Boffins.

(Or: the Scientific Method.)

Boffin.

Funny word…

It means “scientist”.

Well, really it means “mad scientist” I suppose.

The absentminded bloke who is thinking very hard about something all the time.

Something scientific.

The bloke who puts his phone in the fridge, or salt in his tea.

Because he is wondering about stuff.

Like whether monkeys laugh.

And, if they do, what they laugh at.

Or why bees sometimes fly backwards.

And how you might set about finding such things out.

The boffin.

How does he do his work, this boffin?

Well, he uses the scientific method.

The scientific method is really cool.

That’s what this play is about.

The scientific method.

It’s a play about the scientific method.

Student: Boffin?

*Tutor: Yes.*

Meaning?

*A scientist.*

Oh.

*Well, a mad scientist, really.*

A mad scientist?

*Well, an absent-minded scientist.*

Like?

*Well, a scientist who is often lost in thought.*

Lost in thought?

*Absolutely lost.*

His mind is somewhere else.

*Yes. We might say he is absentminded.*

Absentminded?

*Yes.*

Right.

*Always thinking deep thoughts.*

About something difficult.

*Probably a question.*

Probably.

*Like why are apples red?*

Well…

*Or how do fish communicate?*

Do fish communicate?

*I think they must do.*

Well, yes. I suppose so.

*A bit, anyway.*

It depends, I suppose.

*On what?*

On what we mean by “communicate”.

*Mmmm…*

I mean fish probably tell each other basic stuff.

*Like are they hunting?*

Yes. Maybe.

*Or have they spotted danger?*

That sort of thing.

*So a boffin might be thinking about that.*

Thinking very hard.

*And forget to put his trousers on.*

If he’s thinking hard.

*About a question.*

Like?

*Well, how could you investigate fish talk?*

Investigate fish talk?

*How could you do it?*

And what does “fish talk” mean?

*Yes. How would you define “fish talk”?*

Exactly. How would you define it?

*And how would you spot it?*

Pardon?

*How would you spot communication?*

Between fish?

*Yes.*

How would you spot it?

*Well…*

I mean if fish A did something …

*And then fish B did something …*

How would you know what was going on?

*Was fish A communicating?*

Was fish B responding to anything fish A did?

*I mean fish A might not have noticed fish B at all.*

No.

*And what fish B did might have nothing to do with fish A.*

Exactly.

*Fish A might not have been communicating at all.*

And fish B might not have been responding to fish A at all.

*They might have been thinking about something quite different.*

Yes.

*If fish think at all.*

Well, yes.

*How would you tell?*

Exactly.

*So a boffin might be thinking very hard about that.*

Thinking so hard he might get on the wrong bus.

*Yes. For example.*

Mmmm…

*He might finish up in Chipping Norton.*

When he was supposed to be in Oxford.

*Exactly.*

Everyone will say “Typical boffin!”

*And they would be right.*

Well…

*Although he might discover how to see what fish think.*

He might discover something really important.

*He might have a really good idea.*

On the bus to Chipping Norton.

*Instead of Oxford.*

Do fish think?

*Pardon?*

Do fish think?

*Good question!*

I don’t know.

*Me neither.*

I wonder how you could find out?

*Find out if they think or not?*

Yes.

*Probably you would study very small fish.*

In a tank, you mean?

*Yes.*

People study birds.

*To discover if they think or not?*

Yes.

*And do they?*

Yes.

*How do they discover that?*

Well, they set them problems.

*Set them problems?*

Yes.

*Like?*

Well, using food.

*How?*

Well, maybe a peanut.

*Birds really love peanuts.*

So they put a peanut in a glass box.

*So the bird can see it?*

Exactly.

*And?*

They watch to see if the bird opens the box.

*And do they?*

Mostly.

*And do they do it quicker each time?*

Much quicker.

*So they learn?*

Yes. They learn how to open the box.

*Does that mean they were thinking?*

Well, they look as if they are.

*Mmmm…*

They try this way and that.

*And if this works…*

Or that…

*Then they do that next time.*

Or this.

*Exactly.*

That’s the scientific method.

*Pardon?*

The scientific method.

*Oh.*

That’s the way scientists do it.

*Do what?*

Discover things.

*Oh.*

They use the scientific method.

*And what is the scientific method?*

Well, it starts with a question.

*Like what?*

Well, like “If I tap this, will the box open?”

*What box?*

The box with a peanut in!

*Oh. That box.*

Yes. That box.

*So a boffin starts with a question?*

Yes.

*Like a bird, really.*

Well...

*The bird had a question!*

Well, yes, I suppose it did.

*We just said it did.*

Well, yes. We did.

*So the scientific method starts with a question.*

Yes.

*And an open mind.*

An open mind?

*Yes.*

How do you mean?

*Well, not thinking you know the answer already.*

Pardon?

*That would be no good at all.*

How do you mean?

*If you thought you already knew the answer.*

I suppose not.

*You would have to keep an open mind.*

I suppose you would.

*You might not see what the real answer was.*

If you thought you already knew it.

*Exactly.*

So you have to keep an open mind.

*Yes.*

Just wait and see.

*Exactly.*

Wait and see what happens.

*That’s the scientific method.*

Ask good questions.

*Think of good experiments.*

Experiments to test your ideas.

*Then do your experiments.*

But keep your mind open.

*Just wait and see what happens.*

That’s the basic scientific method.

*Exactly.*

That’s what a baby does, of course.

*Pardon?*

That’s what a baby does.

*Oh.*

Babies use the scientific method.

*Do they?*

All the time.

*Really?*

Yes, of course they do.

*How?*

Well, everything is new to a baby.

*I suppose it is.*

Everything.

*Well, yes. Of course it is.*

So they have a lot of questions.

*I suppose they must do.*

Of course they do!

*Like?*

Well, what happens if you put jam on the wall?

*Mmmm…*

The nice big wall in the sitting room.

*The one Mummy just painted?*

Yes, that one.

*And what does happen?*

That depends.

*On?*

On many things.

*Like?*

Is Mummy in a good mood?

*How much jam did you put on the wall?*

Where did you put it?

*Can you wash this wall?*

That sort of thing.

*And you will get an answer I suppose?*

As soon as Mummy finds you.

*Mmmm…*

Then you will get an answer.

*So that’s the scientific method.*

Ask a good question.

*Carry out an experiment.*

Keep an open mind.

*See what happens next.*

That’s the scientific method.

*And young children have lots of questions.*

They’re full of them.

*Good questions.*

What happens if you jump in a puddle?

*What will Grandad do if you put orange juice in his ear?*

Try it and see.

*See what happens.*

Carry out the experiment.

*It’s the only way to find out.*

It’s the scientific method.

*What will happen if I swallow this five pence?*

Well, that is a more complicated question.

*Too many answers?*

Yes.

*I mean Mummy may not see you do it.*

Exactly.

*Nothing much will happen then.*

It might later.

*Well, yes.*

But if she does…

*Pardon?*

If Mummy does see you swallowing that five pence…

*Then a lot of stuff will happen.*

A lot of stuff.

*Screams.*

Phones.

*Ambulances.*

Hospital.

*X-rays.*

Nurses.

*Doctors.*

Potties.

*More potties.*

All sorts of things.

*That’s the scientific method.*

The scientific method in action!

*Really cool.*