**BeeBots/ BlueBots Learning Progression (F-4)**

*Main differences- BlueBots can do more steps, can be named and link to the driver app*

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| Learning Concept | Activities | Resources |
| Digital Systems:  Learning Programming Language | * Revise Links/Rechts, numbers * Learn basic programming language with symbolkarten (linksdrehung, rechtsdrehung, vorwärts, [rückwärts](https://dict.leo.org/englisch-deutsch/r%C3%BCckw%C3%A4rts), ein Schritt, zwei Schritte…,)   Kinder als Roboter   * Students ‘program’ each other to move blindfolded through a colour maze (straight line first then different directions) * Give the students a task such as “your robot can only stop on yellow” | Symbolkarten  Coloured dots |
| Investigating and Defining:   * Basic Programming on Mats * Altering English Mats | Extend programming language to include Bot language: einmal, zweimal…, ‘X’- Löschen, Pause   * **Alphabet**- spell name/words * **Zahlen**- count to 10 in order or go to favourite number/age, count backwards * **Essen**- find favourite food for Bot to eat, program food in alphabetical order | BeeBots/ BlueBots  Static Mats- Goethe-Institut |
| **Richtungen**- Street maps with shops labelled in German to learn directions | BeeBots/ BlueBots  English street map with German |
| Generating and Designing:   * Creating own Dynamic Mats as a class * Creating Dynamic Mats in a pair/ group | * **Fragen/Antworten** * **Monate** * **Zahlen- count by 10/20** * **Formen** * **Jahreszeiten**   *Need to get to each season in order (repeating code in German as program and saying each season as the Bot lands on it)*  *Set up several mats the same and students race against each other and try to find the quickest path* | BeeBots/ BlueBots  Clear plastic mats- plastic tablecloth from Spotlight (32”x32” total size of mat) drawn up into 6” squares and place cards underneath.  Grids drawn up in 4x4 squares are most useful and cards underneath. Bigger mats are needed for more complex programming. |
| Inquiry- What would you like to learn?  Students create their own ideas from interests  Ideas:   * **Rezepte**- follow directions, find the ingredients * **Familie**- find opposite gender (Mutter/Vater, Bruder/Schwester) * **Im Garten** (find vocabulary in alphabetical order/ size of the word- Blume, Pflanze, Schaufel) * **Story sequencing** * **Weltkarte**- program your Blue-Bot to get to a country | BeeBots/ BlueBots  Clear plastic mats  Set of blank cards |
| Producing and Implementing:   * Writing Code * Programming from Code | Write the code in English then simplify  e.g.  Vorwärts: **VW** Rückwärts: **RW**  Rechtsdrehung: **RD** Linksdrehung: **LD** | Coding template |
| Write a code for someone else to program | BeeBots/ BlueBots  Coding template |
| Evaluating | Hypothesising the possible use for Bots in the future |  |

*Ideas based on those of Helen Kuehs- Baldivis Primary School, WA*