Montgomery College Nursing Simulation Scenario Library

Scenario File: CODE BLUE
Discipline: Nursing **Student Level: 3rd Semester**
Expected Simulation Run Time: 20 minutes
Guided Reflection Time: 30 minutes

Admission Date: 4/14/xx
Today's Date: 4/15/xx
Brief Description:
Name: John Goldman
DOB: 4/1/19xx
Gender: Male **Age:** 80
Race: Caucasian
Weight: 76 kg **Height:** 178 cm
Religion: Catholic **Major Support:** Wife
Phone: XXX-XXX-XXXX
Allergies: NKA
Immunizations: Flu & Pneumovax last Sept.
Attending Physician/Team: Hospitalist
Past Medical History: CAD, HTN, and CHF. Medications:

- Lasix 20mgPO QD
- HCTZ 25mg QD

History of Present illness: Palpitations with anxiety since two days ago
Social History: 40 pack year smoker – none in 20 years, drinks alcohol occasionally. He is retired and lives with his wife in an apartment in a 65+ community.
Primary Medical Diagnosis: Palpitations with Anxiety reaction and shortness of breath.
Surgeries/Procedures & Dates: None

Scenario Overview:
An 80-year-old man with a history of coronary artery disease, hypertension, and CHF was admitted to an inpatient Intermediate Care Unit (Telemetry Unit) for heart palpitation and anxiety. On second hospital day, he had sudden onset of confusion, bradycardia, and hypotension. He lost consciousness, and a "code blue" was called.

Psychomotor Skills Required Prior to Simulation

- Vital Signs
- Physical Assessment – cardiac
- BCLS
- Administer IV Push medication
- Communication
- Interdisciplinary Team Work

Cognitive Activities Required Prior to Simulation [i.e. independent reading (R), video review (V), computer simulations (CS), lecture (L)]

- Read Pelico 1st Ed. Ch. 15 pp. 437 – 438; ch 17 pp. 461 – 488
- Read Lewis, 8th Ed. Chapters 34, 36, and Appendix A "Cardiopulmonary Resuscitation and Basic Life Support for Health Care Providers"
- Complete Cardiac Rhythm self-study packet (Course Guide)
- Study Montgomery College CPR guidelines for adults
- Watch video: http://www.youtube.com/watch?v=YEjljHmeOZk&feature=share&list=PL_2IMx1vzUkDHFWjz_unmL1FNmtsESo9N
- Receive orientation to Code Team roles
- Receive orientation to crash cart
- Receive orientation to LifePak

Nursing Diagnosis: Decreased Cardiac Output r/t cardiac rhythm disturbance

Collaborative Problems: Respond appropriately and carry out roles of Code Blue Team

Simulation Learning Objectives

1. **Assemble an organized code blue team response.**
2. **Perform duties appropriate to the participants' role on the interdisciplinary team.**
3. **Identify the heart rhythm (VF, VT, Asystole) on monitor.**
4. **Identify appropriate treatment for the heart rhythm.**
5. **Initiate proper BLS, as specific in Montgomery College CPR check list for adults.**
6. **Be able to state defibrillator may be applied as many as three times (200 joules, 200/300 joules, and 360 joules or equivalent) for VF or pulseless VT.**
7. **Exhibit competent role performance under stressful conditions.**
8. **Demonstrate therapeutic communication in care of the patient and family.**
9. **Document the assessment data, patient changes, and intervention completed.**

Program / Curriculum Specific Objectives

Fidelity (choose all that apply to this simulation)

Setting/Environment

- ER
- Med Surg
- Peds
- ICU
- OR / PACU
- Women's Center
- Behavioral Health
- Home Health
- Pre-Hospital
- Other ___Telemetry Unite
-

Simulator/Manikin/s Needed:

- High Fidelity manniken

Props: Cardiac simulator; Vtach – Vfib – Asystole; ACLS algorhythms

Equipment Attached to Manikin:

°IV tubing with primary line NSS fluids running at 50 cc/hr

- Secondary IV line __ running at _cc/hr
- IV pump
- Foley catheter _____cc output
- PCA pump running
- IVPB with ___ running at ___ cc/hr
- 02 NC @ 2L/min
- Monitor attached
- ID band
- Other: Crash cart with cardiac simulator and Lifepak, adult monitor pads, epinephrine, Vasopressin

