Get with the Program and the STEM NOW Team at Winchester Science Centre are delighted to bring you this very special Christmas Coding Pantomime.

We're going to follow Professor Trice and Al the Robot on one of their amazing adventures. Oh yes we are......!

So all you need to do is sit back, enjoy the show, and feel free to join in with the dancing at the end!

QUESTION TIME!

Whether you plan to watch the panto in school or as a family at home, these questions will help you get the most out of this fun and festive activity.

AGES 4-7 YEARS

Q: Can you remember the words to make Al the Robot follow her step-by-step instructions?

A: Robot, robot, go go go, follow your algorithm, don't be slow

Q: What do you have to do if you don't get what you hoped for when you are writing an algorithm?

A: Debugging

CURRICULUM LINK

• Understand what algorithms are

• Create and debug simple programs

AGES 7-9 YEARS

Q: If you have used Scratch programming before, did you notice the link hidden in the pantomime?

A: Green flag to start, red button to stop

Q: What did the professor say you should you do before you write your algorithm, and what did she say you should you do afterwards?

A: Before – planning, afterwards – testing

CURRICULUM LINK

• Design, write and debug programs that accomplish specific goals

• Use sequence, selection and repetition in programs

AGES 9-11 YEARS

Q: The last algorithm, the automatic porridge waiter, used inputs – what were the three inputs the Professor gave to Al?

A: The Three Bears' pictures

Q: Do you know which part of the last algorithm was repetition and which part was selection?

A: Repetition – where it says 'repeat until', Selection – where it says 'If Daddy card, if Mummy card, if Baby card

CURRICULUM LINK

• Design, write and debug programs that accomplish specific goals

• Use sequence, selection and repetition in programs

CHALLENGE:

CREATE YOUR OWN ALGORITHM (A SET OF INSTRUCTIONS)

Try and write a 'recipe' for making a snack, (like a sandwich) that is clear enough for a robot to follow. Ask someone to be the robot and follow your instructions to test if your recipe or step-by-step algorithm is clear enough. Don't forget to debug if you didn't get what you hoped for.

For an extra challenge why not see if you can use a programming language you know (e.g. Scratch via www.scratch.mit.edu) to create an automatic porridge waiter algorithm with selection and repetition in it.
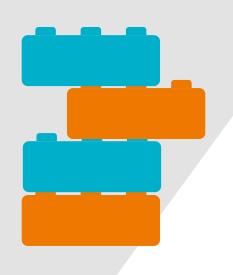
CHALLENGE:

CODING WHISPERS

The more people the merrier for this game! You will need Lego or K'nex or some kind of building material.

Stand in a line, the first and last people must not be able to see each other. The first person in the line builds something out of Lego/K'nex. The last person in the line has a box of Lego/K'nex ready to build. The first person must pass instructions down the line to the next person, who passes it on and so on until they reach the last person. The last person has to try to build an exact copy of what the first person has made.

Set a timer for 10 minutes and race against the clock!

CONTINUE THE FUN:

- Visit www.getwiththeprogram.org.uk for more information on coding workshops and shows
- Email inspire@stemnow.org to find out how we can help you inspire your young people or how you can become an Ambassador
- Visit www.winchestersciencecentre.org for accessible science experiences for all
- Visit www.teachcomputing.org for training, resources and guidance to help you teach computing with confidence