****

**Lesson Plan (Revised 2020)**

**Applied Design Skills Technology**

**Zachary Forster, February 14, 2020**

**Grade 1**

|  |  |
| --- | --- |
| **Name:** | **Zachary Forster** |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Grade** | 1 | **Topic** | ADST – *Lego Towers* |  |
| **Date** | Friday, February 14, 2020 | **Allotted Time** | 40 minutes |  |
| **STAGE 1: Desired Results**  **Cite sources used to develop this plan:** | | | |
| BC Ministry of Education Grade 1 Applied Design Skills Technology Curriculum | | | |

**Rationale**: *How is this lesson relevant at this time with these students? Why is it important?*

|  |
| --- |
| BC curriculum for Grade 1 includes ADST.  Solving a practical problem is tied into our current study in the *Think Like a Scientist* unit. |

**Core Competencies:** <https://curriculum.gov.bc.ca/competencies> (refer to “profiles” for some ideas)

*Which sub-core competencies will be the focus of this lesson? Briefly describe how and why:*

|  |  |  |
| --- | --- | --- |
| **Communication**   * **Communicating** * **Collaborating** | **Thinking**   * **Creative Thinking** * **Critical & Reflective Thinking** | **Personal and Social**   * Personal Awareness & Responsibility * Positive Personal & Cultural Identity * **Social Awareness & Responsibility** |
| Students will be working collaboratively to solve the Lego Tower challenge.  Completed structure will be shared with the class and development processes shared. | Students will be building a tower structure in response to a particular challenge. They will need to be creative and to reflect critically throughout this building process. | Because students are working collaboratively, they will need to be aware of the social situation and will have to take responsibility for their part in completing the task. |

**First Peoples Principles of Learning (FPPL):**

*How will Indigenous perspectives, knowledge & ways of knowing be acknowledged, honoured or integrated into this learning experience?* (Jo Chrona’s Blog: <https://firstpeoplesprinciplesoflearning.wordpress.com/>)

|  |  |
| --- | --- |
| **FPPL to be included in this lesson:** | **How will the FPPL be embedded in lesson:** |
| * *Learning is holistic, reflexive, reflective, experiential, and relational* * *Learning involves recognizing the consequences of one’s actions* * *Learning involves patience and time* | * Students are involved in the experience of building with Lego in a collaborative way * They will be reflecting on whether or not building in a certain way helps meet the challenge * This building challenge requires patience to complete successfully |

**Curriculum Connections:** <https://curriculum.gov.bc.ca/> (Curriculum)

*What Big Ideas (Understand), Curricular Competencies (Do), Content (Know) does this lesson develop?*

|  |
| --- |
| ***Understand***  Big Idea(s):  Designs grow out of natural curiosity.  Skills can be developed through play.  *Essential or Guiding Question(s):*  ***How can we build a Lego tower that is both tall and strong?*** |
| ***Do***  Curricular Competencies (Learning Standards):  **Applied Design:**  ***Ideating***  •Choose an idea to pursue Making  • Use trial and error to make changes, solve problems, or incorporate new ideas from self or others  ***Sharing***  • Demonstrate their product, tell the story of designing and making their product  **Applied Skills:**  • Develop their skills and add new ones through play and collaborative work |
| ***Know***  Content (Learning Standards):   * The design of a Lego Tower affects its potential height and strength. |

**STAGE 2: Assessment Plan**

FORMATIVE ASSESSMENT: (Assessment as Learning; Assessment for Learning)

Teacher observation of students:

* Choosing an idea and pursuing Making
* Using trial and error to make changes, solve problems, or incorporate new ideas from self or others
* Demonstrating their product, telling the story of designing and making their product
* Developing their skills and add new ones through play and collaborative work

SUMMATIVE ASSESSMENT: (Assessment of Learning)

* Student completion of a Lego Tower that meets the challenge
* Students completing the exit ticket

We can make our Lego tower higher and stronger by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

|  |  |
| --- | --- |
| **The Learning Intention:**  *What will students learn in this lesson? (i.e. Learning Standards)* | ***Students will build Lego towers and learn how to make them higher and stronger by testing their designs.*** |
| **Evidence of Learning:**  *How will students demonstrate their learning? What does it look like?* | Students will:   * Choose an idea and pursuing Making * Use trial and error to make changes, solve problems, or incorporate new ideas from self or others * Demonstrate their product, telling the story of designing and making their product * Develop their skills and add new ones through play and collaborative work |
| Criteria: *What do students need to do to meet or achieve the learning intention?* | * Student completion of a Lego Tower that meets the challenge * Students completing the exit ticket   Name:  We can make our Lego tower higher and stronger by  **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**. |

