

Ohio

Department  
of Education

# Ohio's State Tests

PRACTICE TEST

SPRING 2015

PHYSICAL  
SCIENCE

PART 1

Student Name

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**Directions:**

Today you will be taking the Ohio Physical Science Practice Assessment.

There are several important things to remember:

1. Read each question carefully. Think about what is being asked. Look carefully at graphs or diagrams because they will help you understand the question. Then, choose or write the answer you think is best in your Answer Document.
2. Use only a #2 pencil to answer questions on this test.
3. For questions with bubbled responses, choose the correct answer and then fill in the circle with the appropriate letter in your Answer Document. Make sure the number of the question in this Student Test Booklet matches the number in your Answer Document. If you change your answer, make sure you erase your old answer completely. Do not cross out or make any marks on the other choices.
4. For questions with response boxes, write your answer neatly, clearly and only in the space provided in your Answer Document. Any responses written in your Student Test Booklet will not be scored. Make sure the number of the question in this Student Test Booklet matches the number in your Answer Document.
5. If you do not know the answer to a question, skip it and go on to the next question. If you have time, go back to the questions you skipped and try to answer them before turning in your Student Test Booklet and Answer Document.
6. Check over your work when you are finished.

1.

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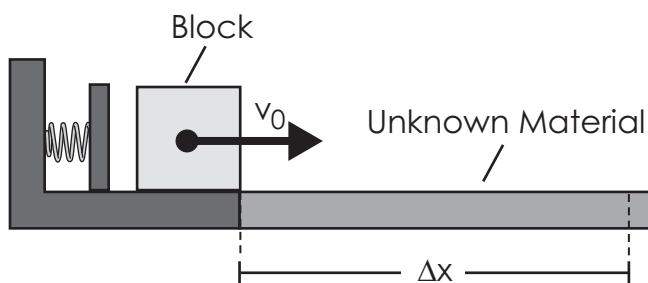
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Use the following information to answer questions 2 – 4.

**Transfer and Transformation of Energy**

A student tests how different materials affect a sliding block. The student places a block in front of a compressed spring and then releases the spring. The block slides across an unknown material. The student measures the distance that the block travels on the unknown material before it comes to rest ( $\Delta x$ ).

**Experimental Setup**



The student changes the mass of the block, but otherwise the block is the same in all trials. Some of the student's data from the first four trials are shown.

**Student Data**

Unknown Material	m (kg)	$v_0$ (m/s)	$\Delta x$ (m)	$F_f$ (N)	$W_{net}$ (J)
R	3.0	2.0	4.0		
S	3.0	2.0	1.5	4.0	
T	2.0	1.5	1.1	2.0	
U	2.0	3.0		9.0	

**Variable Key**

m	Mass
$v_0$	Initial velocity
$\Delta x$	Distance traveled
$F_f$	Magnitude of friction force
$W_{net}$	Total magnitude of work done by friction on block



2.

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3. The student is given two additional unknown materials. The student designs an experiment to determine which material exerts the greatest friction force on the block.
- A. Describe which variable(s) the student should hold constant and which variable(s) should be changed.
- B. Explain an observation that would allow the student to determine which material exerts the greatest friction force on the block.

Write your answer in the **Answer Document**.

4.

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5.

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6.

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7.

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8.

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