Week – Dates	What needs to be done
Week 1 – April 1st – 3rd	Complete Step 1 of the cube puzzle project
Week 2 – April 6th – 10th	Complete Steps 2 & 3 – you will need snap on cubes and the cube drawing paper to complete.
Week 3 – April 13th – 17th	Complete Steps 4 – 5 – you will need the isometric paper to complete the drawings and the 27 cubes to complete step 5
Week 4 – April 20th – 24th	Complete Steps 6 – 7 – You will need the evaluations for others to complete
Week 5 – April 27th – May 1st	Complete Step 8

** Week 1 – April 1-3

Design Challenge: Design a multi-piece puzzle cube and prepare multi-view engineering design diagrams for each piece by hand using the multi-view design sheets provided.

Requirements/Constraints:

1. Puzzle must form a cube
2. Final Puzzle will be fabricated from 27, ¾ inch hardwood cubes.
3. Puzzle must contain five pieces
4. At least 2 pieces must interlock
5. Each part must be made from 4 but no more than 6 , ¾ inch cubes.
6. No more than one of the parts can be a simple rectangle
7. Each piece must be unique from the others

Step 1: Identify the problem in your own words.

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**Week 2 – April 6-10

Step 2: Develop Possible Solutions- Use-the Snap Cubes to design a Puzzle Cube.

Remember: You should use different colors to represent different pieces, so pieces of the small color MUST touch. Also make sure you are following the guidelines when designing your Puzzle.

Step 3: Select the Best- Pick your favorite cube (easy & hard) design, and color in the Puzzle Cube Template.

**Week 3 – April 13-17

Step 4: Use the Isometric paper to draw your design of the harder cube puzzle.

Step 5: Construct prototype- Glue pieces together. Be careful in your construction, if you do not align a piece properly, they will not fit together. Then color/paint each piece.

**Week 4 – April 20-24

Step 6: Test & Evaluate- Make sure your puzzle pieces fit together properly to make a 3x3x3 cube.

Each student will have their parent/sibling/friend evaluate the cube for difficulty and craftsmanship.

- Evaluations will be completed at home AND must be sent in!

Step 7: Communicate your solution-Create a multi-view drawing for each of your puzzle pieces, and a step-by-step diagram showing how to assemble the puzzle cube, drawn isometrically.

**Week 5 – April 27- May 1

Step 8: Redesign- List three things you would change if you were to redesign your puzzle.

1. _____

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2. _____

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3. _____

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