Designing a Primary Computing Curriculum
-Recipe for Success

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Don’t change what isn’t broken

Computing is split into

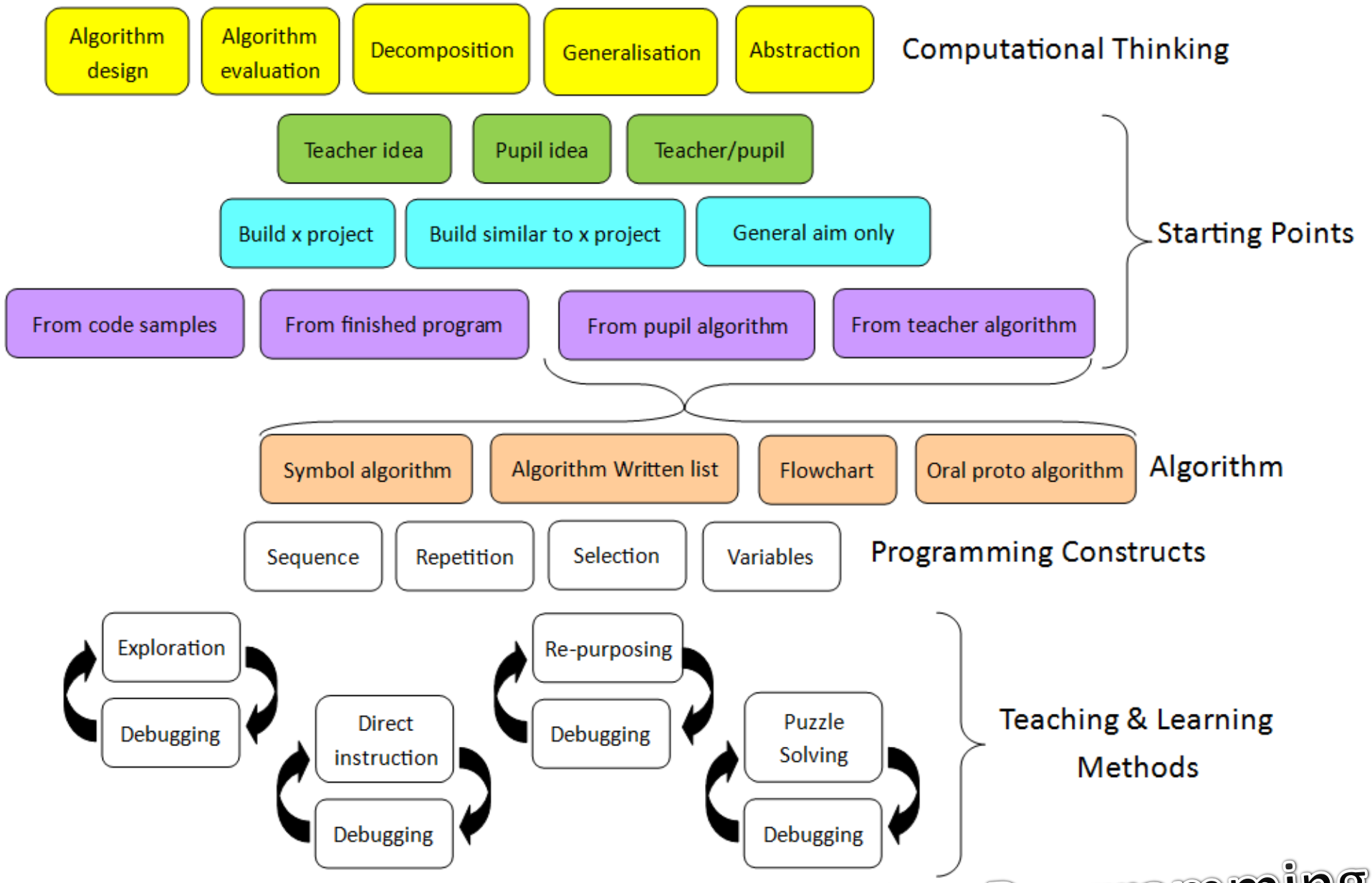
- Computing Science NEW
- Information Technology NEW but very SMALL
- Digital Literacy (OLD ICT)
  - E-safety

