**Nanotechnology Curriculum Map:**

This is one example implementation of this entire curriculum. It is ideal for a block schedule, with class periods of approximately 80 minutes, but can be adjusted to fit other schedules. Each module is designed with several lessons to reinforce the same concept. As such, lessons can be omitted to fit a particular schedule without sacrificing the overall objectives of the unit.

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Activities** | **Total Time** | **Prep Work Needed:** |
| **Day One** | 1. Warm-up: Pre-Unit Assessment (10 min)
2. Lesson 1.1a NanoYou Intro Video (20min)
3. Lesson 1.2a Scale Walk (40 min)
4. Lesson 1.1 b Nanotechnology Reading (30 min- Finish as Homework)
 | 100 min(finished ashomework) | * Map Scale Walk distances
 |
| **Day Two** | 1. Warm-up- “How big is 1 billion?” (5 min)
2. Lesson 1.2b “That’s Huge” Scale Activity (45 min)
3. Module One Assessment (20 min- finish as hw)
 | 70 min | * Gather materials for Lesson 1.2b
 |
| **Day Three** | 1. Warm-up (15 min)-
2. Define the term, “Nano”
3. Practice surface area and volume problems
4. Lesson 2.1 Origami Cube (45 min)
 | 60 min | * Construct open-top 5cm x 5 cm cube
* Materials for Lesson 2.1
 |
| **Day Four** | 1. Warm-up (5 min) “ Describe the relationship between surface area and volume”
2. Lesson 2.2a Flour and Fire Demo (30 min)
3. Lesson 2.2 b Potato Reactions (50min- finish as hw)
 | 85 min | * Build “Flour Fire Vestibule”
* Peel and cube potatoes
* Gather materials for Lesson 2.2a and 2.2b
 |
| **Day Five** | 1. Warm-up (5 min) “Which do you think will melt faster, cubed or crushed ice? Explain and draw a diagram.”
2. Lesson 2.2c Alka Seltzer Reactions (80 min- finish as hw if needed)
 | 85 min | * Gather materials for Lesson 2.2c
 |
| **Day Six** | 1. Warm-up (5 min) “Why don’t nails rust in the middle?”
2. Lesson 2.3a Sticker Origami (30 min)
3. Lesson 2.3b Nano or Normal (25 min)
4. Module Two Assessment (30 min- finish as hw)
 | 85 min (finished as hw) | * List groups and retrieve pre-made cubes from Lesson 2.1
* Materials for Lesson 2.3a and 2.3b
 |
| **Day Seven** | 1. Lesson 3.1 Surface Area reading (30 min)
2. Lesson 3.2 Nanoparticle Technology Presentation (45 min)
 | 75 min | * Review presentation notes
* Computer needed
 |
| **Day Eight** | 1. Warm-up (5 min) – “Why are nanoparticles special?”
2. Module 3 Assessment
3. Video Introduction (10 min)
4. Assessment (60 min)
 | 75 min | * Printed nanotechnology articles (if no access to internet for each student)
 |
| **Day Nine** | 1. Warm-up (5 min)- “What is a problem you wish you could solve with new technology?”
2. Build-A-Particle (60 min)
3. Post-Unit Assessment (15 min- finished as hw)
 | 80 min |  |