

The Leonardo Project

Thinking about Multimodal Interactions with an Intelligent Tutor

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Leonardo Project

- Provide support for elementary science education
- 4th and 5th grade physical science
- Integrated with existing kit curricula
- iPad platform
- Networked mobile device + cloud
- Digital science notebook (CyberPad)
- Avatar-based virtual digital assistant (PadMate)

System Use

- CyberPad supports the investigations
- Investigations can be
 - Virtual
 - Physical
 - Both
- PadMate can “see” student work
 - Virtual lab activities
 - Written or drawn observations or insights from physical labs

Introduction

Vocabulary

Safety Alert

Focus Question

Make Prediction

Test Prediction

Return to Prediction

Return to Focus Question

Vocabulary

Summary

Learn More

Activity For Home

A Short Survey

FINISHED

What do you think the word energy means?

What does energy do?

Where does energy come from?

Today we are going to explore energy. Let's begin by answering some questions in our notebook about what we already know about energy.





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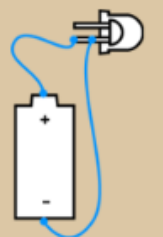


FINISHED

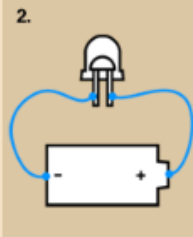
Make Prediction

Which circuits will light the lightbulb?

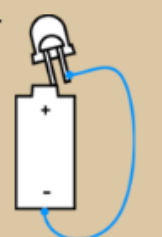
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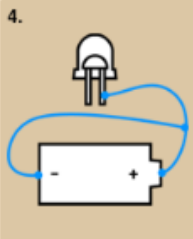
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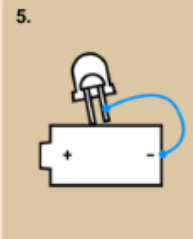
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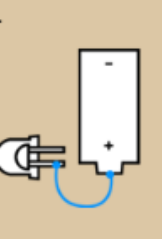
4.



5.



6.



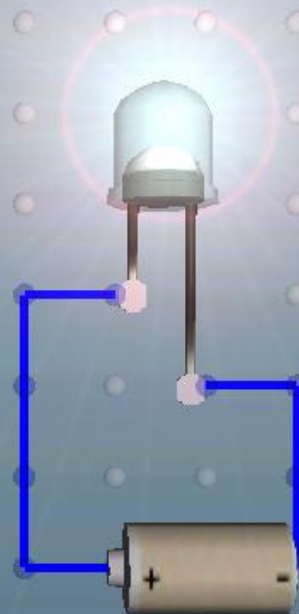
1.

Now that we know that it is necessary to have a complete or closed circuit for the bulb to light, let's study each drawing and make our predictions.



Light

No Light

[Introduction](#)[Vocabulary](#)[Safety Alert](#)[Focus Question](#)[Make Prediction](#)[Test Prediction](#)[Return to Prediction](#)[Return to Focus Question](#)[Vocabulary](#)[Summary](#)[Learn More](#)[Activity For Home](#)

Let's go to the Virtual Lab to test our predictions.



CLEAR ALL



?

FINISHED

1

2

3

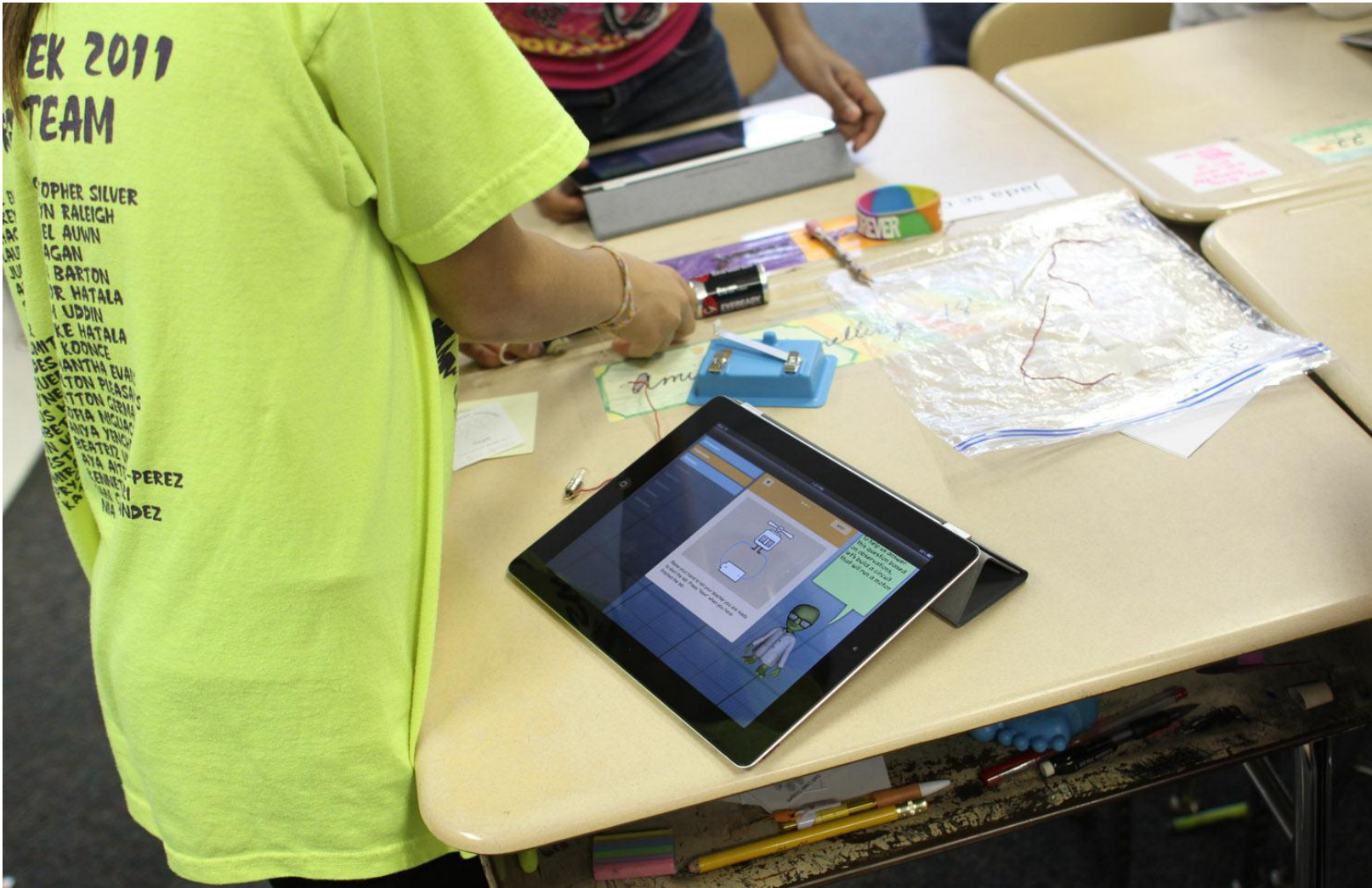
4

5

6



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Questions

- Can or should virtual labs provide different affordances for multimodal expression from physical labs?
- What does the PadMate need to “see” of the students drawings in order to support their thinking?
 - Icon-based vs freehand
 - Overdrawing of photographs
 - Text notation of drawings

Thank You

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