Building a Strand of Computing Science

- Build depth in at least one programming language and dip into others especially in KS2
- Build up skills and understanding gradually
- Start with what people are already doing well Bee Bots in KS1 http://code-it.co.uk/ks1/turtle/ks1turtle.html
- If any computer science being done in past evaluate and keep/adapt if being done well

Building a strand of Computer Science

- Make sure there is a progression in computational thinking
- Use unplugged methods sparingly
- Programming is the best way to use computational thinking
- Make sure you use a range of different teaching methods. There is no one size fits all approach



Teaching Programming

At KS2 Build Strand Taught Programming

Introductory
Smoking car
Dressing up game

Maths
Train computer to do maths
Maths quiz
Counting machine
Perimeter
Build a clock
Coin sorter
Times tables game
Coordinates

Gaming
Slug trail game
Selection investigation
Crab maze
Primary games maker

Music
Music machine
Music as code
Music score

Design & Technology
With lego Wedo
Toilet fan
Car park barrier
Tilt switch

http://code-it.co.uk/scratch/scratchplan.html

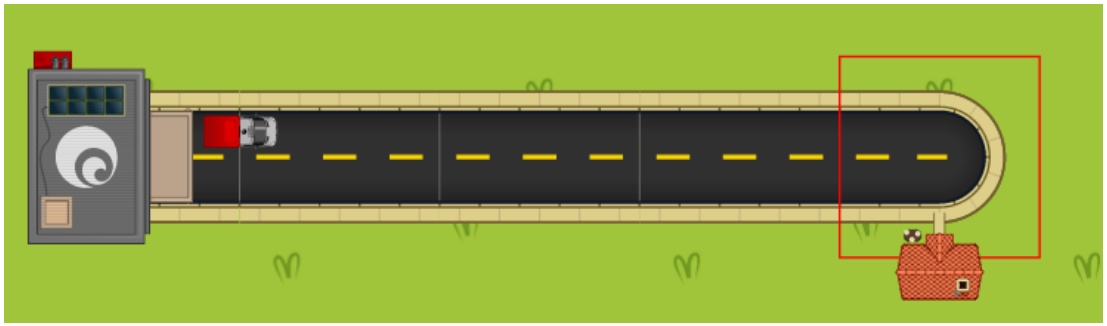
Build in a strand of puzzle solving

Rapid Router is great for this

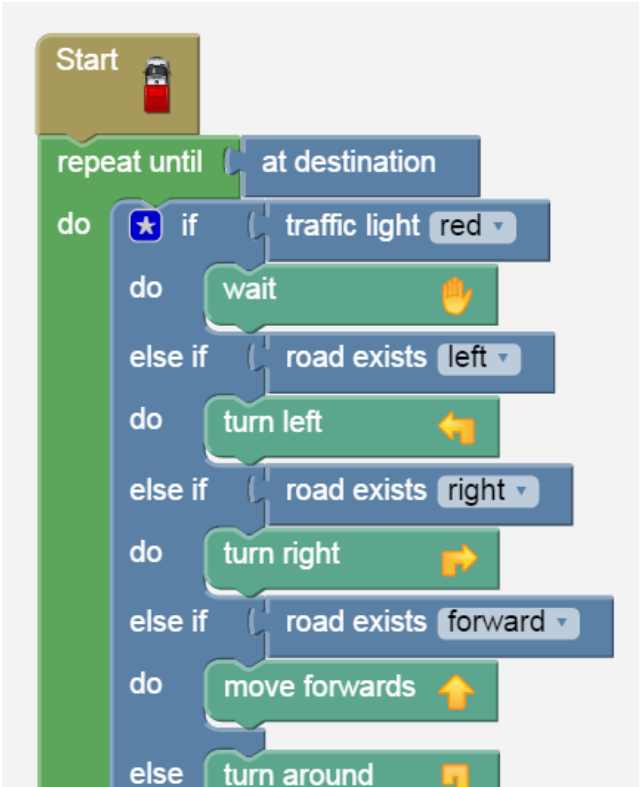
- Well designed
- Free
- Web based
- Builds understanding of sequence, repetition, selection and variables
- Good programming principles
- Good transferable skills to Scratch Jnr & Scratch
- Extends from blocks to text programming for more able
- Help train staff in ideas alongside pupils
- 15,000+ users

