

## DESIGNING LEARNING TASKS

Name of Curriculum: Active Physics

### STEP 1: IDENTIFY OPPORTUNITIES IN THE CURRICULUM

Lesson and Page Numbers: 2.7 p. 210-212

Physics In Action

What is the learning goal?

- define, measure, calculate sliding friction
- How different surfaces affect  $\mu$

What data will students either be given or collect to analyze?

Sliding friction on various surfaces using

What scientific principle will students use to link their claim and evidence?

~~Conservation of Energy~~

Newtons 3 laws



## **STEP 2: DESIGN COMPLEXITY OF THE LEARNING TASK**

*For each of the following characteristics consider how simple or complex you want the learning task to be depending on the needs of your students.*

**What question** will you ask students?

Do different surfaces ~~areas~~ affect sliding friction of a basketball shoe?

**What specific data** will you either provide students or have students collect?

sliding friction of same shoe on linoleum, rug and grass using Spring scales to measure

**How much data** will you have students analyze?

3 surfaces, 3 trials each taking average of trials

**What variation of the framework** do you want students to include in their response?


*For example – complexity of the evidence, complexity of reasoning and inclusion of rebuttal*

Reasoning – want them to use all of Newton's 3 laws to support the claim



### STEP 3: CREATE CLASSROOM SUPPORTS

Do you want to include any type of visual representation in your classroom? If yes, describe or sketch the representation.

- Free-body diagram of forces acting on a shoe being pulled across a surface 
- List of Newton's 3 laws

Do you want to provide students with curricular scaffolds? If yes, draft the scaffolds below.

*Consider – content specific, generic or combination AND level of detail to include*

- content specific with generic detail similar to example we did.
- Organized into sections with space to write (like example given)