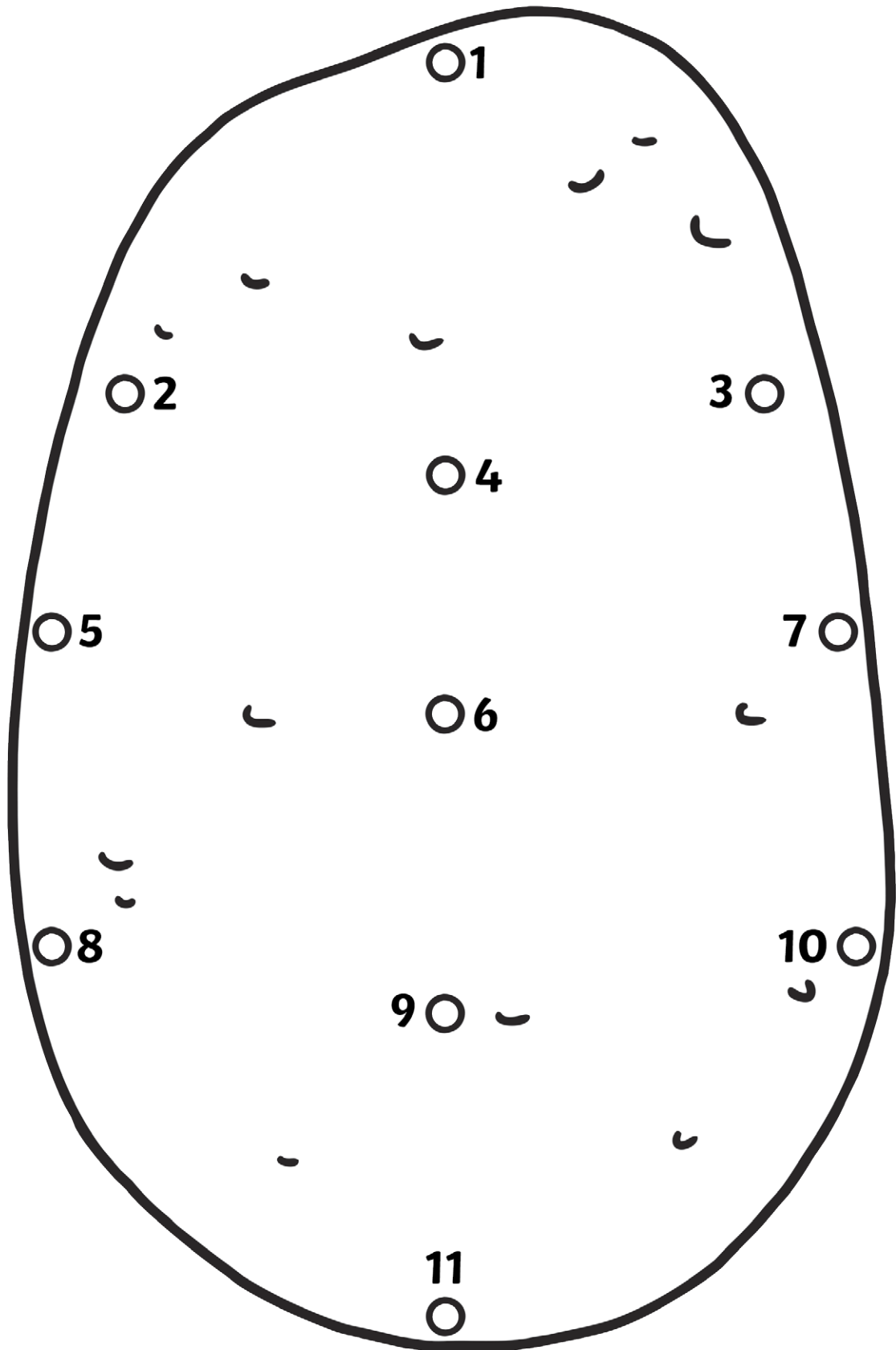
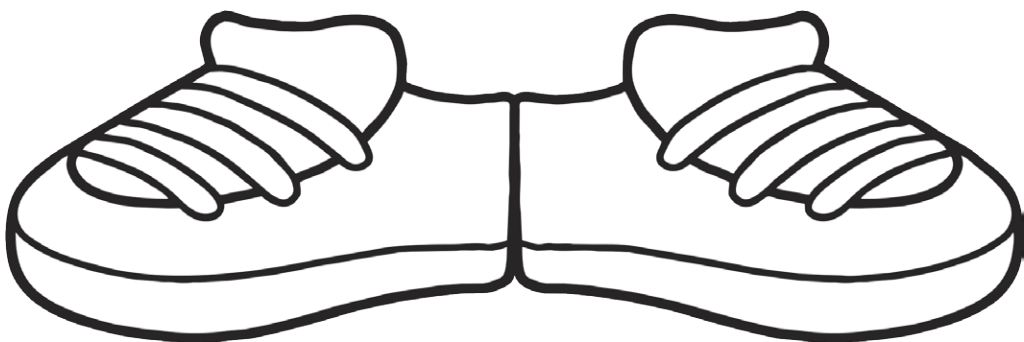
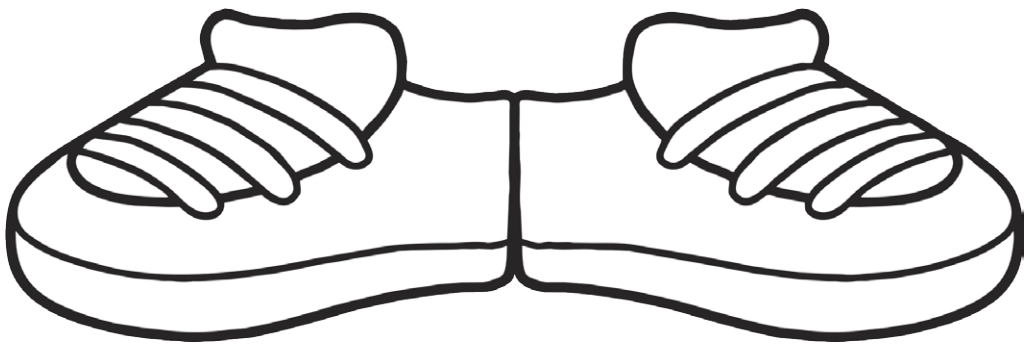
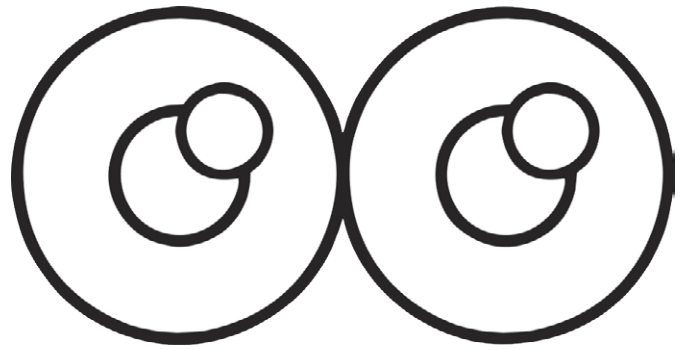
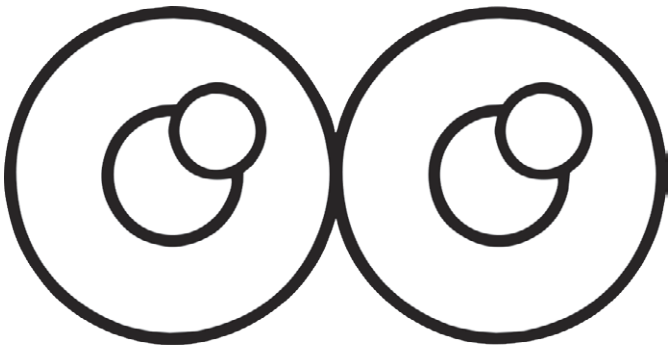
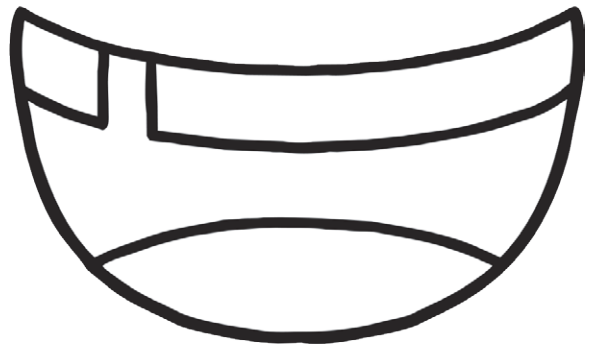
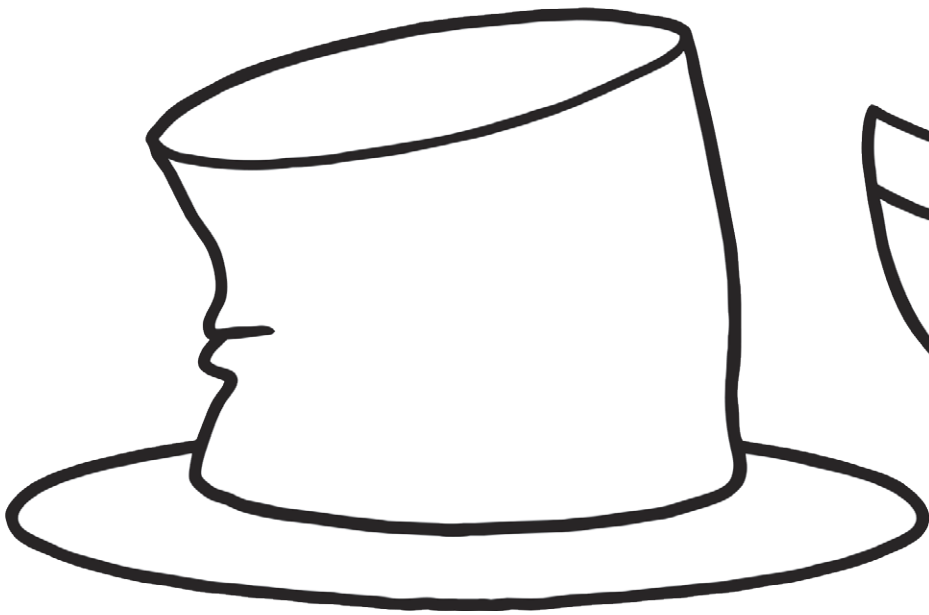
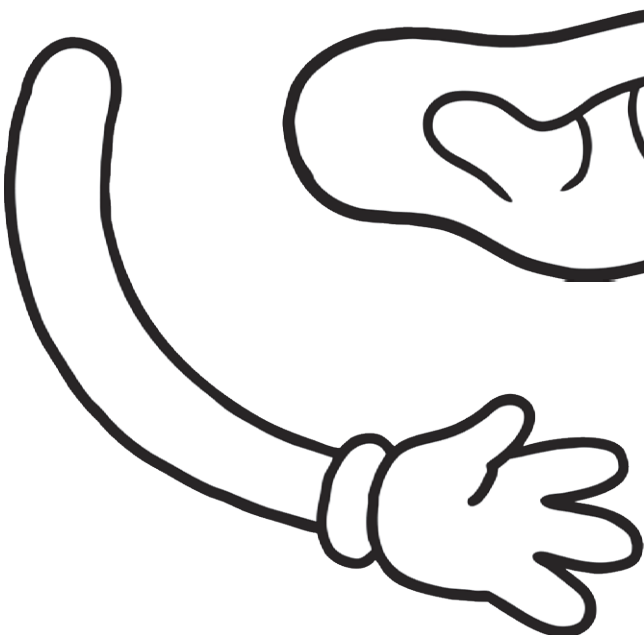
