

Inquiry and Consolidating Skills: Striking a Balance THE SCRIPT

1. Introduction

Facts: #1 There is a significant skill base in grade 11 and 12 Mathematics Courses.

#2 Inquiry is part of the philosophy of OSS and the expectations of the curriculum require it.

Therefore: Effective use of time is essential to the design of the grade 11 courses. It is imperative that inquiry activities be purposeful, providing both motivation for and application of skill development.

The purpose of this section of the workshop is to model what a balanced unit in the 11U/UC course might look like.

We will consider the trigonometry strand of 11U/UC. We will begin with an activity that lays the groundwork for a set of skills, followed by skill consolidation, ending with a second activity that applies the skills developed and provokes the need for a further set of skills.

2. Examine the outline of the activity found on Handout Page 1.

- allow participants time to read the outline
- then begin working through it

3. Carry out the activity "Going in Circles" (Handout page 2 - 3)

- discuss the follow-up to this activity
- examine the expectations of Trigonometric Functions suborganizers #2 and #3 (Handout Page 4 - 5)
- discuss how the activity sets the stage for the expectations

4. Examine the expectations of suborganizers #2 and #3

- what opportunities are available for a reasoning-based approach to these expectations (i.e., is it all "drill and kill" or are more creative approaches possible?)
- discuss how this material might be organized and presented; discuss the degree of difficulty expected here

5. Carry out the activity "Hydro Savings" (Handout Page 6)

- discuss the manner of application of the skills of suborganizers #2 and #3
- identify the part of the activity that lays the groundwork for the next set of expectations (last three expectations of suborganizer #2)
- examine the last three expectations of suborganizer #2: discuss their presentation and likely degree of difficulty expected.

6. Examine the expectations of Trigonometric Functions suborganizer # 4 ("Solving Problems Involving Models of Sinusoidal Functions")

Discuss:

To what extent have these expectations been met by the activities described in this unit?
Are additional activities necessary, and if so, what might some suggestions be?

7. Show the handout of the "Hopper" (Handout Page 7) to review the process demonstrated in this section of the workshop – i.e., a rich activity to motivate the need for a set of expectations, consolidation of the expectations, followed by another rich activity to connect these expectations and motivate the need for a new set.

8. Assessment:

lead a discussion of what an assessment plan could look like for this unit

be sure to reinforce that **assessment must match instruction**

discuss types of tools that could be used to assess this unit

