promote a more tolerant and sustainable world. With this in mind, teachers strive for students to recognize the potential and power of each individual contribution to local communities.

In order to foster active citizenship, it is important to teach students to ask challenging questions about their world. According to Westheimer (pg. 12, 2015), "improving society requires embracing questions and controversies so that citizens can engage in democratic dialogue and work together toward understanding and enacting sensible policy decisions."
Powerful Learning tasks are designed to develop active citizenship and encourage students to think critically about important social assumptions and social issues. Westheimer describes three types of citizens, which include:

- Personally Responsible Citizens
- Participatory Citizens
- Social Justice Oriented Citizens

Connecting and Contributing Locally

Connecting and Contributing locally helps students develop their understanding through enhanced learning experiences within the local community. Contributing locally asks students to take action that contributes to the betterment of the community's collective well-being. Students are able to make tangible connections and witness first-hand the impacts of their contributions in their communities.

	- Engage with local experts - Skype or Google Hangout

Connecting Locally	o Classroom Visit
	  o Question and Answer Forum
	  o Debates
	  o Visit to Local Sites
	• Field trips or excursions
	• Authentic audience for assessments
	• Connect with local newspapers, radios, and news stations
	• Build sustained community partnerships
	• Connect with local First Nations communities, such as Siksika Nation and *Métis* community members
	  o Develop personal understanding of Indigenous ways of knowing, history, and perspective

Contributing Locally	• Community Clean Ups • Reading to Seniors or Younger Audiences • Volunteering with various organizations • Mentoring Programs • Collecting items for Food Banks or Crisis Shelters • Green or Environmental Initiatives • Beautifying the Community/Art Projects • Fundraising for Local Causes or Programs

Connecting and Contributing Globally

Connecting and Contributing globally helps students develop and extend their learning to another level through authentic engagement with international people, concerns, and issues. Global contributions require students to take action on problems at an international level. It also challenges students to improve society and the environment globally. This encourages students to make our world more sustainable, diplomatic, and equitable in order to contribute in a meaningful way.

Connecting Globally	• Participate in National or Global Initiatives
	  o Orange Shirt Day
	  o Girls Who Code
	  o World Read Aloud Day
	  o Earth Day
	  o Terry Fox Run
	  o Poppy Campaign
	  o Red Nose Day
	  o Pink Shirt Day
	  o Bell Let's Talk Day

	- Connect to experts on a Global level - Skype or Google Hangout - Letters or Emails - Digital Platforms such as World Viewz - Conferences - Authentic audience for assessments - National and Global social media audiences and communication - National and Global newspapers, radios, and news stations - Build a global competence and cultural understanding - Perspective - Reading literature and watching videos from diverse global authors and creators - Enhance and develop perspective
Contributing Globally	- International service and volunteering - Building schools in communities that need it - Fundraising for global causes and initiatives - Engaging with global charities - Me to We - Operation Christmas Child Shoebox Campaign - Golden Hills International Program - Addressing, researching, and solving national and global problems