Equipment Available in Room

- Bedpan/Urinal
- Foley kit
- Straight Cath Kit
- Incentive Spirometry
- Fluids: NSS 1000mL
- IV start kit
- IV tubing
- IVPB Tubing
- IV Pump
- Feeding Pump
- Pressure Bag
- 02 delivery device__Ambu Bag_____
- Crash cart with airway devices and emergency medications
- Defibrillator/Pacer
- Suction
- Other

Medications and Fluids

- Oral Meds
- IV Fluids: NSS 1000mL
- IVPB
- IV Push:
  - Epinephrine
  - Vasopressin
- IM / Subcut / Intradermal
- Other

Diagnostics Available

- X-rays (Images) result
- Labs
- 12-Lead EKG
- Other_____

Documentation Forms

- Admit Orders
- Physician Orders
- Flow sheet
- Medication Administration Record
- Kardex
- Graphic Record
- Shift Assessment
- Triage Forms
- Code Record
- Anesthesia / PACU Record
- Standing (Protocol) Orders
- Transfer Orders
- Other: Two patient's charts
  - For 1st scenario, need chart with a DNR order on it.
  - 2nd scenario Full Code order.

Recommended Mode for Simulation (i.e. manual, programmed, etc.)

- High Fidelity

Roles/Guidelines for Roles

- Primary Nurse
- Secondary Nurse
- Clinical Instructor
- Family Member #1 (wife)
- Family Member #2
- Observer
- Physician / Advanced Practice Nurse (Runs the code)
- Respiratory Therapy
- Anesthesia
- Pharmacy
- Lab
- Imaging
- Social Services
- Clergy
- Unlicensed Assistive Personnel (Patient Care Technician/Tech)
- Code Team
- Other___Supervisor / Recorder

Important Information Related to Roles

- The Instructor hands students role cards, Asks students to identify the rhythm, calls for Defibrillation - and in the first scenario calls off the code when the DNR order is found.
- During the second code, the patient converts to sinus rhythm and breaths spontaneously after the epi + 2nd defib.

Significant Lab Values:
Chest X-ray result:

- Pulmonary Congestion + radiographic Cardiomegaly
- K. 2.8

Physician Orders
MD order on Admission:
IV NSS @ 50 mL/hr
NPO for possible CATH
Cardiac Monitor
Bedrest with BRP
DNR (first patient scenario only)
Electrolytes
Chest X-ray

Student Information Needed Prior to Scenario

- ☑ Has been oriented to simulator
- ☑ Understands guidelines /expectations for scenario
- ☑ Has accomplished all pre-simulation requirements
- ☑ All participants understand their assigned roles
- ☑ Has been given time frame expectations
- Other _____

Report Students Will Receive Before Simulation:

Scenario Overview:
John Goldman, an 80-year-old male, history of coronary artery disease, hypertension, and congestive heart failure admitted to Intermediate Care Unit last night for heart palpitations and anxiety. This morning, he had sudden onset of confusion, bradycardia, and hypotension. He lost consciousness, and a "code blue" was called.

You are on the code team and are answering the call.

(Overhead "CODE BLUE, SIM LAB, ROOM XXX"