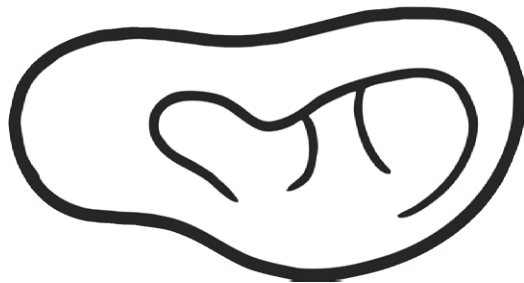
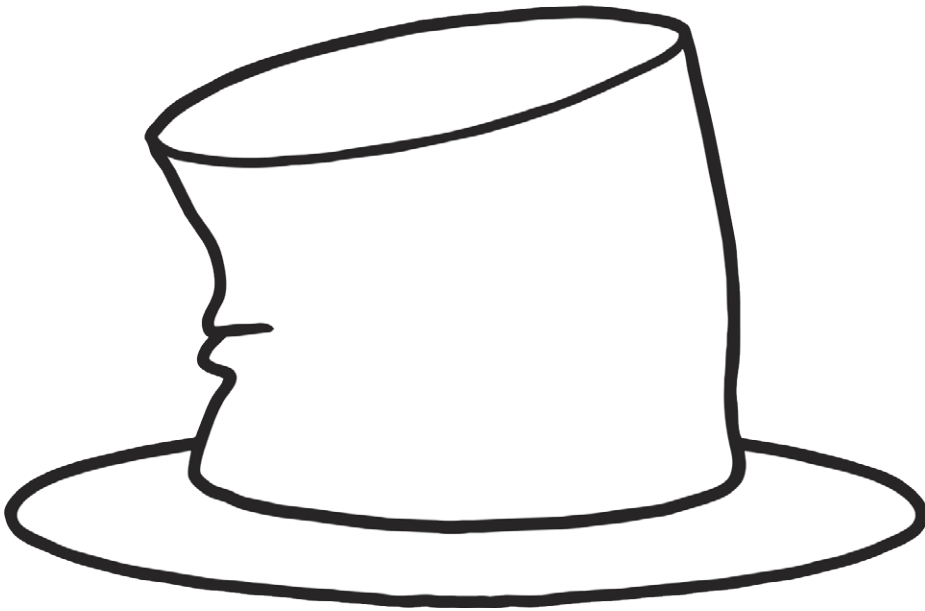
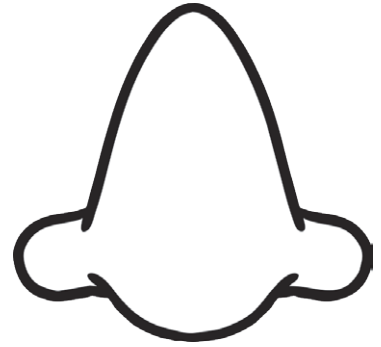
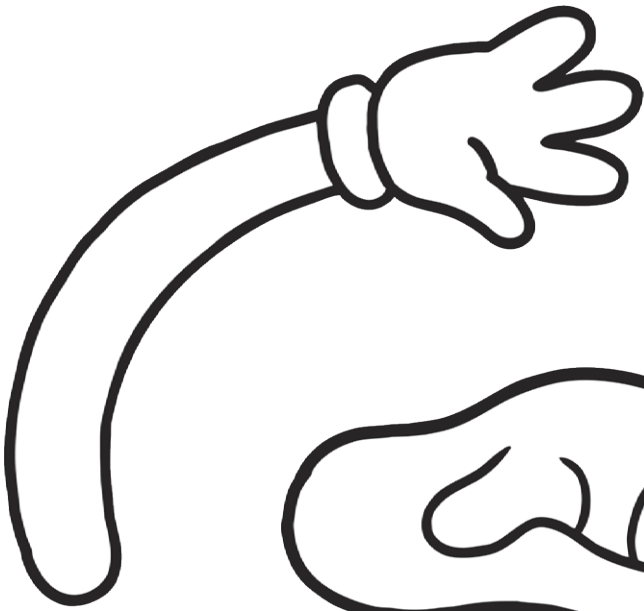
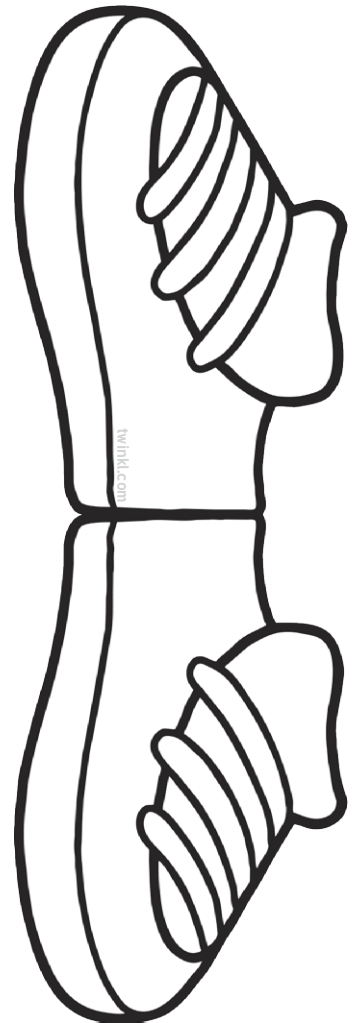
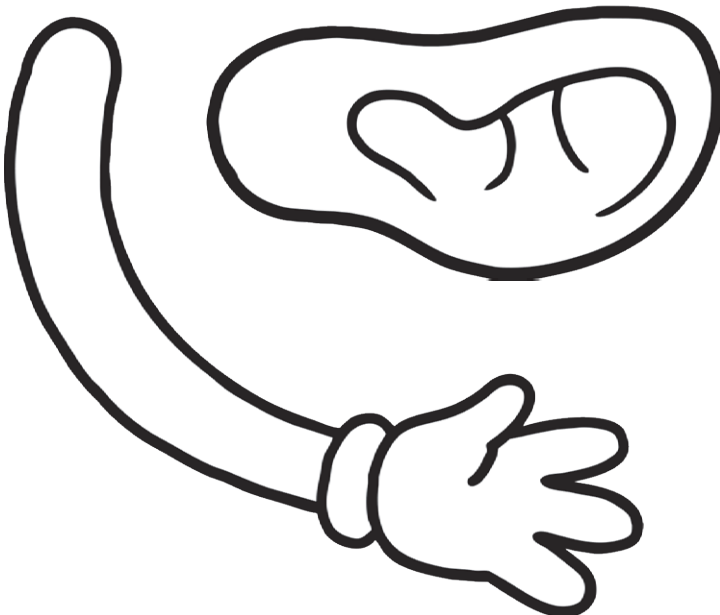
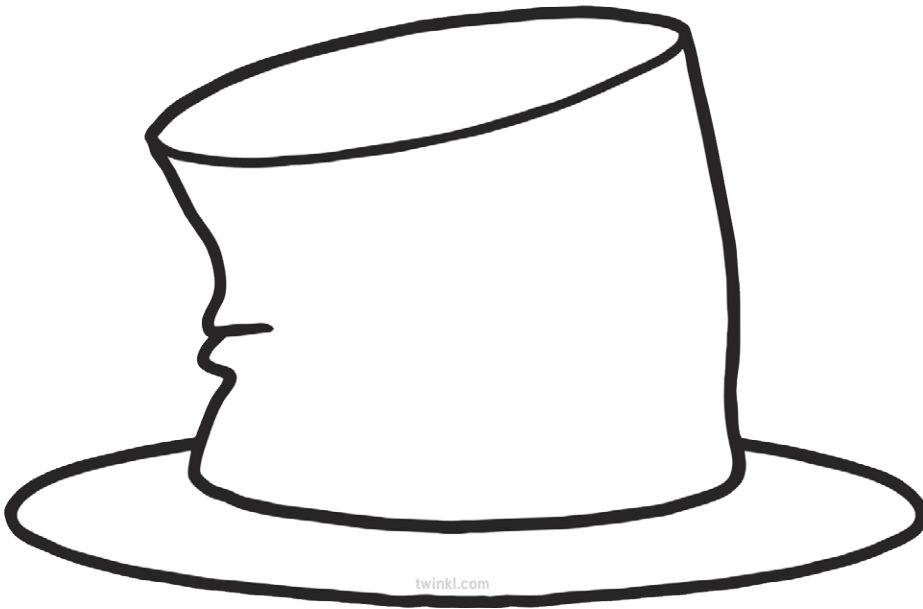
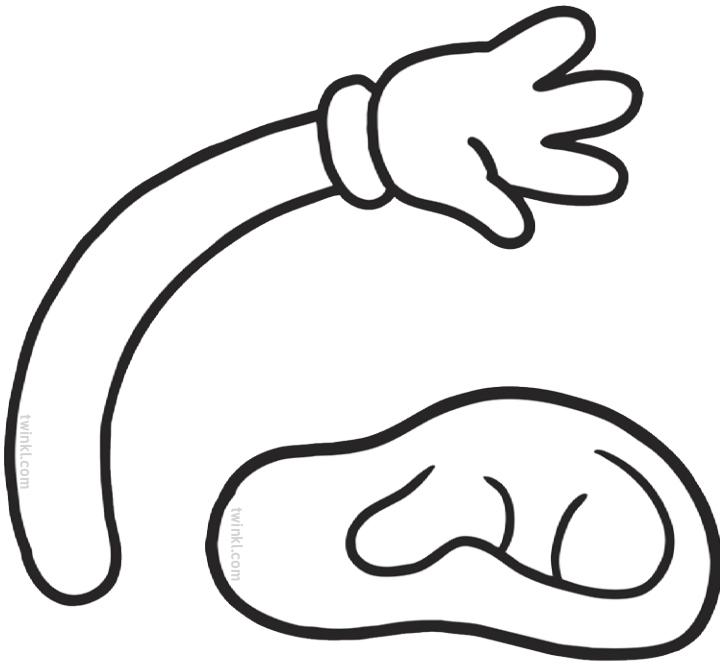