https://www.codeforlife.education/

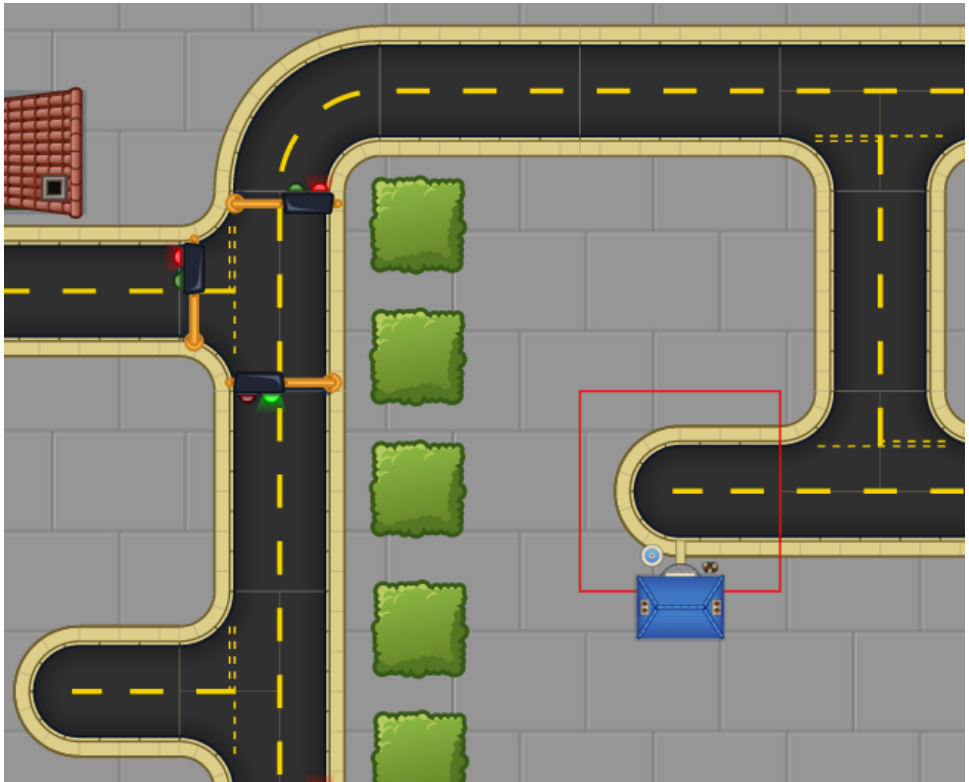
Good Progression



KS1

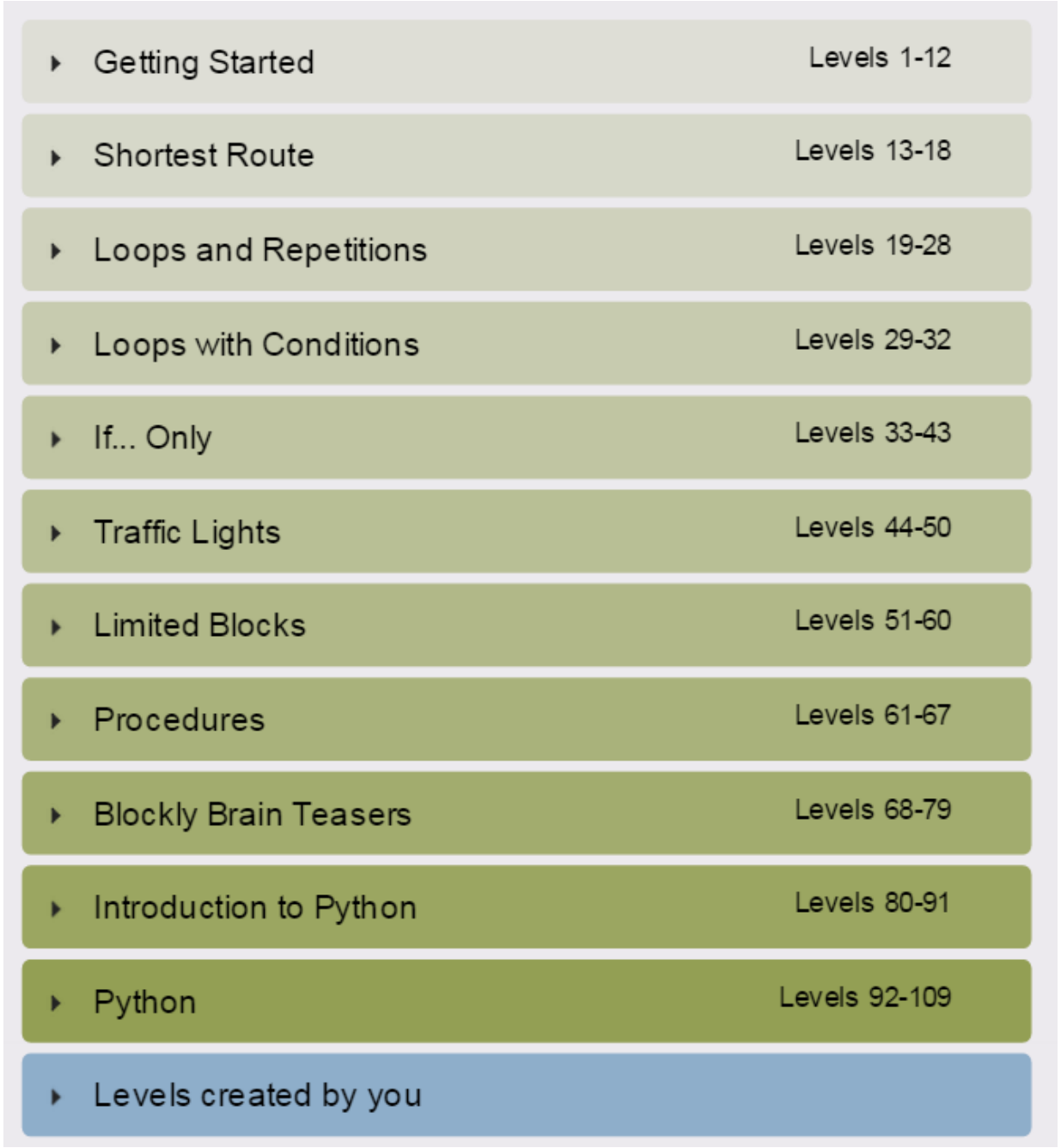


KS2



Tracks Progress

Pupils work at own pace



Combat Learnt Helplessness

- What is learnt helplessness?
- How does it manifest in computing?
- How do we tackle it with pupils?
  - Recognise it is an issue
  - It will take time
  - Process is more important than outcome
  - Establish a positive attitude towards problem solving
    - Use bug and debugging language
    - Ok to make bugs
    - Everyone who programs makes bugs
  - Challenge attitude *“Are you trying to get me to do your work?”*
  - Move away from language that personifies digital machines
  - Don’t neglect support staff
- How do we tackle it with staff?
  - Children do what we do not what we say

Do get good training

- Computing is the biggest change to the National Curriculum since….
- CAS Master Teachers are Available
- Barefoot Team
- Local Support
- Ocado Code for Life can help