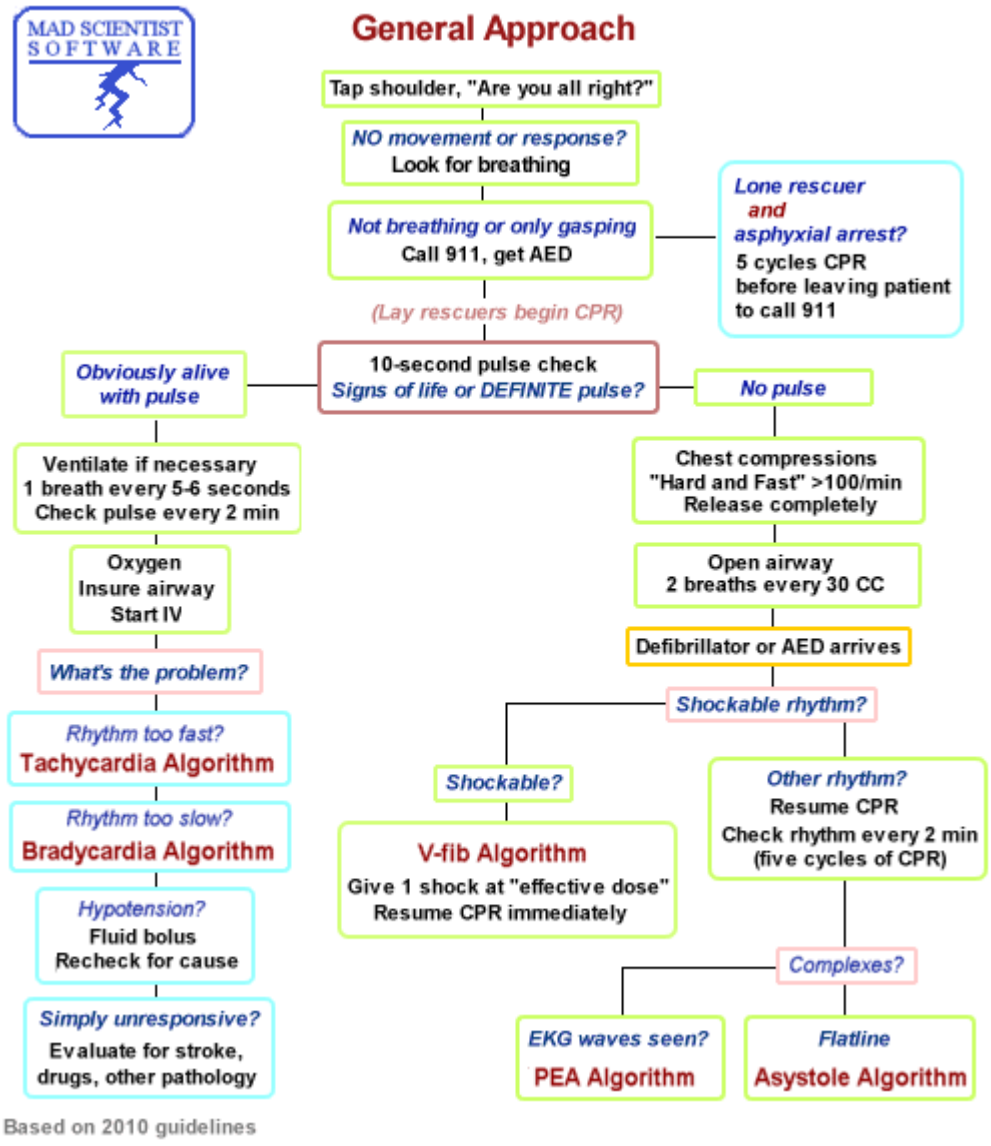
As students enter the room – HAND CARDS in this order:

- **Primary RN: CALL FOR HELP & INITIATE CODE BLUE**
- **TECH: BRING CRASH CART, APPLY LEADS, APPLY CPR BOARD, & ALTERNATE COMPRESSIONS**
- **Respiratory Therapist: OXYGENATE THE PATIENT WITH BAG-MASK VENTILATIONS**
- **SUPERVISOR: RECORD THE CODE & run the Lifepak / retrieve meds FROM CART**
- **IV NURSE: CHECK IV AND ADMINISTER MEDICATIONS**

Lasix 20mg IV push, BID **HCTZ 25mg PO, daily with sip of H2O.** **Physician Order During Code:** 1. **Defibrillate with 200 joules** 2. **Administer Epinephrine, 1mg IV. Push.** 3. **Defibrillate with 300 joules again.** 4. **Administer Vasopressin 40 Unit, IV. Push as a single dose for maintaining blood pressure and heart rate and rhythm in second scenario.**	• **SECONDRY RN: BRING THE PATIENT"S CHART & CHECK ORDERS** • **CLERGY: SUPPORT WIFE** • **WIFE: ASKS QUESTIONS AS A SPOUSE WHO IS WORRYING ABOUT HUSBAND'S LIFE** • **FACULTY/ADVANCED PRACTICE NURSE: ORDER MEDS, DEFIBRILLATOR, & ALL OTHER ORDERS**

References, Evidence-Based Practice Guidelines, Protocols, or Algorithms Used For This Scenario: (site source, author, year, and page)

Mad Scientists ACLS Algorhythms:



MAD SCIENTIST SOFTWARE

CPR Guidelines

- for health care providers -

(Method, compression rate, and ventilation to compression ratio)

	Adult	Child (< 8 yr)	Infant (< 1 yr)	Newborn
Lone rescuer priority	Activate 911 Call for/get AED Chest compressions Airway/breaths If known asphyxial arrest, 5 cycles CPR before calling 911	Chest compressions Airway/breaths 5 CPR cycles then call 911 Call for/get AED If witnessed, sudden collapse, 911 and AED before CPR		Ventilation first Compressions for HR<60 911 ASAP
Compression method	2-hand	1-hand or 2-hand	2-thumbs or 2-finger if single rescuer	2-thumbs or 2-finger for access to umbilical vein
Compression rate	at least 100/min			120/min
Compression depth	at least 2 inches	1/3 chest diameter 2 inches	1-1/2 inches	1/3 chest diameter
Ratio of compressions to ventilations	30:2 until intubated. 8-10 breaths/min after ET.	30:2 for single rescuer. 15:2 for 2 rescuers. 8-10 breaths/min after ET.		3:1
Use of AED	Immediate AED. Consider 5 cycles CPR if > 4-5 min down after unwitnessed arrest.	5 cycles CPR first For sudden collapse, AED to be applied immediately.	Manual defibrillator preferred. May use AED	

Based on 2010 guidelines

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Ventricular Tachycardia
(with pulse)

Search for cause:
- Hypovolemia
- Hypoxia
- Hydrogen ion (acidosis)
- Hypo/Hyperkalemia
- Hypoglycemia
- Hypothermia
- Toxins
- Tamponade
- Tension pneumo
- Thrombosis (PE, MI)
- Trauma (ICP)

Assist breathing as needed
Oxygen

Take blood pressure
Begin working on IV line
Cardiac monitor

Serious signs or symptoms?

Stable

QRS type

Single QRS form

If regular and monomorphic
Consider Adenosine
as therapeutic trial

Amiodarone 150 mg
Give over 10 min
(may repeat x 2)
OR,
Procainamide 20-50 mg/min
(up to 17 mg/kg)
OR,
Sotalol, 100 mg over 5 min

V-tach persists or patient becomes unstable?
Cardioversion

Polymorphic

Consider immediate shock
If non-sync shock not done:

Expert consultation!

Correct magnesium or electrolyte abnormality

Long baseline QT or obvious torsades?
Magnesium 2-4 gram
NOT torsades?
Amiodarone 150 mg
(may repeat x 2)

? Isoproterenol 2-10 mcg/min
Overdrive pacing

Cardioversion

Unstable

Sedation

Non-synchronized shock if polymorphic

Cardiovert 100 j
Cardiovert 200 j
Cardiovert 300 j
Cardiovert 360 j

Amiodarone 150 mg
(repeat if required)

