

NAVAL HISTORY STEM-H LESSON PLAN

Activity Plan A – Navigate Obstacle Course

LESSON PLAN: How Do Submarines “see” Underwater?

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ACTIVITY A: Can you navigate an obstacle course without seeing or touching anything?

OBJECTIVE: The students will work as a team to guide one team member through an obstacle course, much like submarine crews do, without the benefit of visual stimuli from “seeing where they are going”.

MATERIALS: Cardboard box with hole cut in it large enough student to place head into (or a blindfold), cones (arranged in a zigzag random course in the room), meter stick or meter tape, ball of string, notebook, pencil, miscellaneous tools/equipment (the teacher can include an assortment on things here to allow students to determine the usefulness of materials for solving the problem)

INSTRUCTIONS: * The teacher will preset the cones in an arrangement that requires the teams to “navigate” through the cones. Any arrangement is acceptable but do not set the course too long for the time limits of the activity.

A. Each student group (team) will be given a box with a hole cut in it large enough to place over one member’s head. (That individual will be designated the “submariner”), a meter stick, and a ball of twine, and other materials.

B. Each group will choose one member to be the “submariner”, and that person will place their head into the box, or place the blindfold over their eyes (so there is no sight of the room).

C. The team, or group, will collectively devise a method they think will be effective in guiding the team member in the box around a designated obstacle course. The team should record their ideas in their notebooks for reference. Teams may not touch, or hold on to, the submariner.

D. The members of the group will assist and direct, or “drive”, the submariner around a designated course using the team’s agreed upon method of guidance. Each group can use any method except touch, or vision, to guide the team member through the course.

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E. The teacher should move about the room challenging each group with guiding questions to direct them when they get “bogged down”, questions that will stimulate recall of important prior knowledge, questions that will stimulate the students to think independently and “out of the box”, questions that will cause students to apply and analyze ideas (data), and questions that will cause students to choose, judge, or defend their ideas.

F. Groups can “regroup” at any time and revise their method of guidance.

G. After 10-15 minutes each group will compete to guide their “submariner” through the obstacle course. The groups will be timed based on how effectively they guide their team member through the course. If a “submariner” touches an obstacle the group will have to restart their “submariner” back at the beginning of the course. The group with the lowest combined times for the course will be declared the winner.