Build a Potato Man!

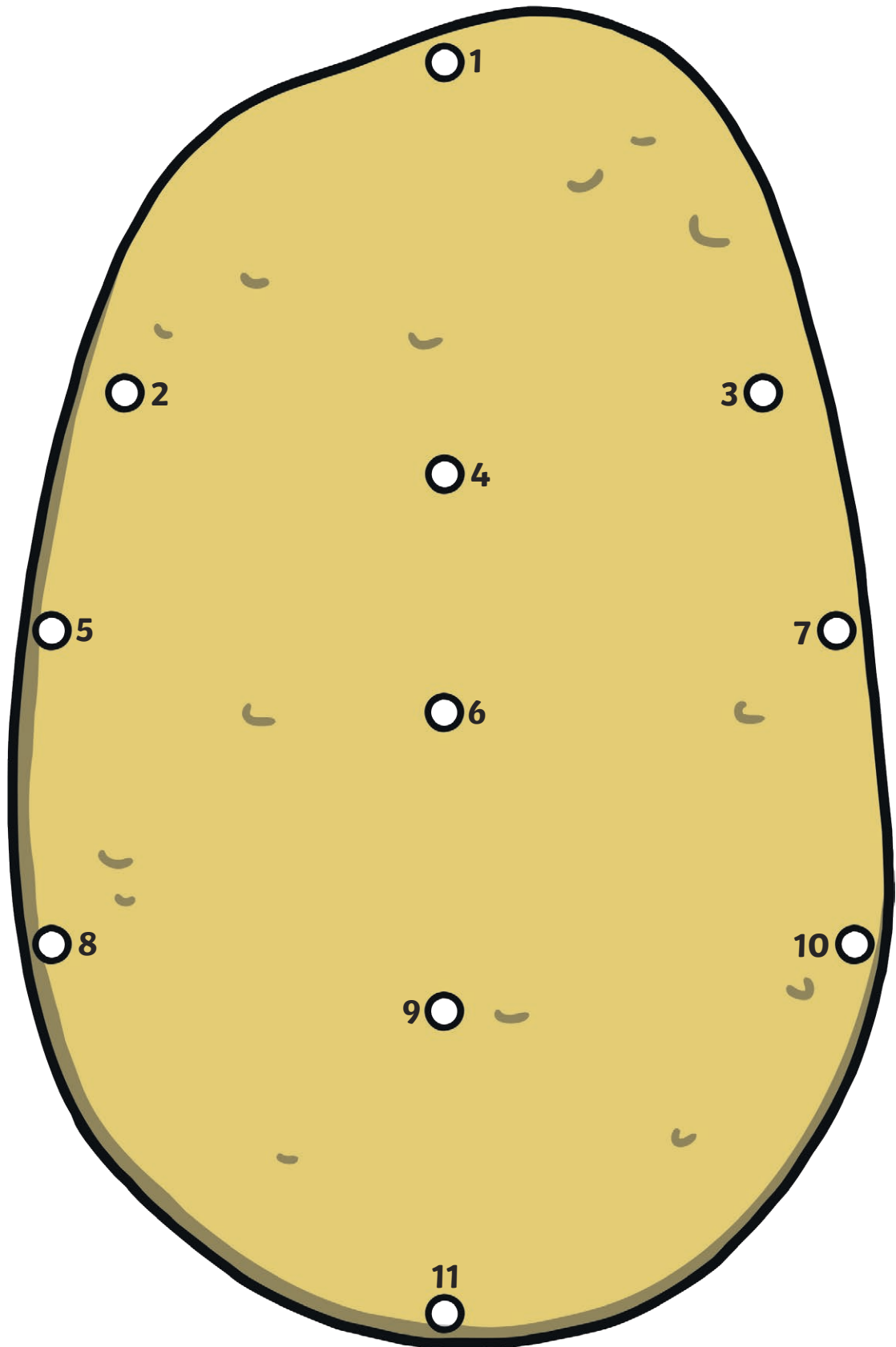


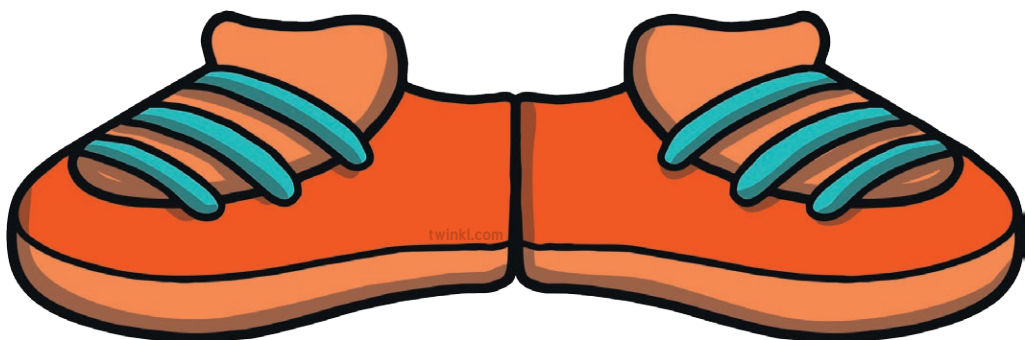
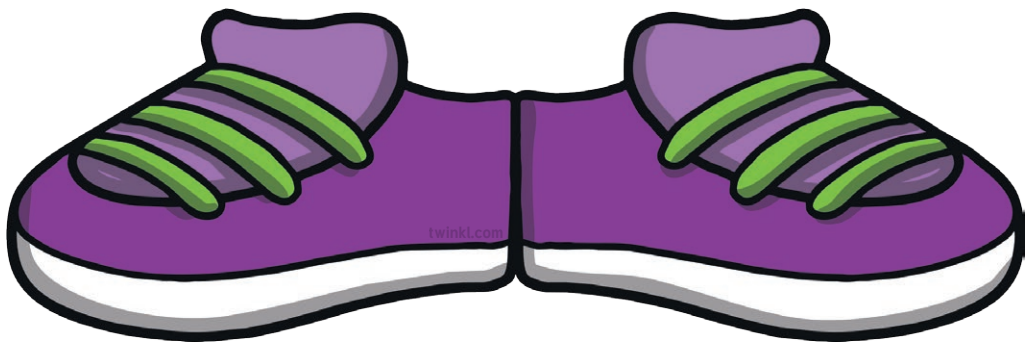
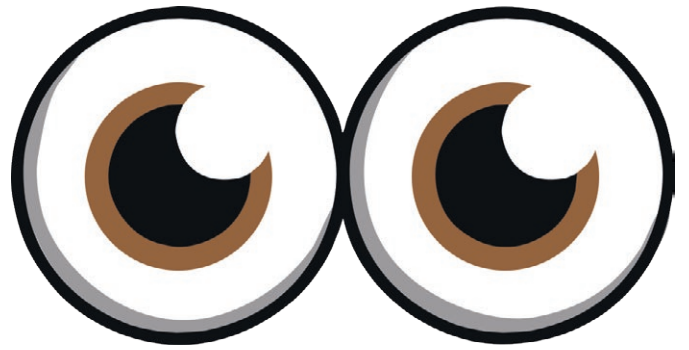
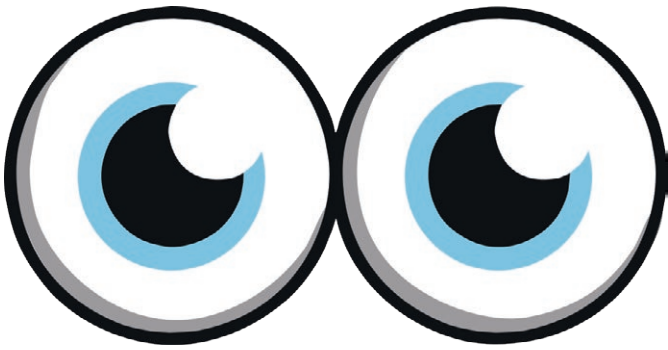
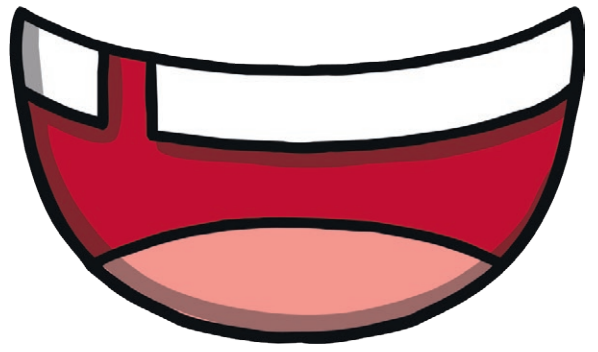


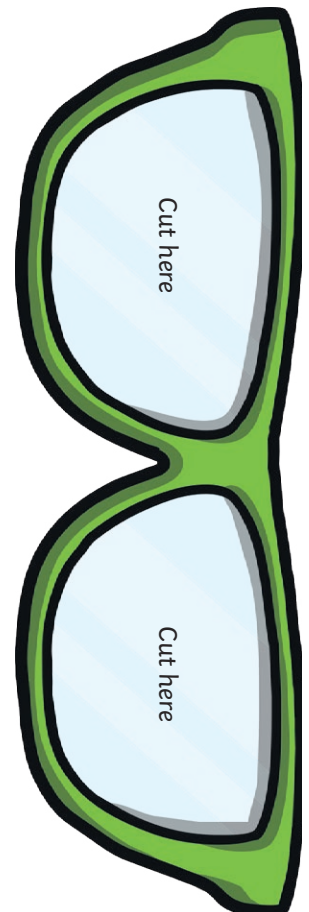
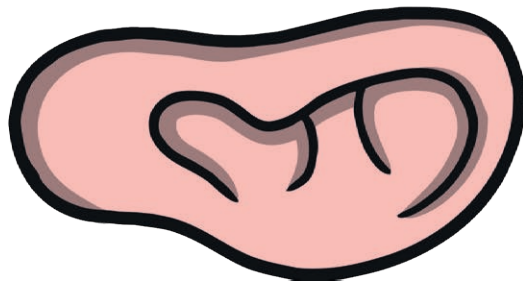
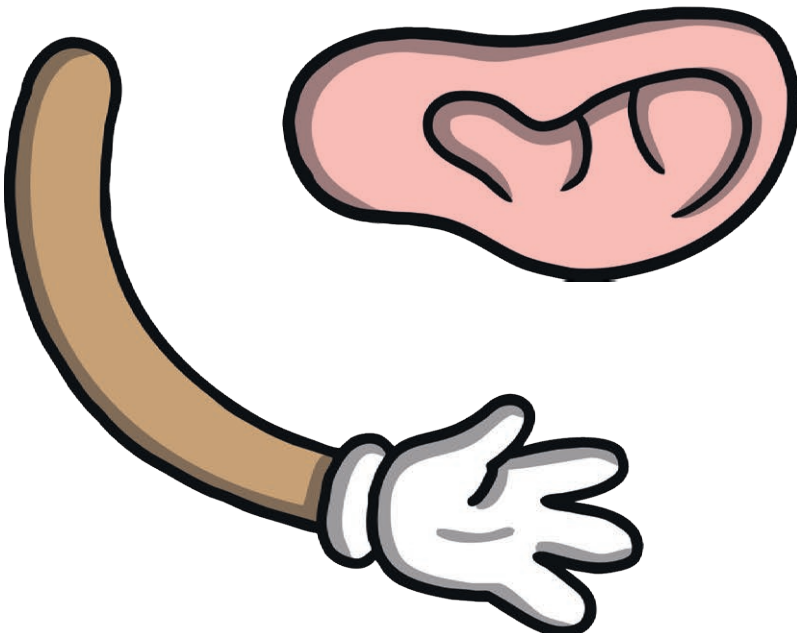
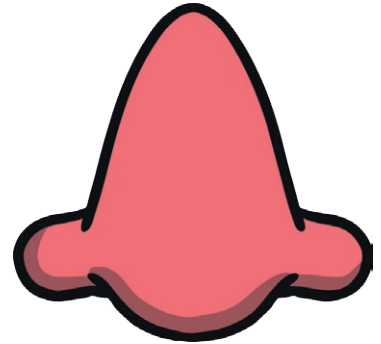
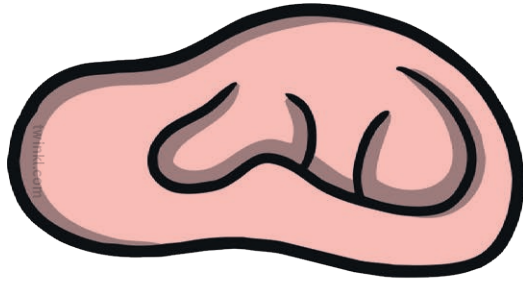
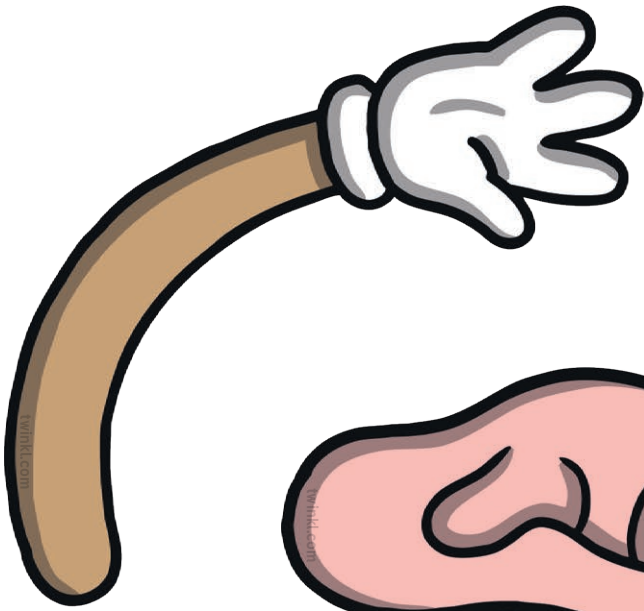