**Planning for Diversity:**

|  |  |  |
| --- | --- | --- |
| **Learning Target:** *In what ways does the lesson meet the needs of diverse learners?*  *How will you plan for students who have learning/behaviour difficulties or require enrichment?* | | |
| Students need to/must do   * Actively participate * Choose an idea and pursuing Making * Use trial and error to make changes, solve problems, or incorporate new ideas from self or others with support * Develop their skills and add new ones through play and collaborative work * Student completion of a Lego Tower that approaches meeting the challenge * Demonstrate their product, telling the story of designing and making their product with support * Students completing the exit ticket with support   Access/All | Students can do   * Actively participate * Choose an idea and pursuing Making * Use trial and error to make changes, solve problems, or incorporate new ideas from self or others * Develop their skills and add new ones through play and collaborative work * Student completion of a Lego Tower that meets the challenge * Demonstrate their product, telling the story of designing and making their product with support * Students completing the exit ticket   Most | Students could do/try to   * Actively participate * Choose an idea and pursuing Making * Use trial and error to make changes, solve problems, or incorporate new ideas from self or others * Develop their skills and add new ones through play and collaborative work * Student completion of a Lego Tower that meets the challenge * Complete a second tower using a new design but still meeting the challenge * Demonstrate their product, telling the story of designing and making their product with support * Students completing the exit ticket   Few/Challenge |

**STAGE 3: Learning Plan**

**Resources, Material and Preparation:** *What resources, materials and preparation are required?*

|  |
| --- |
| Class set of Legos in bins ready for table group work  Sufficient Maker space  Design Challenge Poster  Learning Intention Poster  Exit Ticket Poster  Exit Tickets  Pencils |

**Organizational/Management Strategies:** *(anything special to consider?)*

|  |
| --- |
| Transitions to and from the Library Maker space  Classroom set up  Poster preparation/ plan for display in the Library |

**Lesson Development:**

|  |  |  |
| --- | --- | --- |
|  | |  |
| **Connect:**  *How will you introduce this lesson in a manner that engages students and activates their thinking? Activate or build background knowledge, capture interest, share learning intention.* | | Pacing |
| **Teacher will**   * Invite students to line up at the door using coloured clothing technique * Say “Poof! You are now all invisible. Nobody will ever know we are walking in the hall.” * Ask students to stop at the Library door. * Invite children to join me on the carpet. * Discuss what we did with last week’s design challenge * Display todays learning intention and discuss:   ***Students will build Lego towers and learn how to make them higher and stronger by testing their designs.***   * Display and present today’s new challenge   ***How can we build a Lego tower that is both tall and strong?***  ***Our challenge today is to work in groups to build a tower that is as tall as is possible while still being able to hold this small stuffed animal.***   * Organizes groups strategically using silent hand number technique * Groups are assigned to tables and instructed that as a group they will design and build one structure | **Students will**   * Line up at the door as indicated * Listen for the game instructions * Follow game instructions by remaining quiet while walking to the library * Stop at the Library door * Join the teacher on the carpet * Participate in the discussion * Consider today’s challenge * Form groups as instructed * Move to the assigned table | 10 minutes |

|  |  |  |
| --- | --- | --- |
| **Process:**  *What steps and activities are you going to use to help students interact with new ideas, build understanding, acquire and practice knowledge, skills* *and/or attitudes? In what ways have you built in guided practice?* | | Pacing |
| **Teacher will**   * Circulate to tables supporting as necessary * Observe students using checklist * Use freeze and hands on head technique to share successful ideas and structures with class | **Students will**   * Work collaboratively * Communicate with each other * Choose an idea and pursuing Making * Use trial and error to make changes, solve problems, or incorporate new ideas from self or others * Develop their skills and add new ones through play and collaborative work | 15 minutes |

|  |  |  |
| --- | --- | --- |
| **Transform:**  *How will students apply or practice their learning? Can they show or represent their learning in personalized ways? What are the choices for student task?* | | Pacing |
| **Teacher will**   * Observe students using checklist * Use freeze and hands on head technique to share successful ideas and structures with class * Orchestrate final tests | **Students will**   * Complete a Lego Tower that meets the challenge through testing * Demonstrate their product, telling the story of designing and making their product * Early finishers can create a different design that also meets the challenge | 10 minutes |

|  |  |  |
| --- | --- | --- |
| **Closure:**  *How will you solidify the learning that has taken place and deepen the learning process?*  *Refer back to the learning intention, connect to next learning.* | | Pacing |
| **Teacher will**   * Draw attention to the Exit Ticket poster * Distribute Exit Tickets * Support where needed * Collect Exit Tickets | **Students will**   * Complete the exit ticket * Hand in the Exit Ticket | 5  minutes |

**Reflection** *What was successful in this lesson? If taught again, what would you change to make this lesson even more successful and inclusive for diverse and exceptional students?*

|  |
| --- |
| The lesson proved to be highly engaging and I will use this Building Challenges with Lego unit again in ADST. I was fortunate to have Lego available at Beaverly School.  In the future, I hope to expand this unit to include pair and individual ADST challenges. This will mean having access to more Lego as the class works.  I also want to focus more on the design phase of the process. I will build this into my next ADST lesson. |