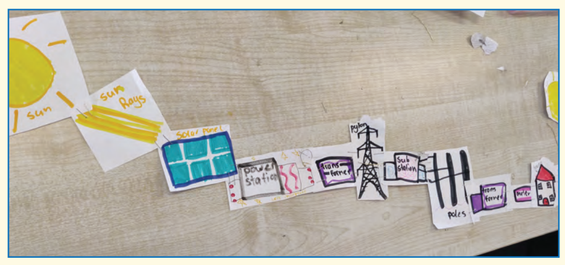
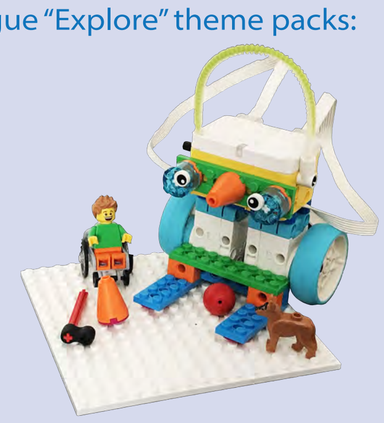
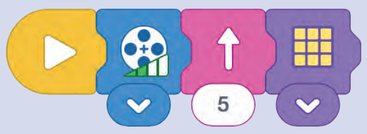
ROADMAP FOR DEVELOPING CULTURALLY RESPONSIVE COMPUTATIONAL THINKING

	Whole School	*Leading Teachers*	*In-class*
End June/Start September	**1. Getting started**		
	Vision Establish a Digital Learning Team (DLT) Review Digital Learning Framework Create Digital Learning Plan (DLP) DLP support focus of School Self-evaluation Begin PDST Sustained Support Journey **Adopt a spiral approach to the development of Computational Thinking:** • What are we going to do? - What is our focus? • How are we going to do it? - LEGO robotics, Cody Roby etc •How can we leverage the local community & students' interests for project ideas?	**Planning & Prep** Plan for teachers to have hands on time to explore the expressive computational materials; LEGO robotics, Beebots etc • Playful approach to **Computational Thinking** and the materials! • For example: *- Exploring LEGO Robotics "Unit Plans" in paired teacher groups*	**Practicalities** Management of kit: *- Agree plan for use in class (i.e.; spare lunchbox on teacher's table for found pieces/all bags away etc) + checklist for items,* *- Make a plan/who has responsibility for replacing parts & doing inventory,* Become familiar with **Computational Thinking Framework:** *-> Competence = knowledge, craft & character* • To get LEGO extension packs, register for First LEGO League "Explore" theme packs: *- learnit.ie*
September - December	**2. Getting to know the robotics**		
	Vision Establish a community of practice through sharing ideas & experiences: *- Led by principal & DLT* *- Sharing practice during Croke Park hours* *- Group WhatsApp: within school* *- Group WhatsApp: across local schools* *- Invite parents & other schools to Showcase Day* 	**Planning & Prep** Regularly communicate work that is being doing in **Computational Thinking** within classes with staff to build community of practice and share knowledge & look to local community for project ideas • For example: *- Record progress through Digital Portfolios* Review progress through PDST Sustained Support 	**Practicalities** Support holistic development of **Computational Thinking** in all learners. • For example: *- Hands-on explorations,* *- **Computational Thinking** question prompts* *- **Computational Thinking** "Lets Talk" wall posters* *- Cross-curricular "Design & Make" approach* *- PDST* **Culturally Responsive Computational Thinking** *Support Booklet*  
January - June	**3. Developing an Inquiry Based Project**		
	Vision Grow community of practice through continuing to share ideas, practice & experience. Review approach to embedding **Culturally Responsive Computational Thinking** in a spiral approach: • What did we do? • What worked well? • How did we achieve the best outcomes for our learners? • Review DLP for new academic year	**Planning & Prep** Leverage resources (such as PDST "Design & Make" **Computational Thinking** STEM Challenges, First LEGO League) to engage students in a sustained challenge, aiming for deeper learning over a longer period of time; • For example: *- Students complete challenges & tasks via their LEGO robotics "Explore" student notebooks* *- Capture and reflect on* **Computational Thinking** *using Digital Portfolios to develop metacognitive skills* Review progress through PDST Sustained Support	**Practicalities** Review equipment *- Is it all in working order?* *- Do we need to order any missing parts?* To partake in the LEGO Robotics First LEGO League in the new academic year, expansion packs will need to be ordered in August. 

Oide Sustained Support

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USEFUL COMPUTATIONAL THINKING RESOURCES

https://www.steam-ct.org/ Computational Thinking
Learning Line
Links to subject topics through practical examples (for eg: the book "Going on a Bear Hunt")

https://www.barefootcomputing.org/ Barefoot Computing Resources:
Whole School Login Details;
email: _____
password: _____

https://pact.cs.nuim.ie/pages/resources-for-teachers.html Bebras CT Challenges:
Short challenges, ideal for golden time/early finishers

COMPUTATIONAL THINKING IN THE CLASSROOM: EXAMPLES

Constructivist Learning Environment:
Prof Deirdre Butler (DCU) outlines the constructivist approach to designing learning environments using expressive computational materials.

NCCA Coding in schools:
Practical examples from Junior Infants to Sixth class of classroom activities using CT

PDST Technology in Education:
CT and Coding Hub - good practice videos and suggested resources