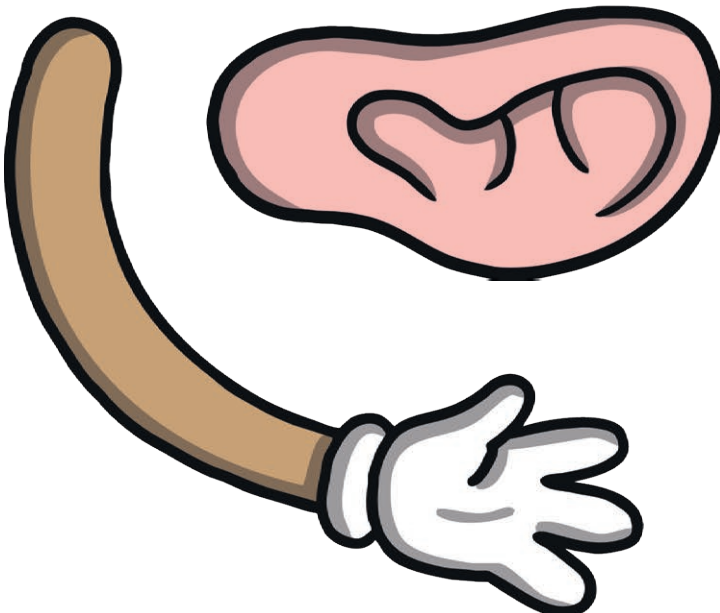
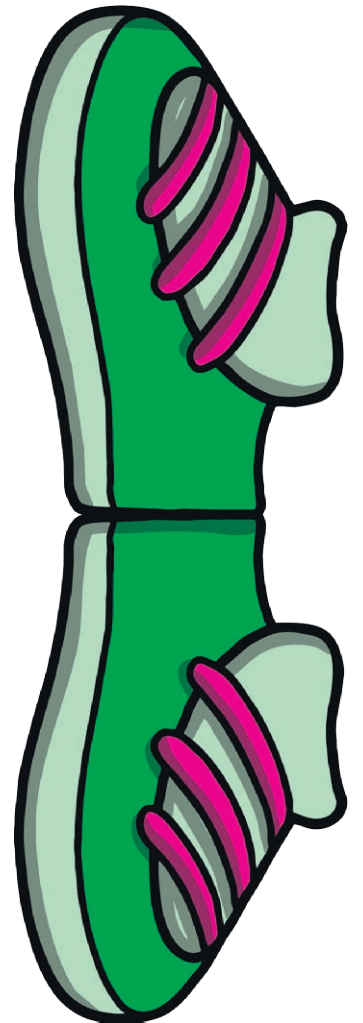
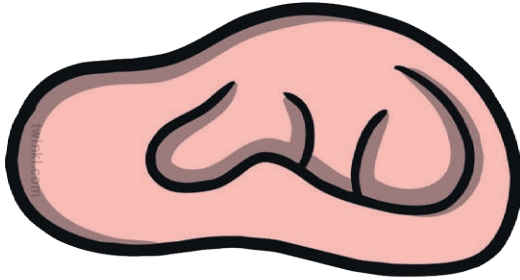
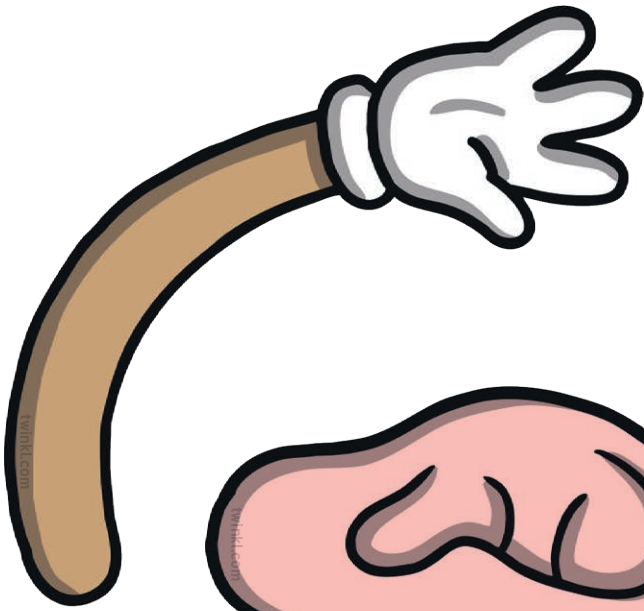


Build a Potato Man!







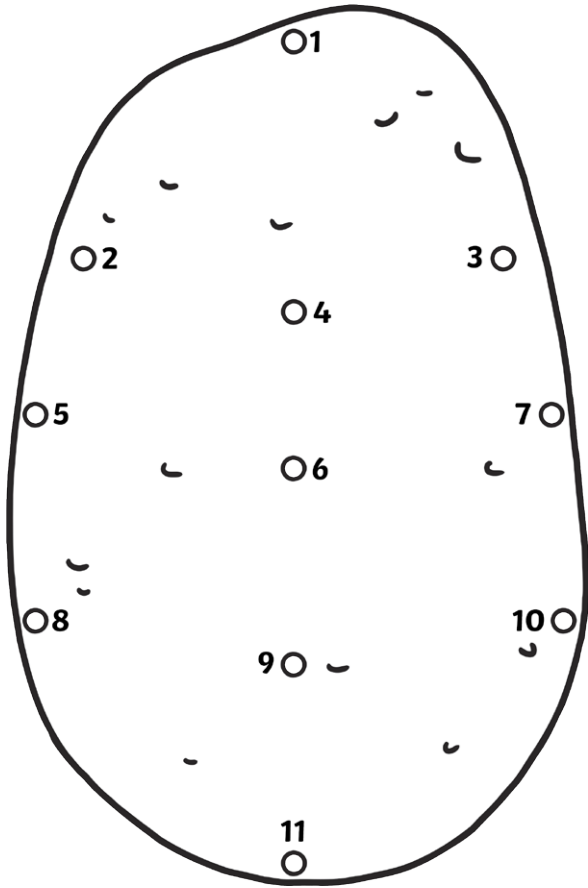




Potato Man Instructions

Use your Potato Man Picture Card to write instructions for your partner.

Don't forget to use the right numbered hole!



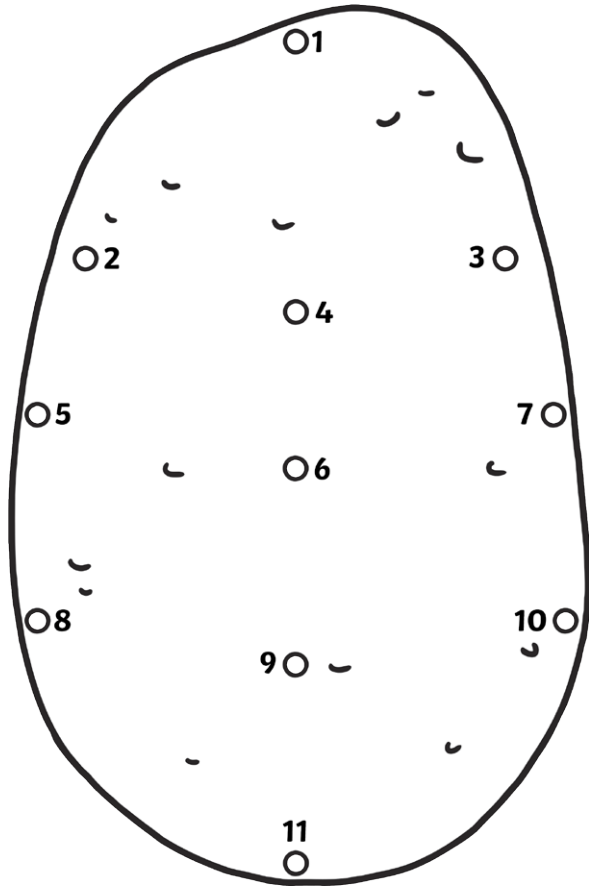
Instructions



Potato Man Instructions

Use your Potato Man Picture Card to write instructions for your partner.

Don't forget to use the right numbered hole and the right coloured parts!



Instructions

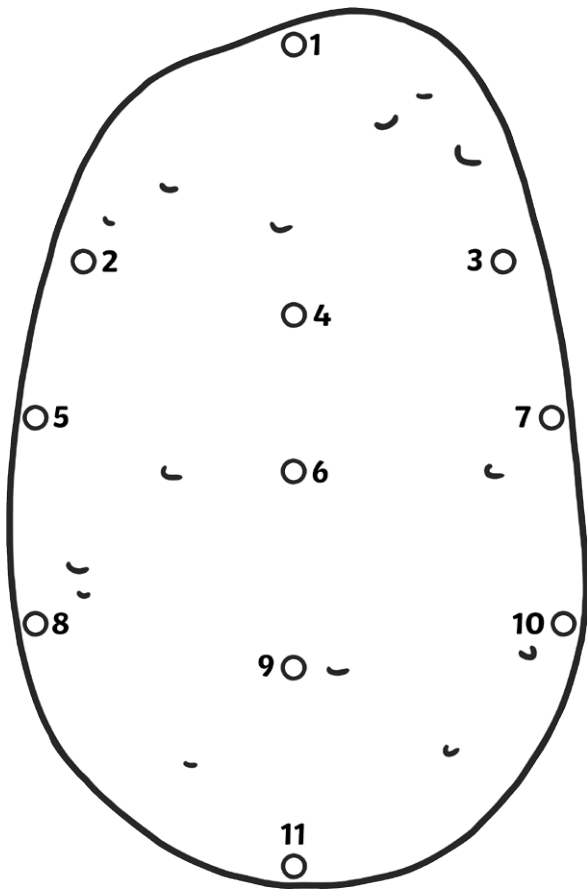


Potato Man Instructions

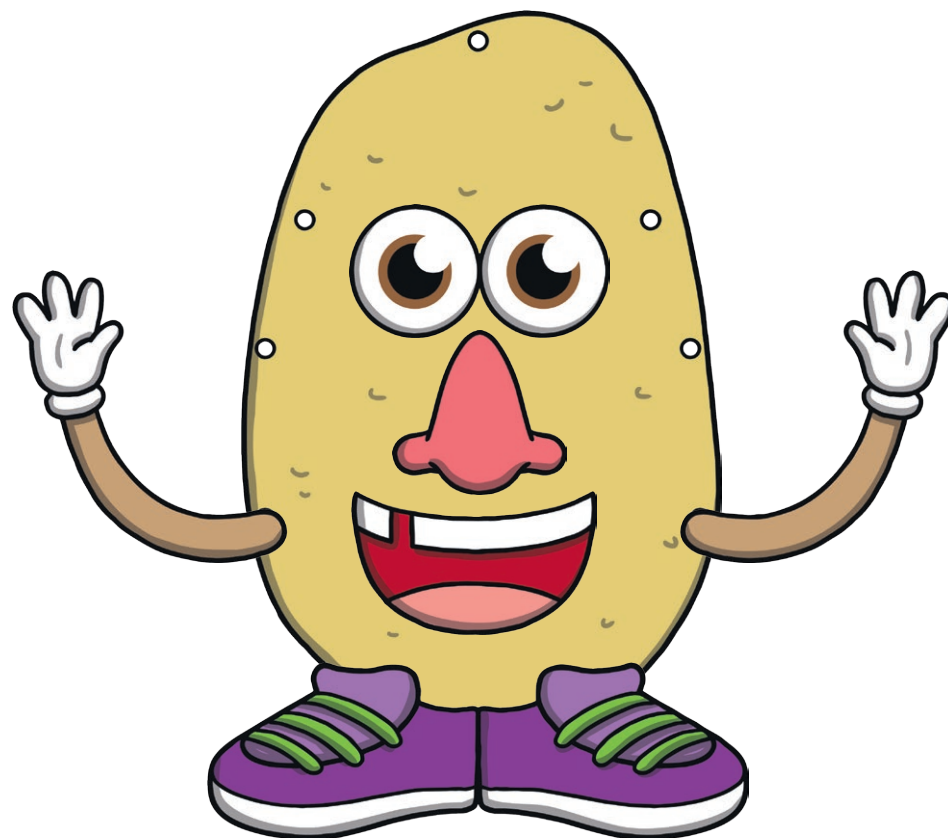
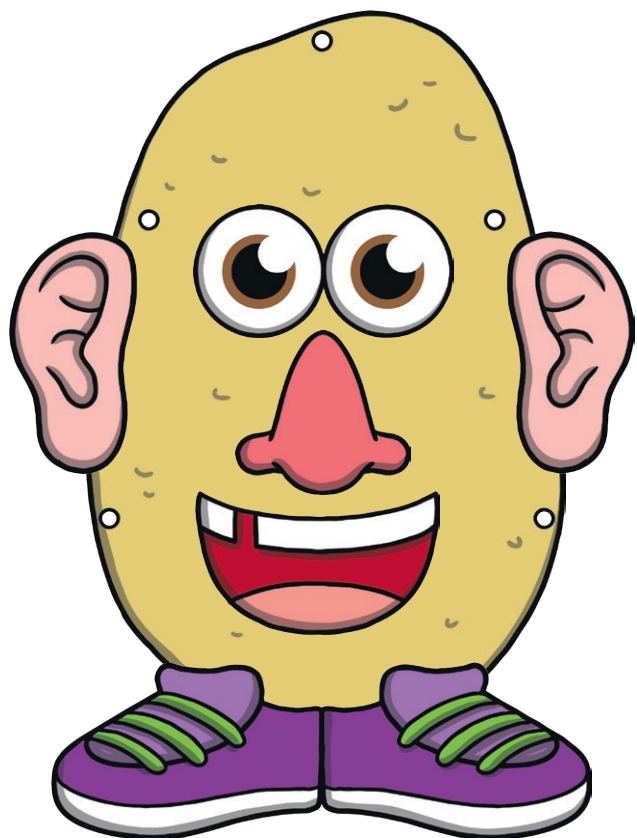
Use your Potato Man Picture Card to write instructions for your partner.

