

Blue-bots - I notice that ...



Blue-bot : Guided Investigation (I notice that)

Year level band: F-2

Description: With all new tools, students benefit from a period of free exploration before embarking on a variety of challenges that unpack the potential of the device. This activity provides opportunities for free exploration with a structure that allows the teacher to draw out understandings and questions from the students.

The **Visible thinking** * routine (Explanation Game) from Harvard's Project Zero

<http://www.pz.harvard.edu/projects/visible-thinking> focuses first on identifying something interesting about an object or idea:

"I notice that..."

And then following that observation with the question:

"Why is it that way?" or "Why did it happen that way?"

An alternative would be the "See, Think, Wonder" Routine

During this lesson students will be required to consider the features and functions of the Blue-bot and how users interact with this device.

If they have prior experience with BeeBot they may be comparing features. If they have no prior experience they will be considering the Blue Bot on its own.

Resources:

- Blue-bots, one per pair
- iPad or tablets
- Blue-bot app ios <https://itunes.apple.com/au/app/blue-bot/id957753068?mt=8>
- Visible thinking routine
http://www.visiblethinkingpz.org/VisibleThinking_html_files/03_ThinkingRoutines/03d_UnderstandingRoutines/Understand_pdfs/VT_ExplanationGame.pdf

Prior Student Learning:

- No prior experience required





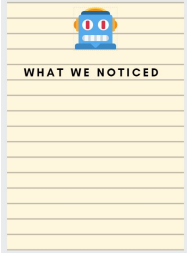
Australian Curriculum alignment summary

In Foundation – Year 2, students begin to learn about common digital systems and patterns that exist within data they collect. Students organise, manipulate and present this data, including numerical, categorical, text, image, audio and video data, in creative ways to create meaning. They explain, in general terms, how their solutions meet specific needs and consider how society may use digital systems to meet needs in environmentally sustainable ways.

Year	Content Descriptors
K-2	Recognise and explore digital systems (hardware and software components) for a purpose (ACTDIK001)
	<p>Critical and Creative Thinking</p> <p>This element involves students developing inquiry skills. Students pose questions and identify and clarify information and ideas, and then organise and process information. They use questioning to investigate and analyse ideas and issues, make sense of and assess information and ideas, and collect, compare and evaluate information from a range of sources. In developing and acting with critical and creative thinking, students:</p> <ul style="list-style-type: none">• pose questions• identify and clarify information and ideas• organise and process information. <p>Students imagine possibilities and connect ideas through considering alternatives, seeking solutions and putting ideas into action. They explore situations and generate alternatives to guide actions and experiment with and assess options and actions when seeking solutions. In developing and acting with critical and creative thinking, students:</p> <ul style="list-style-type: none">• imagine possibilities and connect ideas• consider alternatives• seek solutions and put ideas into action.

Element	Summary of tasks
Learning hook	<p>We are going to explore some exciting new robots today. (You could have them inside a box so that the students don't see them until they begin their investigation.)</p> <p>What do you think they might be called? What do you think they might do?</p> <p>I'd like you to investigate this robot and after a while I will ask you "What do you notice?"</p>



Achievement Standards	By the end of Year 2, students identify how common digital systems (hardware and software) are used to meet specific purposes.
Learning Map (Sequence) Learning input	<ul style="list-style-type: none"> • Students will need to work in pairs or teams of three. • Students explore the robots and use observation • Students are introduced to the BlueBot App (free exploration) • Students use BlueBot with the App (using observation skills) • Students collect data about their observations of BlueBot
Learning construction	<p>1. The BlueBots (without App) are distributed to the students for free exploration. After a period, the teacher asks the students “What did you notice?” and replies to the students responses with “<i>Why is that way? or “Why do you think that happened?”</i>”</p> <div style="text-align: center;">  <p>Blue-Bot TTS Group Free</p> </div> <p>2. Introduce the iPad App  and repeat the Investigation process - this time the students will be encouraged to ask each other “What did you notice?” and reply to their buddy responses with “<i>Why is that way? or “Why do you think that happened?”</i>”</p>
Learning demo	Students share their discoveries with each other. “What did they notice?” and “ <i>Why is that way?</i> ”.
Learning reflection	<p>Teacher co-creates a data chart with student responses.</p> <p>Eg. What we noticed?</p> <ul style="list-style-type: none"> • Pressing the ‘Go’ button makes it start moving • We turn the BlueBot on by moving the switch • The Bluebot has button on the top • The Bluebot has wheels <p>In a later session these responses can be sorted into - physical features, movements, input or outputs etc. using “Name it, Explain it , Give Reasons”.</p> <div style="text-align: right;">  </div>



Assessment:

Achievement Standard

Students **identify** how **common digital systems** (hardware and software) are used to meet specific purposes.

Formative Assessment:

- Students orally share their understanding of the functions of a BlueBot (Digital System)
- Teachers observe students using the blue-bots, articulating their discoveries and considering the “Why” questions.
- Students reflect on the shared Data sheet and can identify elements of a digital systems (eg inputs and outputs)

Criteria	Quantity of knowledge			Quality of understanding	
	Pre-structural	Uni-structural	Multi-structural	Relational	Extended abstract
Digital Systems	Unable to identify features of a Blue Bot.	Identifies some features of the Blue Bot	Identifies and explains all features and functions of Blue Bot .	Identifies the purpose of the Blue Bot and all of the features and functions, and identifies bluetooth as a feature.	Identifies the purpose of the Blue Bot, all features and functions, and demonstrates an understanding of bluetooth functionality. Connects and controls digital system using bluetooth.

CSER Professional Learning:

This lesson plan corresponds to professional learning in the following CSER Digital Technologies MOOCs:

F-6 Digital Technologies: Foundations

- Unit 4 : Digital Systems
- Unit 7: Algorithms and Programming

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