Cardiovert 360 j

Based on 2010 guidelines

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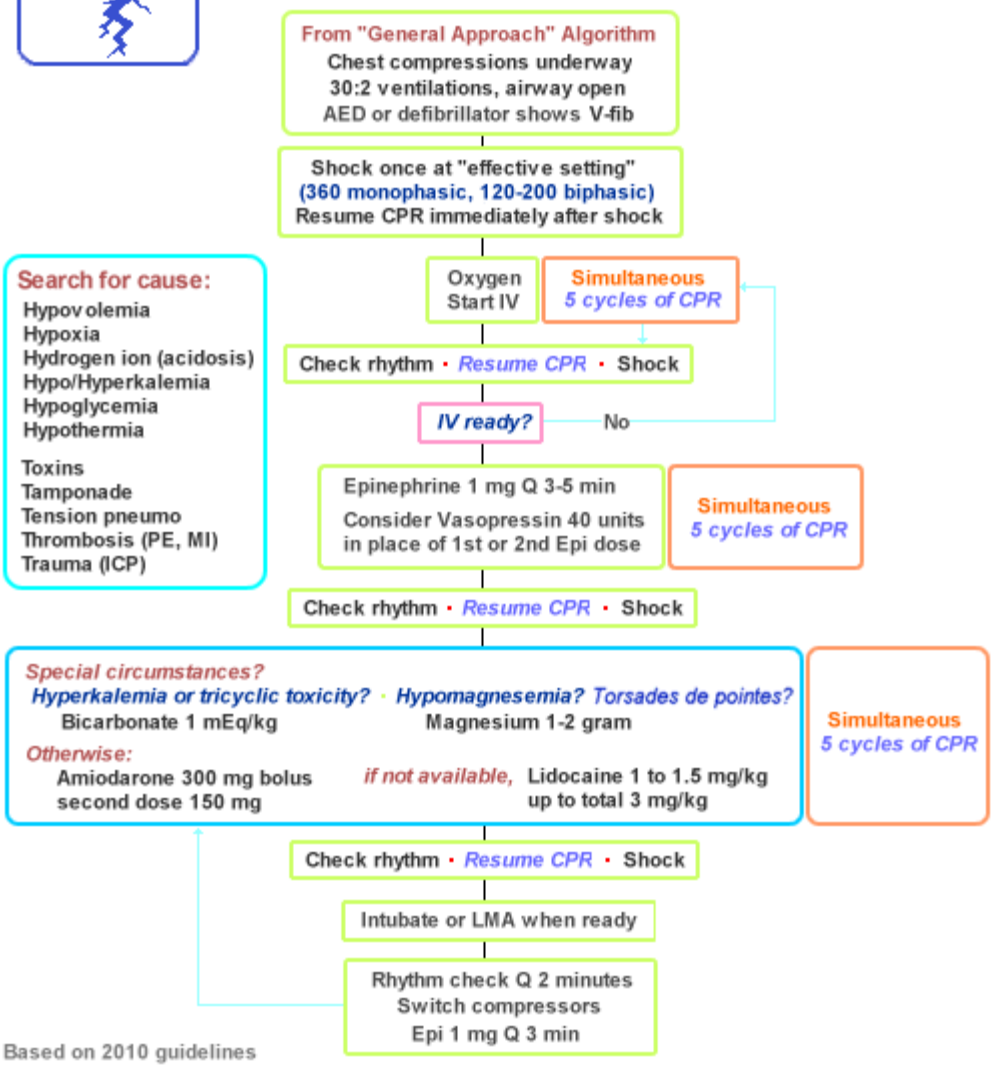
V-fib and Pulseless V-tach



Based on 2010 guidelines

2007 NCLEX-RN© Test Plan Categories and Subcategories

Choose all areas included in the simulation

Safe and Effective Care Environment

Management of Care

- Advance Directives
- Advocacy
- Case Management
- Client Rights
- Collaboration with Interdisciplinary Team
- Concepts of Management
- Confidentiality / Information Security
- Consultation
- Continuity of Care
- Delegation
- Establishing Priorities
- Ethical Practice
- Informed Consent
- Information Technology
- Legal Rights and Responsibilities
- Performance Improvement (QI)
- Referrals
- Resource Management
- Staff Education
- Supervision

Safety and Infection Control

- Accident Prevention
- Disaster Planning
- Emergency Response Plan
- Ergonomic Response Plan
- Error Prevention
- Handling Hazardous and Infectious Materials
- Home Safety
- Injury Prevention
- Medical and Surgical Asepsis
- Reporting of Incident/Event/ Irregular Occurrence/Variance
- Security Plan
- Standard /Transmission-Based / Other Precautions
- Use of Restraints/Safety Devices
- Safe Use of Equipment

Health Promotion and Maintenance

- Aging Process
- Ante/Intra/Postpartum and Newborn Care
- Developmental Stages and Transitions
- Disease Prevention
- Expected Body Image Changes
- Family Planning
- Family Systems
- Growth and Development
- Health and Wellness
- Health Promotion Programs
- Health Screening
- High Risk Behaviors
- Human Sexuality
- Immunizations
- Lifestyle Choices
- Principles of Teaching/Learning
- Self-Care
- Techniques of Physical Assessment

Psychosocial Integrity

- Abuse/Neglect
- Behavioral Interventions
- Chemical and Other Dependencies
- Coping Mechanisms
- Crisis Intervention
- Cultural Diversity
- End of Life Care
- Family Dynamics
- Grief and Loss
- Mental Health Concepts
- Psychopathology
- Religious and Spiritual Influences on Health
- Sensory/Perceptual Alterations
- Situational Role Changes
- Stress Management
- Support Systems
- Therapeutic Communications
- Therapeutic Environment
- Unexpected Body Image Changes