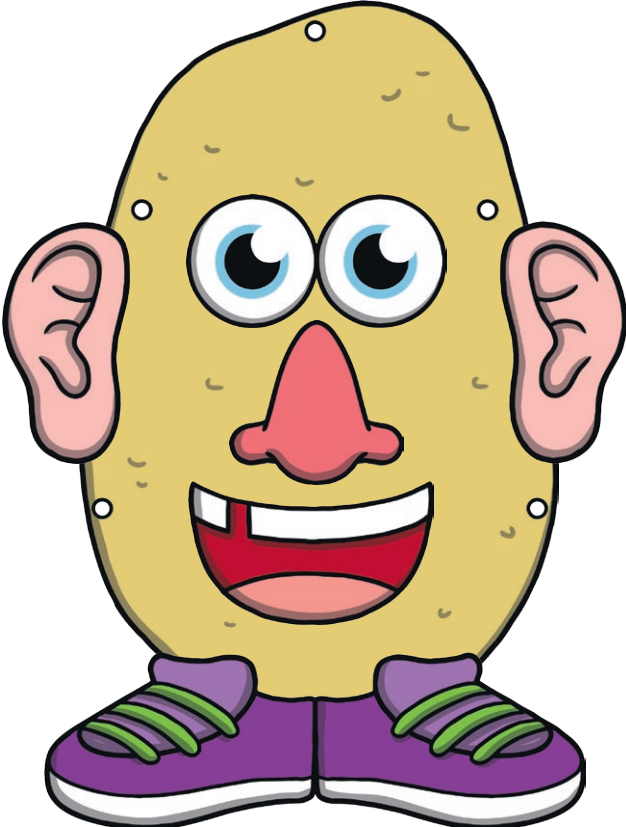
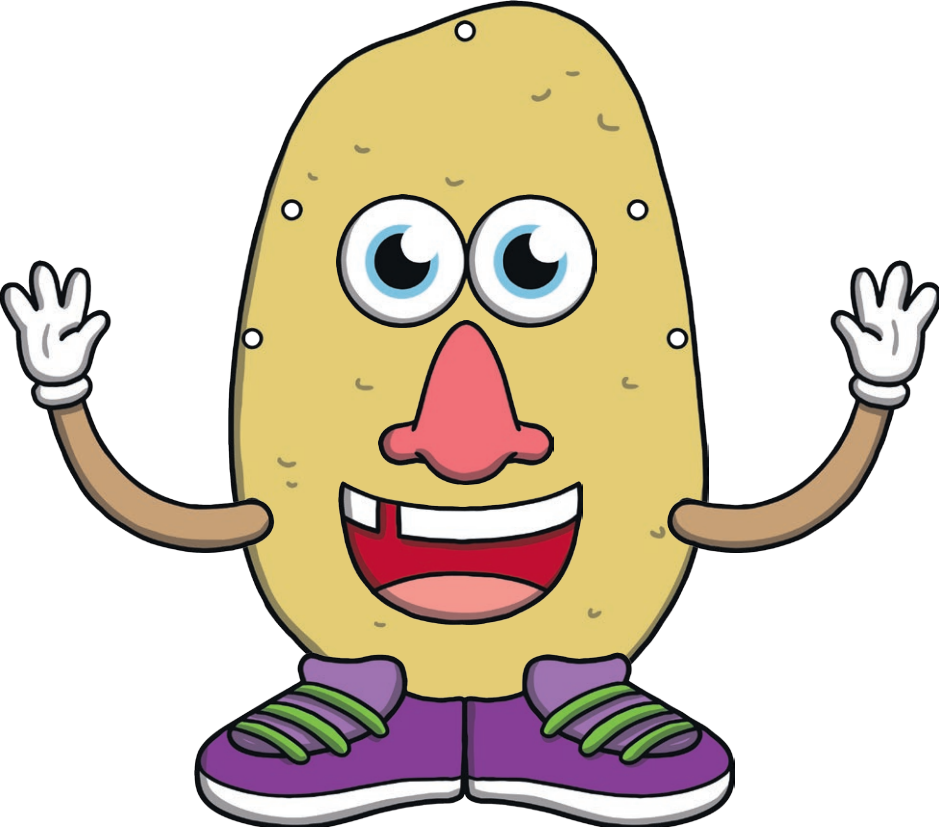
Don't forget to:

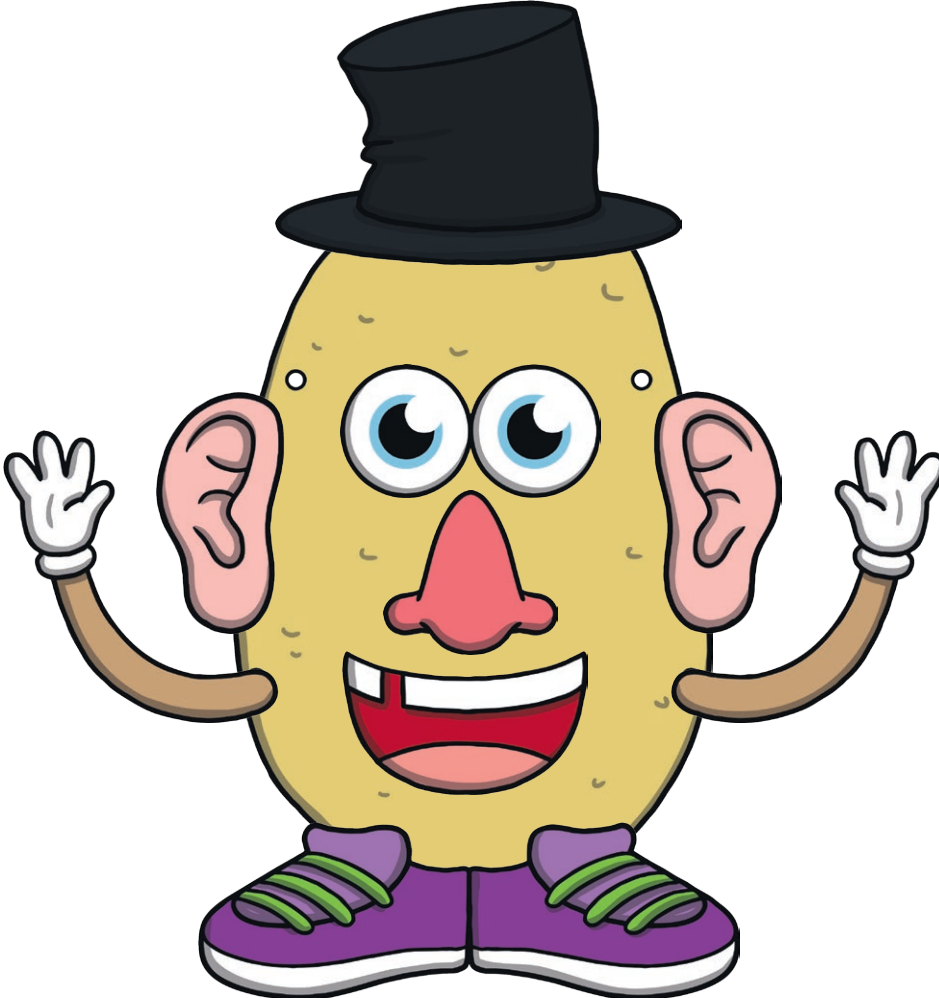
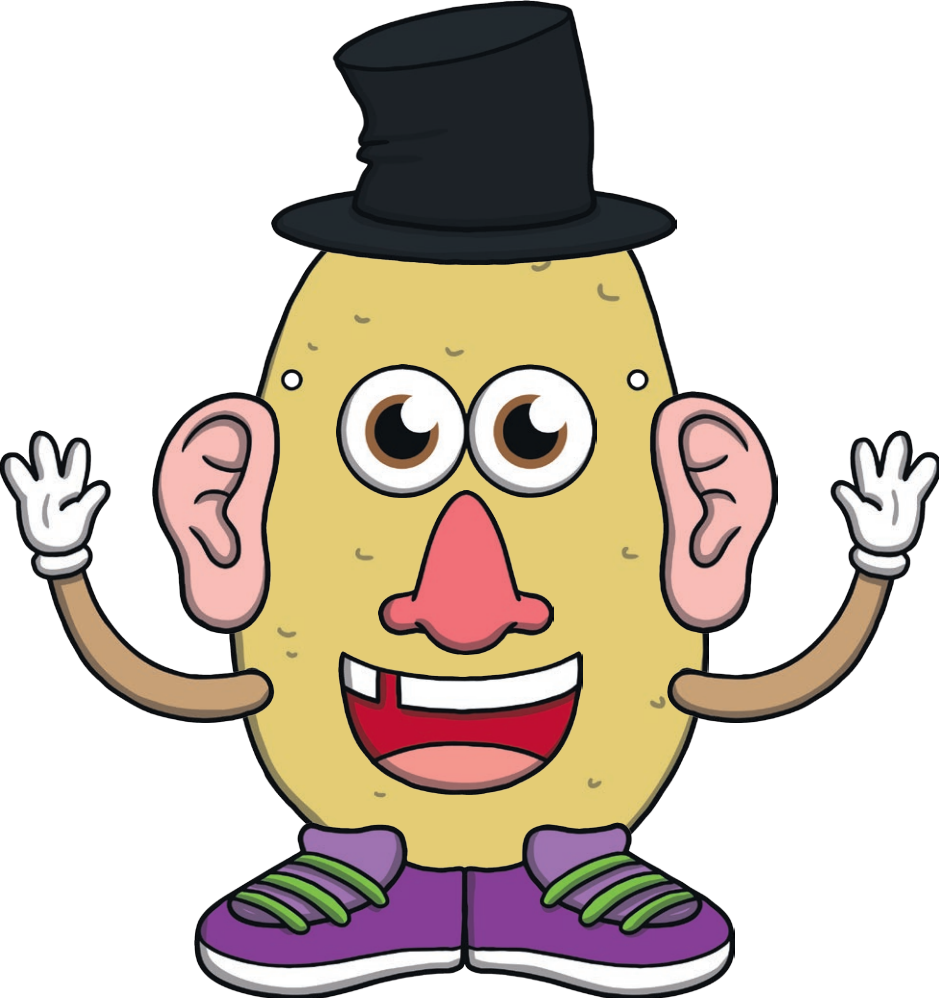
- use the right numbered hole;
- add the correct colours;
- put your instructions in the right order.

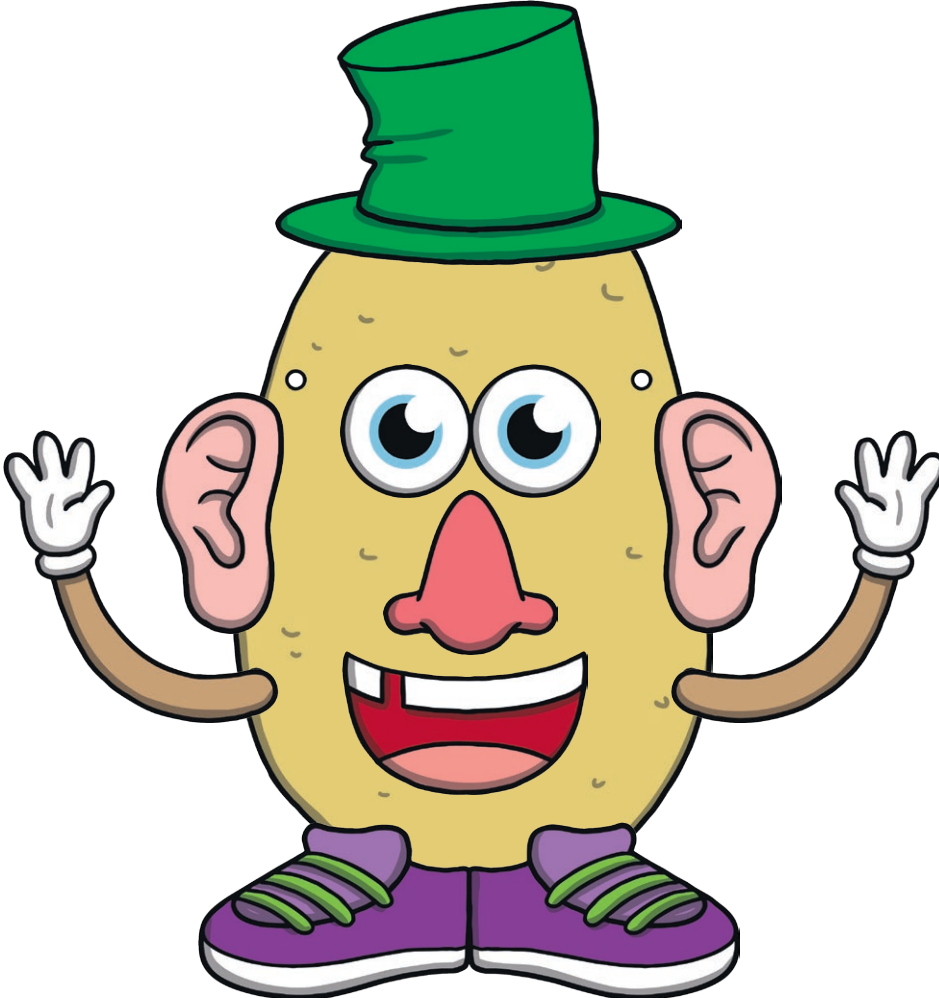
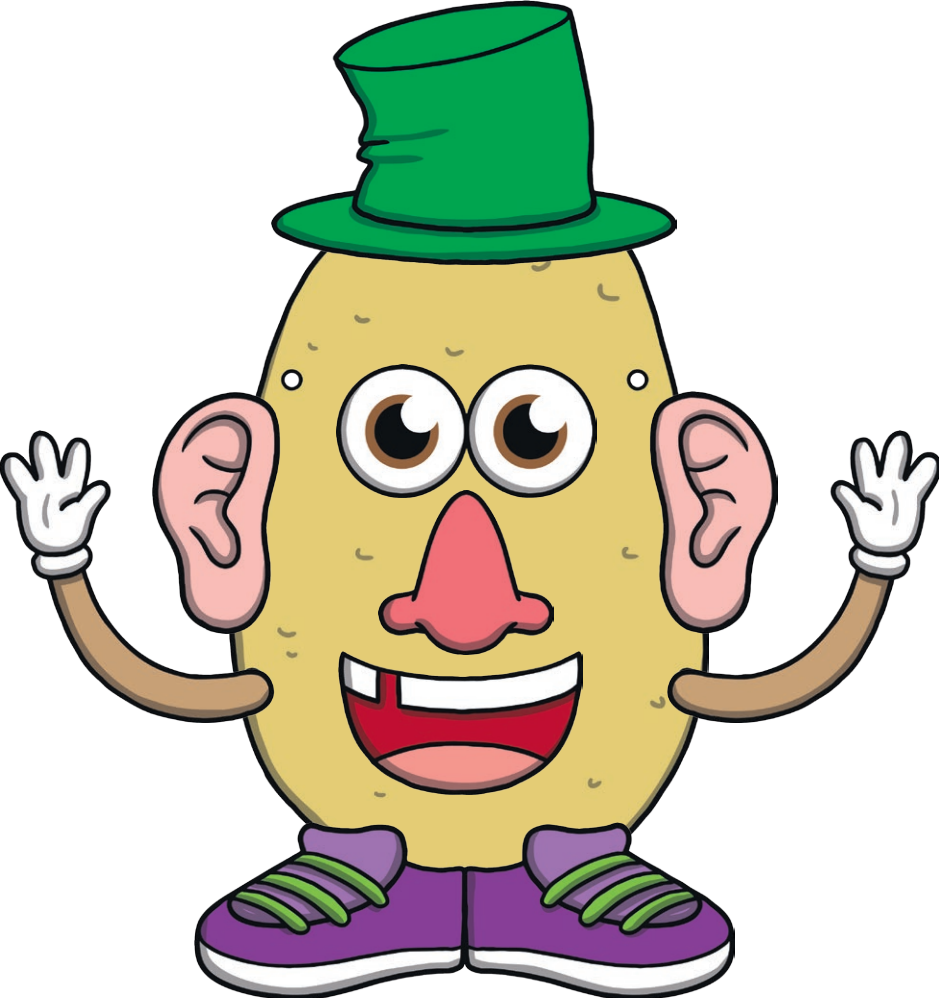


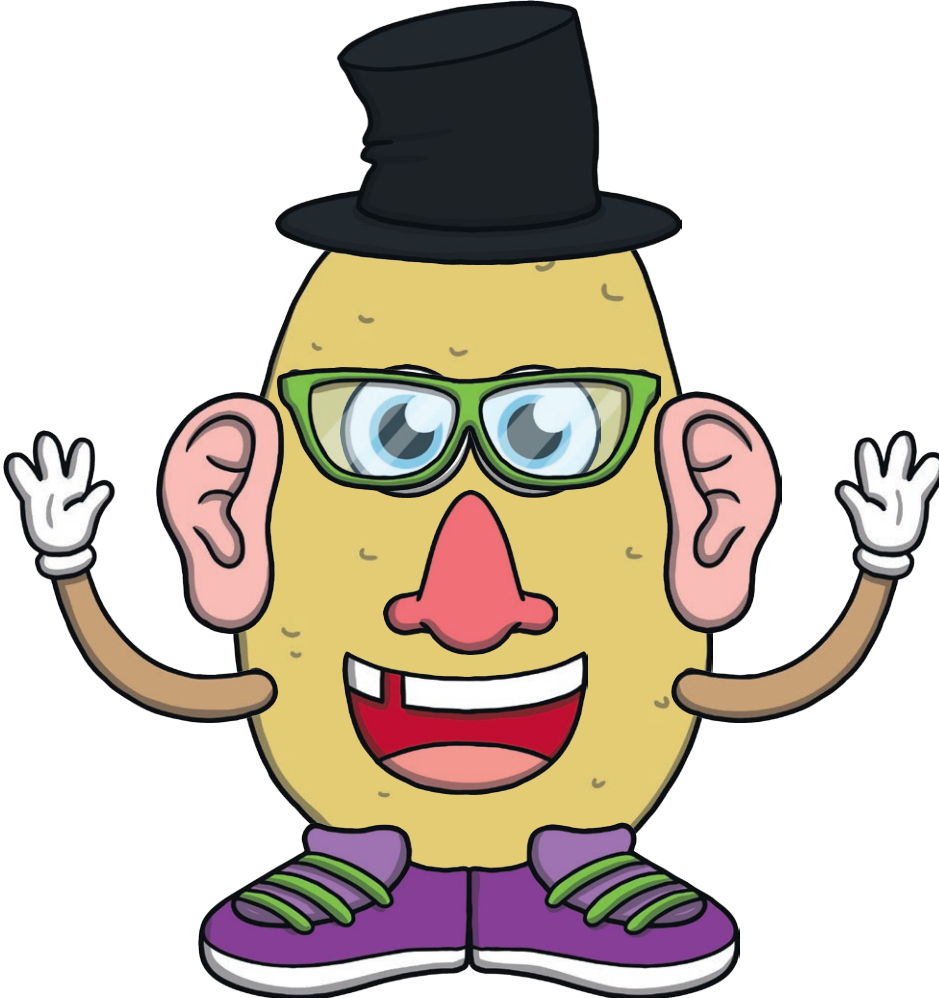
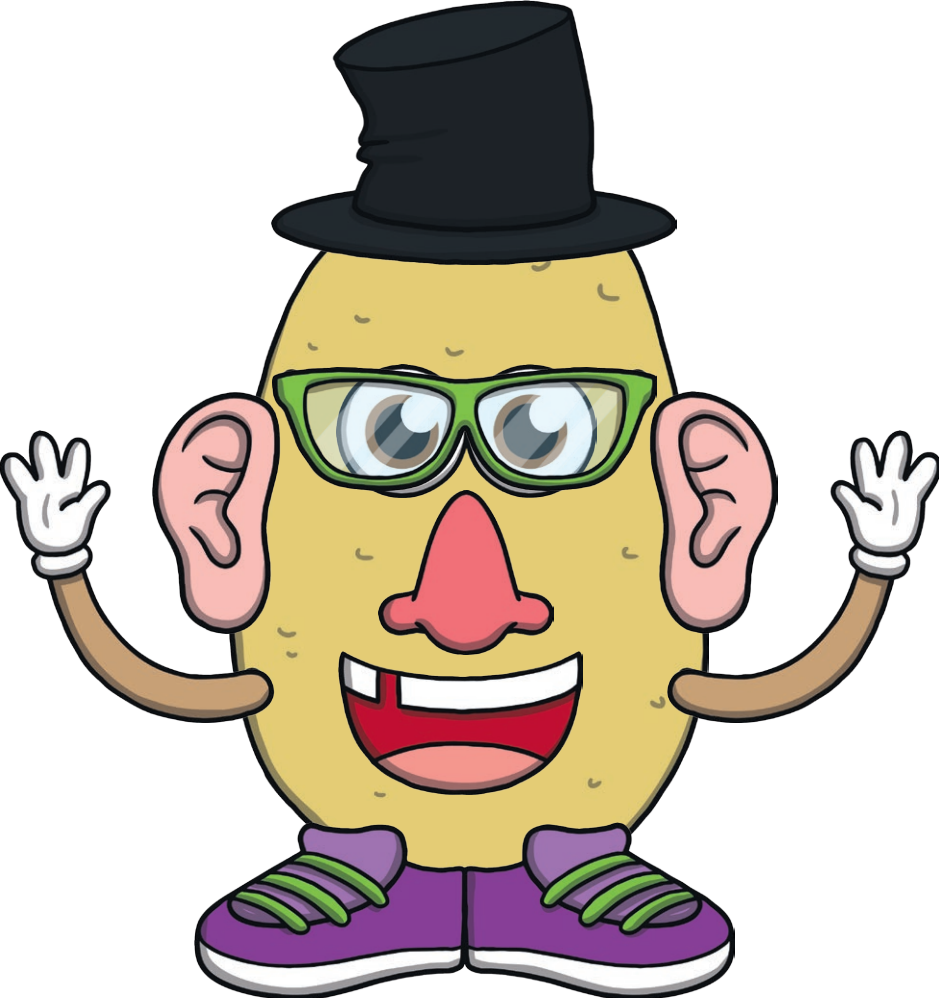
Instructions

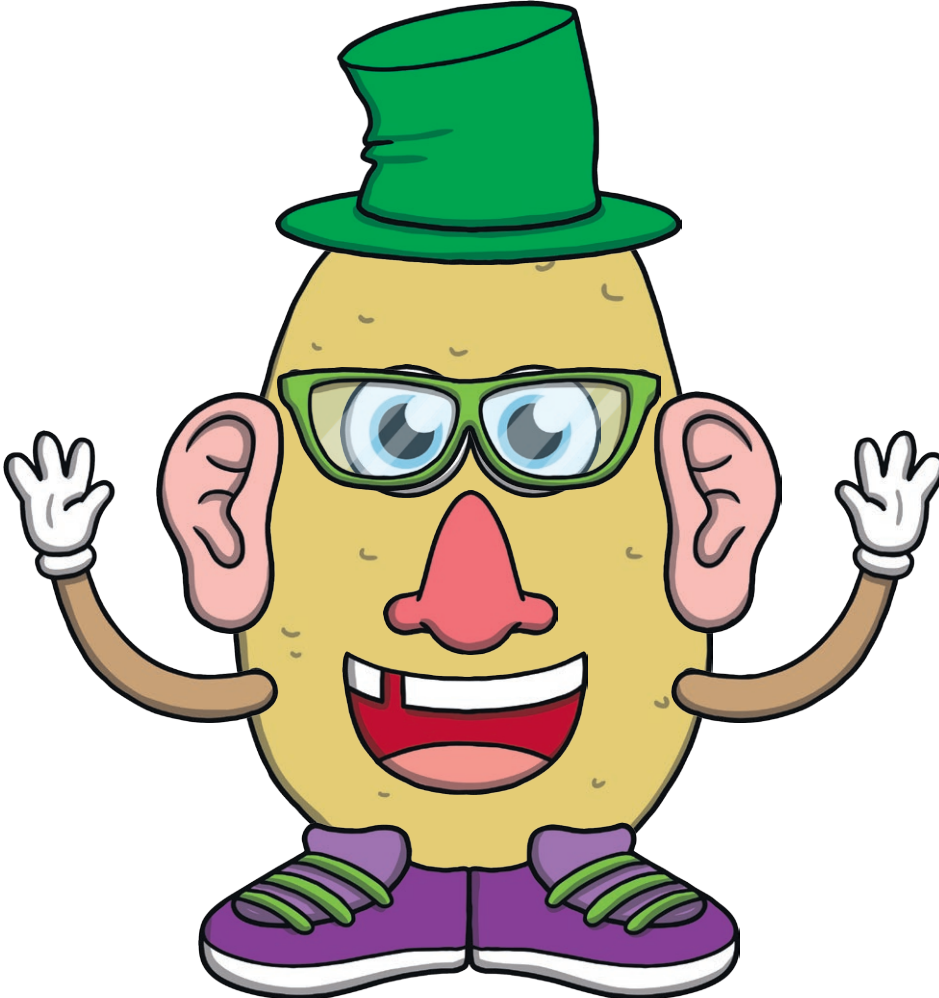
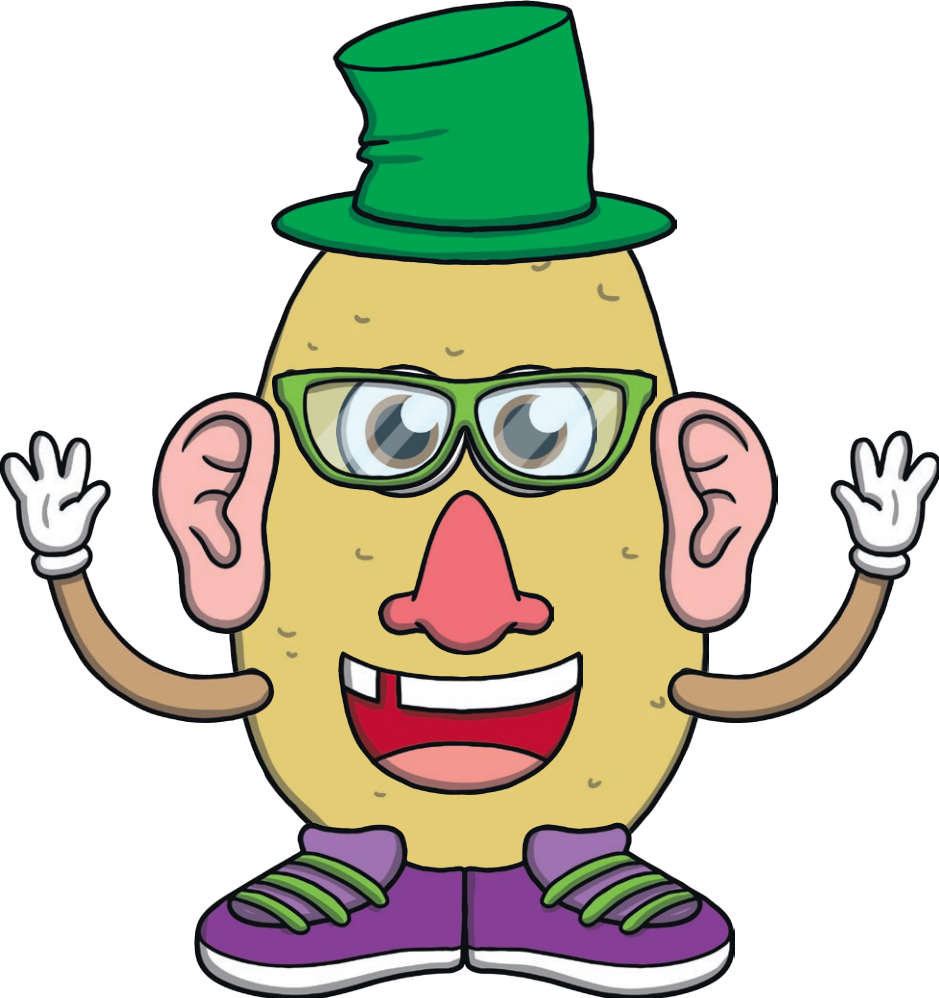























Programming Toys: Potato Man Algorithms

<p>Aim: Understand how [algorithms] are implemented as programs on digital devices, and that programs execute by following precise and unambiguous instructions in the context of writing detailed instructions to build a face on a potato man toy.</p> <p>I can say why it is important to be precise when writing an algorithm.</p>	<p>Success Criteria: I can write and follow detailed instructions.</p> <p>I can see how a product changes when I change the instructions.</p>	<p>Resources: Lesson Pack</p> <p>10 building bricks</p> <p>Glue</p> <p>Scissors</p> <p>Flipchart or large whiteboard</p>
	<p>Key/New Words: Algorithm, instruction, detail.</p>	<p>Preparation: Build a Potato Man Activity Sheets - 1 per child</p> <p>Differentiated Potato Man Picture Cards - 1 per child</p> <p>Differentiated Potato Man Instructions Activity Sheet - 1 per child</p>

Prior Learning: Children will have been introduced to ordering instructions in lesson 1.

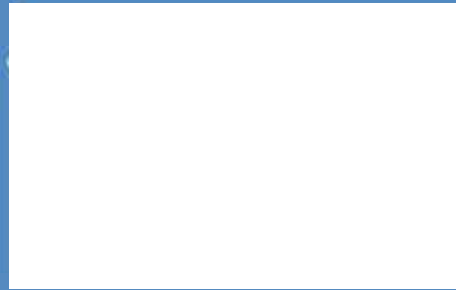
Learning Sequence

	<p>Build an Animal: Invite two children up to the front and give them a small set of building bricks each. Using the Lesson Presentation, give the children 1 minute to 'build an animal'. When finished, compare similarities and differences using the Lesson Presentation. Remind the children that instructions for completing a task need to be clear, detailed and in the right order. <i>Can children identify how the teacher could have added more detail to the instruction?</i></p>	
	<p>Potato Man Building: Using the Lesson Presentation, introduce the children to the parts of a potato man toy. Use the Lesson Presentation to choose an instruction and click it, allowing the lack of detail to mean that the product will turn out wrong. Use the following slides to choose better instructions so that the potato man turns out correctly. <i>Can children offer detailed instructions? Can the children say which parts must be added in a certain order (eyes before glasses)?</i></p>	
	<p>Children use the Differentiated Potato Man Picture Cards and Potato Man Instructions Activity Sheet, writing the instructions for how to build the pictured potato man.</p> <div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;">  <p>Children need to write detailed instructions in each box, including which numbered holes to use.</p> </div> <div style="text-align: center;">  <p>Children need to write detailed instructions, including which numbered holes to use, and are given more options for pieces.</p> </div> <div style="text-align: center;">  <p>Children need to write detailed instructions, including which numbered holes to use, and are given more options for pieces. They will need to add the eyes before the glasses.</p> </div> </div>	
	<p>Did It Work? Once the children have written their instructions, give them to a partner and see if their partner can build the potato man using the Build a Potato Man Activity Sheet. Evaluate success using the Lesson Presentation.</p>	

Taskit

Exploreit: Can children write instructions for a friend to build a potato man online on a painting program? One person should write the instructions, then the other should try to create it without the first person watching.

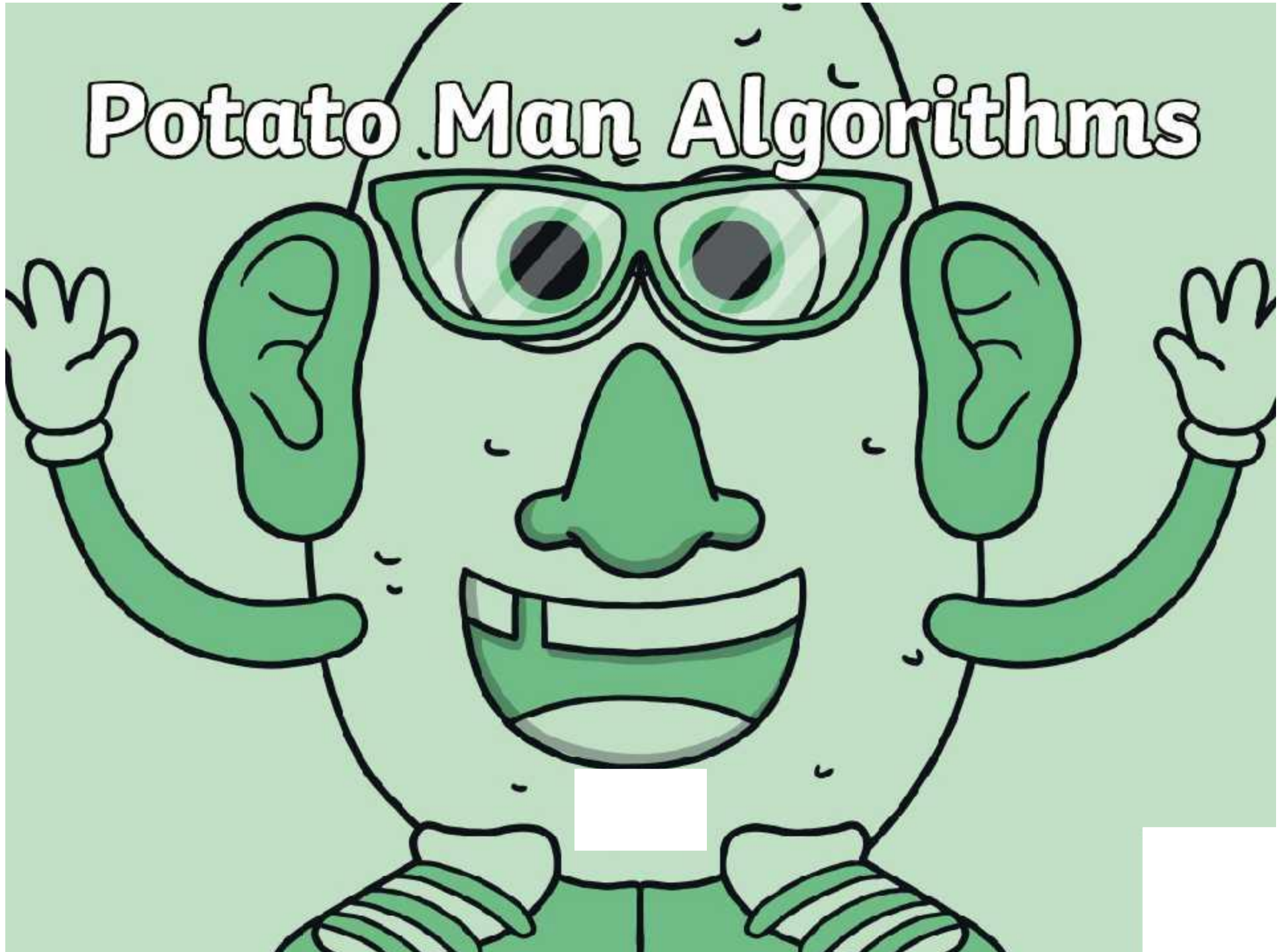
Playit: Using either the **Build a Potato Man Activity Sheet** or a physical toy, children could explore the different ways of arranging the potato man. Ask whether the eyes always have to go that way around. Ask the children to think about all the different ways of building him; can a computer program work like this too?



Computing

Programming Toys

Potato Man Algorithms



Aim

- I can say why it is important to be precise when writing an algorithm.

Success Criteria

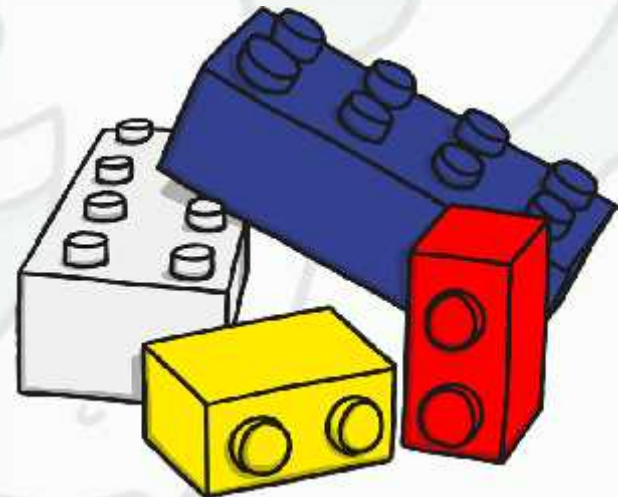
- I can write and follow detailed instructions.
- I can see how a product changes when I change the instructions.

Build an Animal

Use these building bricks to make an animal.
You have 1 minute.

Start
timer!

STOP!



Build an Animal

What did you make?

How are your models similar?

How are they different?

Why are they different?



Build an Animal

Without detailed instructions in the right order, we can't make exactly the right thing.

How could we make the instructions better, so that you both build the same animal?

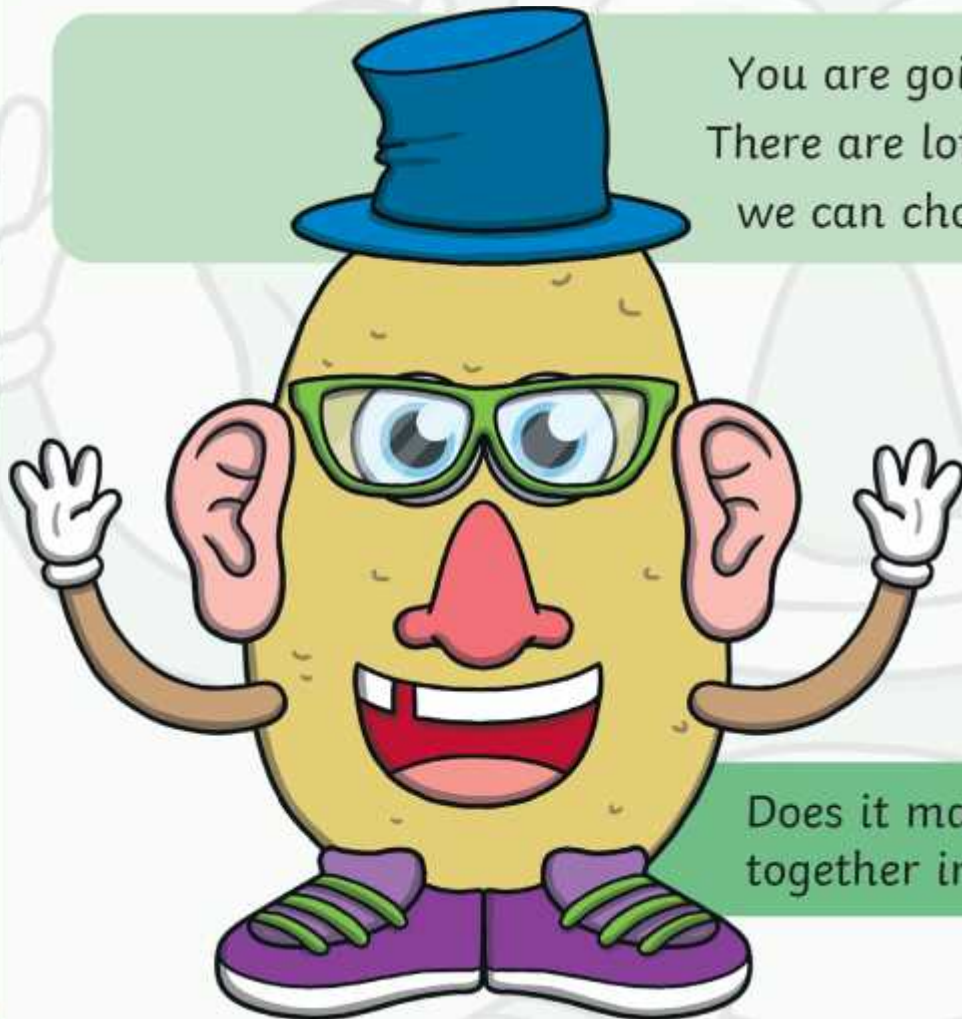
Detailed instructions written in the right order are called an **algorithm**.



Potato Man Building



You are going to build a potato man toy. There are lots of different parts of him that we can choose to give him a funny face!



What parts can you see?

Does it matter what order we put him together in? Which bits can't come first?

Potato Man Building



Can you choose the instructions to build the potato man?

Click on each instruction to see what happens.

Add arms.

Add glasses.

Add eyes.

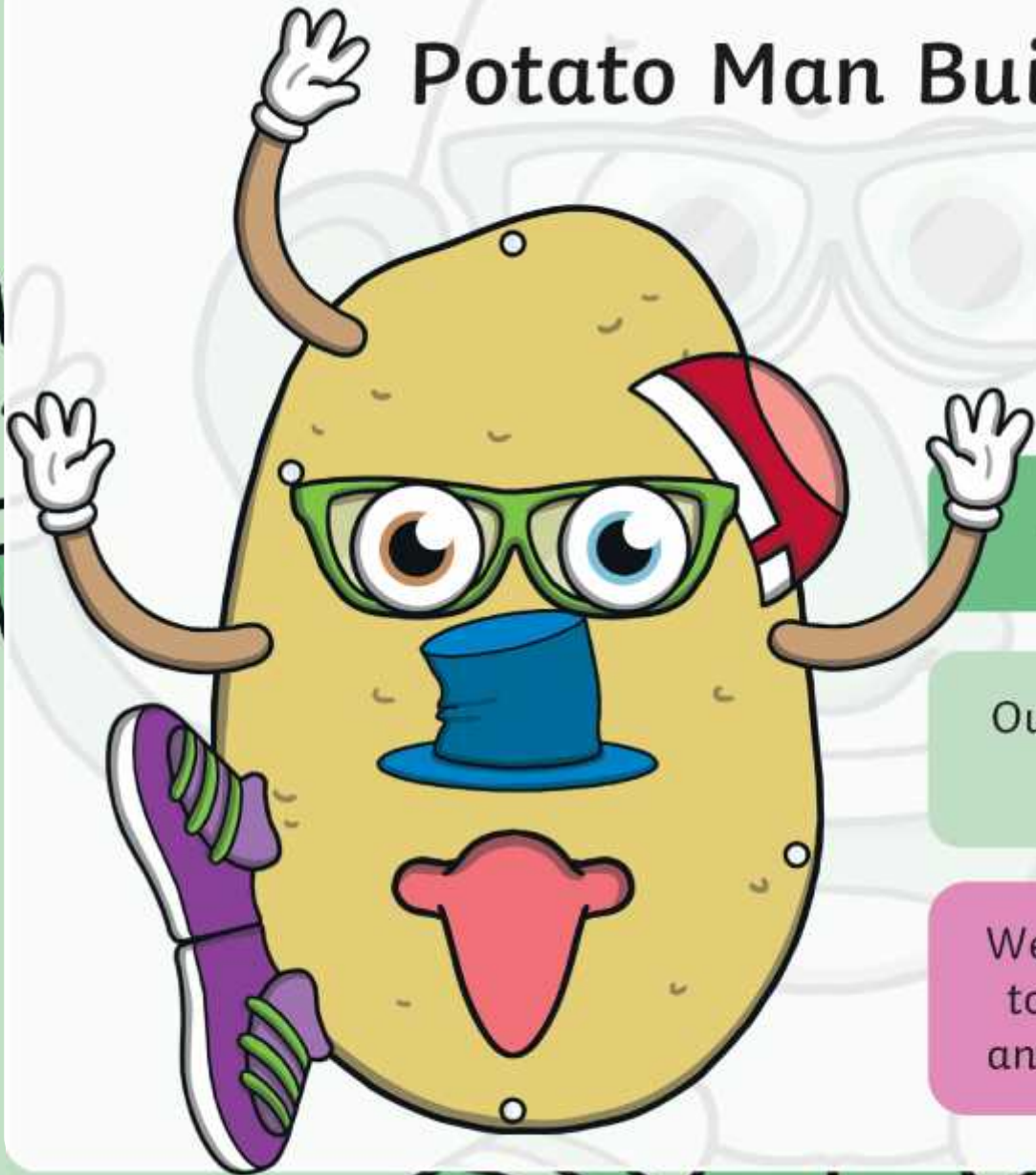
Add a hat.

Add a nose.

Add a mouth.

Add feet.

Potato Man Building



Why did it go wrong?

Our instructions need to be more detailed.

We need to say which parts to use, where to put them and which order to do it in.

Potato Man Building



See if you can choose the most sensible instructions to add the parts to this potato man.

Add brown eyes to holes 1 and 2.

Add a hat the right way up to hole 3.

Add eyes.

Add glasses.

Add a hat.

Did It Work?



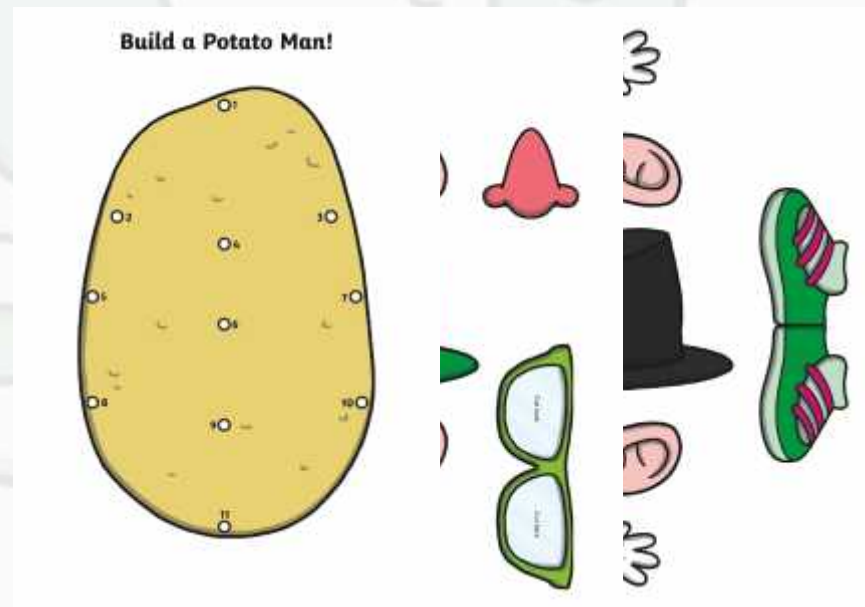
Now give your instructions to your partner.

You need to use the Build a potato man activity sheet to build your partner's potato man!

Next, show your partner the toy they should have built.

Does your toy look like the one in the picture?

Why? Why not?

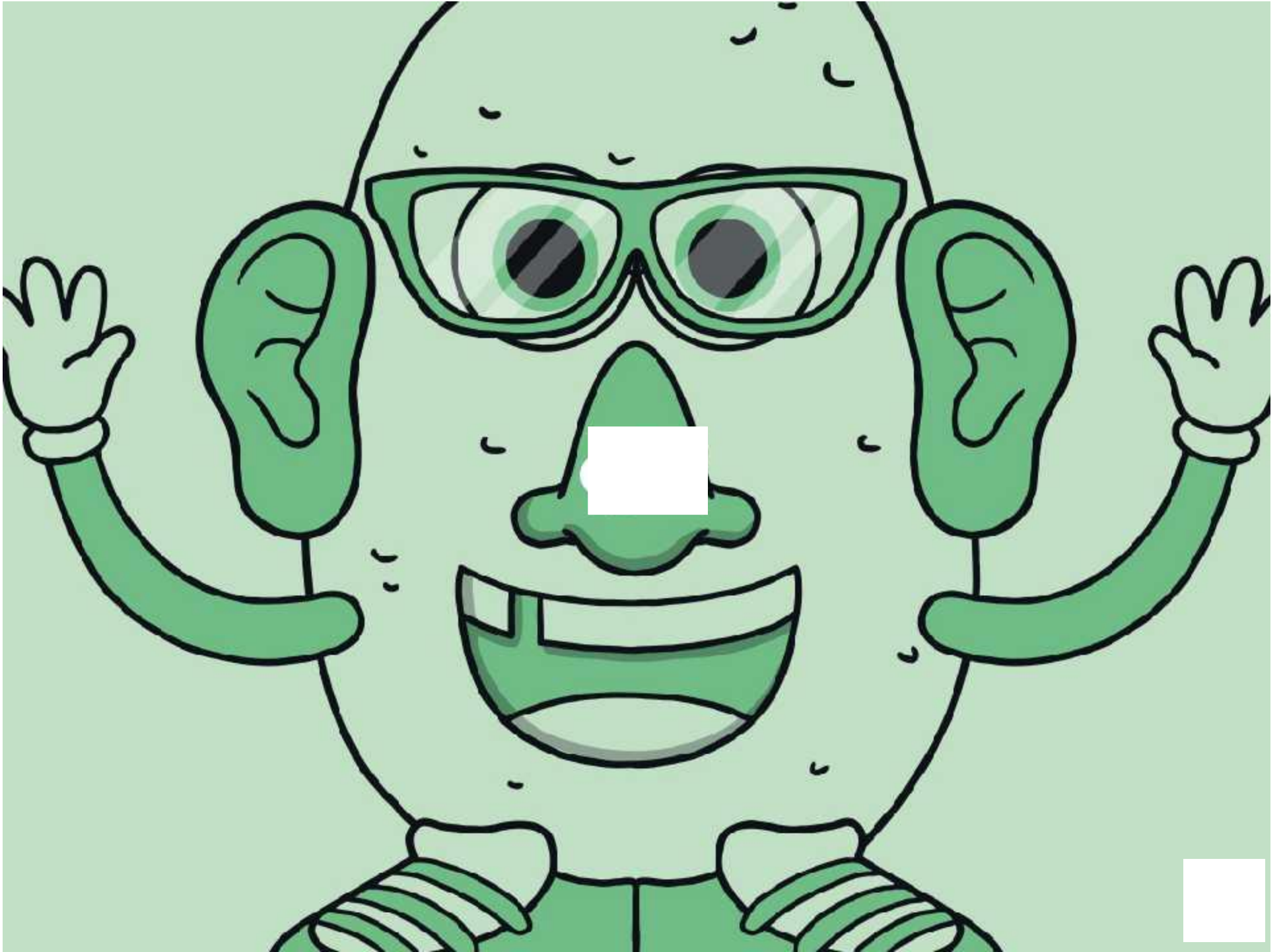


Aim

- I can say why it is important to be precise when writing an algorithm.

Success Criteria

- I can write and follow detailed instructions.
- I can see how a product changes when I change the instructions.



Programming Toys | Potato Man Algorithms

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