Technology Skills Curriculum

Lesson 1: Problem Solving – Personal Innovations

pwc

Agenda

1. Getting started: What you could teach somebody, group intro and sharing ideas
2. Main activity: Identify impacts and prototype an innovation
3. Brainstorm technological innovation
4. 'Rapid Prototype' one idea and class share of prototype
5. Wrap up: How computer science is changing everything
6. Careers reflection

Objectives

You will be able to:

- Communicate with classmates about computing innovations in your life.
- Describe positive and negative effects of computing innovations.

01

Getting started:

What you could teach somebody, group intro and sharing ideas

What could you teach somebody?

Task: 1 minute to write your ideas down on a post-it note and place on sharing wall.

You might think about:

- What's something that you know a lot about? Perhaps you feel you know more about this than most people would.

- This doesn't have to be a subject in school - it very well might not be.

- Some ideas could be: video games, football, netball, cooking, growing vegetables.

Group introduction and sharing ideas

Task: In groups of 4, you each have 2 minutes to:

- Introduce yourself.

- Explain the thing you know a lot about.

- Teach the group something about it, or tell the group something interesting about it.

02

Main activity:

Identify impacts and prototype an innovation

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People seem to say that technology is all around us, that it affects everything we do.

To what extent do you think this is true?

Technological innovation is about recognising a problem that needs to be solved, or improved, and then building a tool to solve it.

As a class we're going to see how innovative we can be. We're going to do something called "rapid prototyping."

What is a prototype?

Main Activity: Identify impacts and prototype an innovation

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To what extent do you think this is true?

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What is a prototype?

"Prototype" is a fancy word that means a preliminary sketch of an idea or model for something new. It's the original drawing from which something real might be built or created.

03

Brainstorm technological innovation

Brainstorm technological innovation

Task: Go around the group and for each individual's area of interest you should:

1. Identify some way that technology is used with, or affects that thing
2. Make a suggestion for either:
   - A way that technology might be improved to make it better, faster, easier to use
   - A creative or innovative new technology might help solve a problem within that area, or make it better.

Everyone in the group should make suggestions for any of the areas of interest at your table

- **Key Vocabulary:**
- **Innovation** - A new or improved idea, device, product, etc, or the development thereof
- **Prototype** - A first or early model of a product that allows you to test assumptions before developing a final version.

04

'Rapid Prototype' one idea and class share of prototypes

Rapid Prototype one idea

Task: As a group, nominate the idea you've discussed that you think would be the most interesting to everyone else in the class.

You should:

1. Start to sketch out that idea on a poster.
2. Make a visual representation of your ideas.
3. Remember this is a rapid prototype - just something to quickly convey the idea.
4. Be ready to share this with the class

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Class Share of Prototypes

05

Wrap up

How computer science is changing everything

Wrap up and Reflection

Task: Watch this video

Reflect on the following questions

1. What have you learnt about computer science?
2. In what ways is computer science changing things?
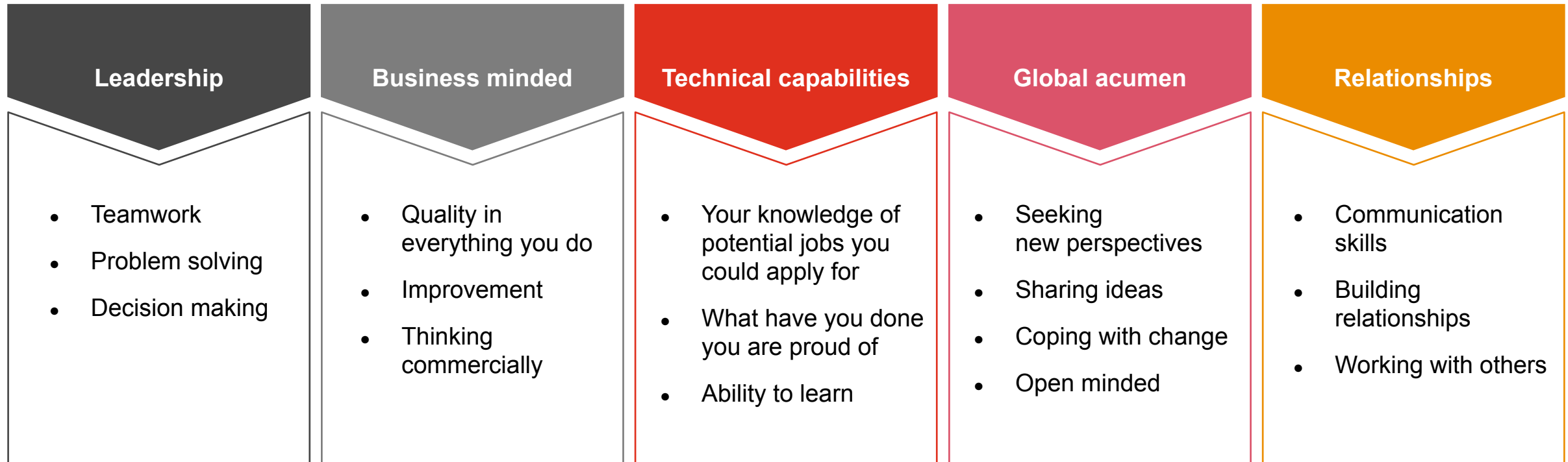3. Do you agree that with the statement: ' Computer science is changing everything?

06

Careers Reflection

What employability skills have you developed in this session?

Leadership

- Teamwork
- Problem solving
- Decision making

Business minded

- Quality in everything you do
- Improvement
- Thinking commercially

Technical capabilities

- Your knowledge of potential jobs you could apply for
- What have you done you are proud of
- Ability to learn

Global acumen

- Seeking new perspectives
- Sharing ideas
- Coping with change
- Open minded

Relationships

- Communication skills
- Building relationships
- Working with others

Want to find out more?

Keep up to date: <u>PwC Podcast - spotify - A-Z of tech</u>: A is for Artificial Intelligence, B is for Blockchain, C is for Cyber Security. Follow our journey through an alphabet of technology trends with PwC's technologists and special guests.

Opportunities in tech: You might be interested in technology opportunities at university or in the workplace. Lots of companies and universities have opportunities. **Here are some at PwC:**

- 5 day paid work experience 'Insight Weeks' for Year 12 students.
- Technology Degree Apprenticeships and Data Science Graduate Apprenticeships.
- School and College Leaver Apprenticeships at PwC

Thank you

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