Physiologic Integrity

Basic Care and Comfort

- Assistive Devices
- Complementary and Alternative Therapies
- Elimination
- Mobility/Immobility
- Non-Pharmacological Comfort Interventions
- Nutrition and Oral Hydration
- Palliative/Comfort Care
- Personal Hygiene
- Rest and Sleep

Pharmacological and Parenteral Therapies

- Adverse Effects/Contraindications
- Blood and Blood Products
- Central Venous Access Devices
- Dosage Calculation
- Expected Effects/Outcomes
- Medication Administration
- Parenteral/Intravenous Therapies
- Pharmacological Agents/Actions
- Pharmacological Interactions
- Pharmacological Pain Management
- Total Parenteral Nutrition

Reduction of Risk Potential

- Diagnostic Tests
- Lab Values
- Monitoring Conscious Sedation
- Potential for Alterations in Body Systems
- Potential for Complications of Diagnostic Tests/Treatments/Procedures
- Potential for Complications from Surgical Procedures and Health Alterations
- System Specific Assessments
- Therapeutic Procedures
- Vital Signs

Physiologic Adaptation

- Alterations in Body Systems
- Fluid and Electrolyte Imbalances
- Hemodynamics
- Illness Management
- Infectious Diseases
- Medical Emergencies
- Pathophysiology
- Radiation Therapy
- Unexpected Response to Therapies

Scenario Progression Outline

Timing (approximate)	Manikin Actions	Expected Interventions	May Use the Following Cues
First 5 minutes	Manniken is not breathing; cardiac monitor shows V-Fib	• Students answer code quickly, receive roles, initiate care • First student assesses for pulse, finds none, calls for help, initiates compressions • Second student brings cart, applies monitor pads, places patient on resuscitation board, clears the room of visitors and extra equipment & alternates compression • Third student begins bag-mask ventilations • Fourth student begins documentation, retrieves ordered medications, sets LifePak for defibrillation • Fifth student checks IV and administers Epinepherine when ordered (Vasopressin in second scenario) • Sixth student takes wife aside and consoles her • Seventh student brings chart from desk & reviews orders • Eighth student asks questions as patient's wife	Role member providing cue: Wife: my husband is not responding Tech: Do you need crash cart? Instructor (Resident) • What is the Rhythm? (VF) • What is the treatment that is called for? • Prepare for Defibrillation • I'm clear, You're clear, we're all clear • Continue CPR • What is the Rhythm? • What is the treatment?
Next 5-10 minutes	• Manniken not breathing. • Monitor shows V-fib • (First time scenario is run, shows Asystole after defib) • (Second time scenario is run, shows sinus rhythm after 2nd defib) • Supervisor defibrillates when called for • First student: gets set of vital signs • BP is low • IV nurse: Gives Vasopressin IV push as ordered • First RN checks VS and reports normal values.		Role member providing cue: Instructor: • Cue: • Give Epinepherine 1 mg IV Push • Repeat Defibrillation • I'm clear, You're clear, we're all clear • (First time scenario is run: "STOP CPR – Patient has DNR order on chart") • (Second time: "Stop CPR – patient has converted to NSR – continue to monitor")

Debriefing / Guided Reflection Questions for this Simulation

(Remember to identify important concepts or curricular threads that are specific to your program)

1. **How did you feel throughout the simulation experiences?**
2. **Describe the objectives you were able to achieve?**
3. **Which ones were you unable to achieve (if any)?**
4. **Did you have the knowledge and skills to meet objectives?**
5. **Were you satisfied with your ability to work through the simulation?**
6. **To Observer: Could any person on the Code Team have handled any aspects of the simulation differently?**
7. **If you were able to do this again, how could you have handled the situation differently?**
8. **What did the group do well?**
9. **What did the team feel was the primary nursing diagnosis and/or collaborative problems?**
10. **What were the key assessments and interventions?**
11. **Is there anything else you would like to discuss?**

Scenario Specific Questions:

1. **How did you feel when the Resident told you to stop CPR in the first scenario?**
2. **Do you think there was effective use of Delegation? Why or Why not?**

Program/Curricular Specific Questions:

Complexity – Simple to Complex

Suggestions for changing the complexity of this scenario to adapt to different levels of learners: